

**DRAFT 4/11/12 - Emission Sources - Maximum Allowable Emission Rates**

Permit Numbers 91902, PSDTX1210, and N124

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)
EP-1	Tank Vent Thermal Oxidizer	NO <sub>x</sub>	4.62	20.22
		CO	1.40	6.12
		PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.13	0.55
		VOC	0.09	0.40
		SO <sub>2</sub>	0.07	0.29
		H <sub>2</sub> S	<0.01	<0.01
		TRS	<0.01	<0.01
EP-2	Gasifier Startup Vent	NO <sub>x</sub>	0.03	<0.01
		SO <sub>2</sub>	0.02	<0.01
		CO	18.60	0.22
		VOC	<0.01	<0.01
		PM/PM <sub>10</sub> /PM <sub>2.5</sub>	<0.01	<0.01
EP-3	CO Shift Catalyst Bed Heater	NO <sub>x</sub>	1.8	0.03
		SO <sub>2</sub>	0.08	<0.01
		CO	2.47	<0.01
		VOC	0.16	<0.01
		PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.22	0.01
EP-4	CO <sub>2</sub> Bypass Vent	CO	716.80	156.98
		VOC	11.40	2.50
		H <sub>2</sub> S	2.38	0.52

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		COS	6.00	1.31
EP-5	Selexol Storage Tank	VOC	<0.01	<0.01
EP-6	TEG Storage Tank	VOC	<0.01	<0.01
EP-7	Flare Pilot & PRVs	NO <sub>x</sub>	0.04	0.15
		SO <sub>2</sub>	0.85	3.71
		CO	0.23	0.99
		VOC	0.04	0.19
		H <sub>2</sub> S	<0.01	<0.01
		TRS	<0.01	<0.01
EP-7MSS	Flare MSS	NO <sub>x</sub>	156.48	6.50
		SO <sub>2</sub>	10.94	0.26
		CO	1466.11	99.99
		VOC	6.84	0.42
		H <sub>2</sub> S	<0.01	<0.01
		TRS	<0.01	<0.01
EP-8a	Emergency Generator 1	NO <sub>x</sub>	19.73	0.51
		CO	11.56	0.3
		PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.66	0.02
		VOC	1.41	0.04
		SO <sub>2</sub>	0.02	<0.01

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EP-8b	Emergency Generator 2	NO <sub>x</sub>	19.73	0.51
		CO	11.56	0.3
		PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.66	0.02
		VOC	1.41	0.04
		SO <sub>2</sub>	0.02	<0.01
EP-8c	Emergency Generator 3	NO <sub>x</sub>	19.73	0.51
		CO	11.56	0.3
		PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.66	0.02
		VOC	1.41	0.04
		SO <sub>2</sub>	0.02	<0.01
EP-8d	Emergency Generator 4	NO <sub>x</sub>	19.73	0.51
		CO	11.56	0.3
		PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.66	0.02
		VOC	1.41	0.04
		SO <sub>2</sub>	0.02	<0.01
EP-8aTank	Emergency Generator 1 Diesel Storage Tank	VOC	0.03	<0.01
EP-8bTank	Emergency Generator 2 Diesel Storage Tank	VOC	0.03	<0.01
EP-8cTank	Emergency Generator 3 Diesel Storage Tank	VOC	0.03	<0.01
EP-8dTank	Emergency Generator 4 Diesel Storage Tank	VOC	0.03	<0.01

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EP-9	Firewater Pump Engine	NO <sub>x</sub>	1.08	0.03
		CO	1.72	0.04
		PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.10	<0.01
		VOC	0.90	0.02
		SO <sub>2</sub>	0.02	<0.01
EP-9Tank	Firewater Pump Diesel Storage Tank	VOC	0.03	<0.01
EP-10	Cooling Tower	PM	0.64	2.79
		PM <sub>10</sub>	0.32	1.39
		PM <sub>2.5</sub>	0.0033	0.01
EP-11	Wet Surface Air Cooler	PM	7.63	33.42
		PM <sub>10</sub>	0.015	0.066
		PM <sub>2.5</sub>	0.015	0.066
EP-12a	Combustion Turbine 1	NO <sub>x</sub>	36.71	169.00
		NO <sub>x</sub> (MSS)	385.51 (5)	(6)
		SO <sub>2</sub>	5.50	24.00
		CO	139.70	245.00
		CO (MSS)	238.87 (5)	(6)
		VOC	3.20	14.00
		VOC (MSS)	14.60 (5)	(6)
		PM/PM <sub>10</sub> /PM <sub>2.5</sub>	16.40	71.70
		H <sub>2</sub> SO <sub>4</sub>	0.40	1.80
		NH <sub>3</sub>	23.70	104.00
EP12a-LOV	Combustion Turbine 1 Lube Oil Vent	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.05	0.22
EP-12b	Combustion Turbine 2	NO <sub>x</sub>	36.71	169.00

