

Emission Sources - Maximum Allowable Emission Rates

Permit Number 19296

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)
1	Molecular Sieve Heater 11.72 MMBtu/hr fired duty	CO	0.70	3.08
		NO _x	1.18	5.13
		PM ₁₀	0.09	0.39
		SO ₂	0.17	0.73
		VOC	0.05	0.22
2	Regen. Heater 6.07 MMBtu/hr fired duty	CO	0.36	1.60
		NO _x	0.61	2.66
		PM ₁₀	0.05	0.20
		SO ₂	0.09	0.38
		VOC	0.03	0.10
3	No. 1 Boiler 95 MMBtu/hr	CO	5.70	
		NO _x	11.40	
		PM ₁₀	0.71	
		SO ₂	1.33	
		VOC	0.40	
4	Sulfur Recovery Incinerator	CO	0.25	0.99
		H ₂ S	0.01	0.01
		NO _x	0.15	0.59
		PM ₁₀	0.03	0.09
		SO ₂	0.43	1.87
		VOC	0.02	0.07
5	Flare - Markwest Site Routine Emissions	CO	12.10	22.11

Emission Sources - Maximum Allowable Emission Rates

		NH ₃	0.02	0.07
		NO _x	5.76	7.27
		SO ₂	0.47	2.06
		VOC	3.51	17.13
5	Flare - Air Products Emissions	CO	70.36	2.60
		NH ₃	4.33	0.04
		NO _x	26.49	4.46
		SO ₂	0.14	0.01
		VOC	0.18	0.01
7	Cooling Tower	VOC	1.32	5.78
8	Butylene Converter Steam Super Heater 3.1 MMBtu/hr	CO	0.25	1.10
		NO _x	0.30	1.30
		PM ₁₀	0.02	0.10
		SO ₂	0.01	0.01
		VOC	0.02	0.08
BLR-21	No. 2 Boiler 81 MMBtu/hr	CO	5.79	
		NO _x	2.84	
		PM ₁₀	0.62	
		SO ₂	1.13	
		VOC	0.45	
BLR-22	No. 3 Boiler 81 MMBtu/hr	CO	5.79	
		NO _x	2.84	
		PM ₁₀	0.62	
		SO ₂	1.13	
		VOC	0.45	

Emission Sources - Maximum Allowable Emission Rates

3 BLR-21 BLR-22	No. 1, 2, and 3 Boilers Combined Annual (6)	CO		39.48
		NO _x		42.98
		PM ₁₀		3.87
		SO ₂		8.31
		VOC		2.94
FUG-6	Process Fugitives (5)	VOC	9.22	40.38
Maintenance, Startup and Shutdown Activities at the Markwest Site				
5	Flare - Markwest MSS	CO	0.43	0.70
		H ₂ S	1.31	0.05
		NH ₃	0.01	0.01
		NO _x	0.16	0.15
		SO ₂	123.06	3.38
		VOC	7.11	0.61
5	Flare - Markwest Plant Turnaround and Startup	CO	247.76	6.36
		H ₂ S	1.99	0.01
		NH ₃	0.01	0.01
		NO _x	80.40	0.75
		SO ₂	0.01	0.01
		VOC	1554.03	4.44
Permit by rule (PBR) sources incorporated by reference. Sources remain authorized by the PBR(s) as listed below:				
PBR Registration Number 83050				
FUG-HT	PBR Fugitives (5)	VOC	0.81	3.55
PBR Registration Number 100533				
FUG COMP4	PBR Fugitives (5)	VOC	0.41	1.41

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) VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
NO_x - total oxides of nitrogen
SO₂ - sulfur dioxide
PM - total particulate matter, suspended in the atmosphere, including PM₁₀ and PM_{2.5}
PM₁₀ - total particulate matter equal to or less than 10 microns in diameter, including PM_{2.5}
CO - carbon monoxide
H₂S - hydrogen sulfide
NH₃ - ammonia
- (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) Combined annual limits were calculated based upon all three boilers operating at maximum firing rates for 2,160 hours per year (hrs/yr) plus EPN 3, and either BLR-21 or BLR-22 firing at 48 MMBtu/hr each for 6,600 hrs/yr. A year is defined as January through December.

Date: August 1, 2013