Emission Sources - Maximum Allowable Emission Rates

		NO <sub>x</sub> (MSS)	385.51 (5)	(6)
		SO <sub>2</sub>	5.50	24.00
		CO	139.70	245.00
		CO (MSS)	238.87 (5)	(6)
		VOC	3.20	14.00
		VOC (MSS)	14.60 (5)	(6)
		PM/PM <sub>10</sub> /PM <sub>2.5</sub>	16.40	71.70
		H <sub>2</sub> SO <sub>4</sub>	0.40	1.80
		NH <sub>3</sub>	23.70	104.00
EP12b-LOV	Combustion Turbine 2 Lube Oil Vent	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.05	0.22
EP-12c	Combustion Turbine 3	NO <sub>x</sub>	36.71	169.00
		NO <sub>x</sub> (MSS)	385.51 (5)	(6)
		SO <sub>2</sub>	5.50	24.00
		CO	139.70	245.00
		CO (MSS)	238.87 (5)	(6)
		VOC	3.20	14.00
		VOC (MSS)	14.60 (5)	(6)
		PM/PM <sub>10</sub> /PM <sub>2.5</sub>	16.40	71.70
		H <sub>2</sub> SO <sub>4</sub>	0.40	1.80
		NH <sub>3</sub>	23.70	104.00
EP12c-LOV	Combustion Turbine 3 Lube Oil Vent	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.05	0.22
EP-STLOV	Steam Turbine Lube Oil Vent	PM/PM <sub>10</sub> /PM <sub>2.5</sub>	0.05	0.22
EP-13	CO <sub>2</sub> TEG Hydration Vent	VOC	0.01	0.05

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FEP-1	Petcoke Railcar Unloading Operations	PM	0.136	0.08
		PM <sub>10</sub>	0.065	0.038
		PM <sub>2.5</sub>	0.01	0.006
FEP-2	External Coke Pile Load-In	PM	0.136	0.08
		PM <sub>10</sub>	0.065	0.038
		PM <sub>2.5</sub>	0.01	0.006
FEP-3	External Coke Receiving Hopper	PM	0.136	0.08
		PM <sub>10</sub>	0.065	0.038
		PM <sub>2.5</sub>	0.01	0.006
FEP-4	DCU Coke Storage Receiving Hopper	PM	0.136	0.149
		PM <sub>10</sub>	0.065	0.071
		PM <sub>2.5</sub>	0.01	0.011
FEP-5	Fluxant Receiving Hopper	PM	0.12	0.012
		PM <sub>10</sub>	0.06	0.006
		PM <sub>2.5</sub>	0.009	0.001
FEP-6	Fluxant Storage Bin Vent Filter	PM	0.129	0.563
		PM <sub>10</sub>	0.129	0.563
		PM <sub>2.5</sub>	0.129	0.563
FEP-7	Crushers	PM	0.75	1.259
		PM <sub>10</sub>	0.355	0.596
		PM <sub>2.5</sub>	0.054	0.09
FEP-8a	Grinding Mill #1 Fluxant Feed Bin Vent Filter	PM	0.129	0.563
		PM <sub>10</sub>	0.129	0.563
		PM <sub>2.5</sub>	0.129	0.563
FEP-8b	Grinding Mill #1 Petcoke Feed Bin	PM	0.129	0.563

Emission Sources - Maximum Allowable Emission Rates

		PM <sub>10</sub>	0.129	0.563
		PM <sub>2.5</sub>	0.129	0.563
FEP-8c	Grinding Mill #2 Fluxant Feed Bin Vent Filter	PM	0.129	0.563
		PM <sub>10</sub>	0.129	0.563
		PM <sub>2.5</sub>	0.129	0.563
FEP-8d	Grinding Mill #2 Petcoke Feed Bin Vent Filter	PM	0.129	0.563
		PM <sub>10</sub>	0.129	0.563
		PM <sub>2.5</sub>	0.129	0.563
CON-1	External Coke Receiving Conveyor	PM	0.038	0.022
		PM <sub>10</sub>	0.02	0.01
		PM <sub>2.5</sub>	0.0027	0.0016
CON-2	External Coke Storage Reclaim Conveyor	PM	0.028	0.016
		PM <sub>10</sub>	0.013	0.008
		PM <sub>2.5</sub>	0.002	0.0012
CON-3	DCU Coke Storage Reclaim Conveyor	PM	0.015	0.017
		PM <sub>10</sub>	0.007	0.008
		PM <sub>2.5</sub>	0.0011	0.0012
CON-4	Feedstock Collection Conveyor	PM	0.061	0.102
		PM <sub>10</sub>	0.029	0.048
		PM <sub>2.5</sub>	0.004	0.007
CON-5	Fluxant Receiving Conveyor	PM	0.037	0.004
		PM <sub>10</sub>	0.017	0.0017
		PM <sub>2.5</sub>	0.003	0.0003
CON-6	Crushed Feed Conveyor	PM	0.083	0.14
		PM <sub>10</sub>	0.039	0.066

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		PM <sub>2.5</sub>	0.006	0.01
TR-1	External Coke Loading Point	PM	0.045	0.027
		PM <sub>10</sub>	0.02	0.013
		PM <sub>2.5</sub>	0.003	0.002
TR-2	DCU Coke Loading Point	PM	0.045	0.05
		PM <sub>10</sub>	0.022	0.024
		PM <sub>2.5</sub>	0.003	0.004
TR-3	Fluxant Loading Point	PM	0.04	0.004
		PM <sub>10</sub>	0.019	0.002
		PM <sub>2.5</sub>	0.003	<0.01
TR-4	Crusher Transfer	PM	0.045	0.076
		PM <sub>10</sub>	0.022	0.036
		PM <sub>2.5</sub>	0.003	0.005
PIL-1	Active 10,000 st Coke Pile	PM	0.165	0.723
		PM <sub>10</sub>	0.078	0.342
		PM <sub>2.5</sub>	0.012	0.052
PIL-2	Active 30-day Coke Pile	PM	1.023	4.481
		PM <sub>10</sub>	0.484	2.119
		PM <sub>2.5</sub>	0.073	0.321
PIL-3	30-day Fluxant Storage Pile	PM	0.05	0.217
		PM <sub>10</sub>	0.023	0.103
		PM <sub>2.5</sub>	0.004	0.016
PIL-4	Active 150 st Fluxant Storage Pile	PM	0.017	0.072
		PM <sub>10</sub>	0.008	0.034
		PM <sub>2.5</sub>	0.001	0.005



Emission Sources - Maximum Allowable Emission Rates

FUG-1	Syngas Production Area Process Fugitives	CO	2.57	11.25
		VOC	0.03	0.131
		H <sub>2</sub> S	0.051	0.222
		NH <sub>3</sub>	0.008	0.033
FUG-2a	AGR Unit Process Fugitives	CO	0.06	0.26
		VOC	<0.01	0.02
		H <sub>2</sub> S	0.02	0.11
FUG-2b	Propane Refrigeration	VOC	0.27	1.17
FUG-3	Sulfur Recovery Unit Process Fugitives	CO	0.001	0.006
		VOC	9.10E-05	4.00E-04
		H <sub>2</sub> S	0.01	0.044
		NH <sub>3</sub>	0.16	0.70
FUG-4	Sour Water System Process Fugitives	CO	0.008	0.035
		VOC	0.005	0.022
		H <sub>2</sub> S	0.05	0.24
		NH <sub>3</sub>	0.016	0.07
FUG-5	Natural Gas Process Fugitives	VOC	<0.01	0.01
		H <sub>2</sub> S	<0.01	<0.01
FUG-6	SCR Piping Process Fugitives	NH <sub>3</sub>	0.006	0.028
MSS-1	MSS - Miscellaneous Equipment Opening	VOC	0.011	0.001
		H <sub>2</sub> S	0.001	0.0001
MSS-2	MSS - Vacuum Truck Loading	NH <sub>3</sub>	2.80	0.07

(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.

Emission Sources - Maximum Allowable Emission Rates

- (3) Exempt Solvent - Those carbon compounds or mixtures of carbon compounds used as solvents which have been excluded from the definition of volatile organic compound.
- |                                |   |
|--------------------------------|---|
| VOC                            | - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1                     |
| NO <sub>x</sub>                | - total oxides of nitrogen  |
| SO <sub>2</sub>                | - sulfur dioxide  |
| PM                             | - total particulate matter, suspended in the atmosphere, including PM <sub>10</sub> and PM <sub>2.5</sub> |
| PM <sub>10</sub>               | - total particulate matter equal to or less than 10 microns in diameter, including PM <sub>2.5</sub>      |
| PM <sub>2.5</sub>              | - particulate matter equal to or less than 2.5 microns in diameter  |
| CO                             | - carbon monoxide   |
| TRS                            | - total reduced sulfur  |
| H <sub>2</sub> SO <sub>4</sub> | - sulfuric acid   |
| NH <sub>3</sub>                | - ammonia   |
| COS                            | - carbonyl sulfide  |
| H <sub>2</sub> S               | - hydrogen sulfide  |
- (4) Compliance with annual emission limits (tons per year) is based on a 12 month rolling period.
- (5) For each pollutant whose emissions during planned MSS activities are measured using a CEMS, the MSS lb/hr limits apply only during each clock hour that includes one or more minutes of MSS activities. During all other clock hours, the normal lb/hr limits apply.
- (6) The tpy emission limit specified in the MAERT for this facility includes emissions from the facility during both normal operations and planned MSS activities.

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