

EMISSION POINTS AND INDIVIDUAL EMISSION LIMITATIONS

Permit Number 7278

This table lists the maximum allowable emission caps or individual emission rates related to the sources of air contaminants on the applicant's property that are covered by this permit. The emission rates shown are derived from information submitted as part of the application for this permit and are the maximum rates allowed for these emission points. Any proposed increase in emission rates may require that the permit be amended.

AIR CONTAMINANTS DATA

Emission Rates*	Source	Air Contaminant		<u>Emission</u>
Point No. (1)	Name (2)	Name (3)	lb/hr	
<u>TPY**</u>				
A-D-1	HA-3 Flare (Normal Operations)	VOC	24.46	23.95
		NO _x	3.39	2.99
		CO	8.53	9.96
		SO ₂	0.01	0.01
A-D-1	HA-3 Flare (Maintenance, Start-up, and Shutdown Activities)	VOC	7.99	0.24
		NO _x	1.09	0.01
		CO	4.12	0.09
		SO ₂	0.01	0.01
BLR-1	Boiler 1	VOC	0.73	(9)
		NO _x	2.73	(9)
		CO	6.73	(9)
		SO ₂	0.11	(9)
		PM ₁₀ /PM _{2.5}	0.91	(9)
		NH ₃	0.82	(9)
BLR-2	Boiler 2	VOC	0.73	(9)
		NO _x	2.73	(9)
		CO	6.73	(9)
		SO ₂	0.11	(9)
		PM ₁₀ /PM _{2.5}	0.91	(9)
		NH ₃	0.82	(9)
BLR-CAP	Boiler Cap	VOC		6.38
		NO _x		23.91
		CO		29.46
		SO ₂		0.94
		PM ₁₀ /PM _{2.5}		7.97
		NH ₃		7.15

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<u>TPY**</u>				
CT-1	Water Cooling Tower	VOC	0.96	4.20
L-G-0	1T-201 Heavy Olefins Storage	VOC	0.48	0.07
L-G-1	1T-202 Heavy Olefins Storage	VOC	0.48	0.07
M-H-1	1T-122 Storage Tank	VOC	1.35	1.62
M-H-3	1T-121 Storage Tank	VOC	3.54	2.12
Q-G-0	1T-361 Storage Tank	VOC	2.48	1.70
Q-G-1	1T-341 Storage Tank	VOC	2.48	1.07
Q-G-3	1T-321 Olefin Blend Tank	VOC	0.82	0.05
U-G-0	1T-503 Tank Vent	VOC	7.23	0.11
U-G-1	1T-504 Tank Vent	VOC	7.23	0.08
U-G-2	1T-523 Tank Vent	VOC	0.22	0.15
U-G-3	1T-524 Tank Vent	VOC	0.01	0.02
U-H-0	1T-512 Tank Vent C14	VOC	0.10	0.10
U-H-1	1T-513 Tank Vent C14	VOC	0.10	0.10
U-H-4	1T-529 Tank Vent	VOC	4.87	0.03
U-H-5	1T-525 Tank Vent C10	VOC	5.24	0.05
U-H-6	1T-526 Tank Vent C10	VOC	5.24	0.07

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W-G-7	1T-421 Heavy Olefins Storage	VOC	0.09	0.01
W-G-8	1T-422 Heavy Olefins Storage	VOC	0.69	0.01
W-G-9	1T-423 Heavy Olefins Storage	VOC	2.31	0.07
W-H-0	1T-424 Heavy Olefins Storage	VOC	0.17	0.01
W-H-1	1T-425 Heavy Olefins Storage	VOC	0.60	0.01
W-H-2	1T-409 Heavy Olefins Storage	VOC	0.80	0.02
W-H-3	1T-408 Heavy Olefins Storage	VOC	0.80	0.02
W-H-4	1T-407 Heavy Olefins Storage	VOC	0.07	0.01
W-H-5	1T-404 Heavy Olefins Storage	VOC	0.09	0.01
W-H-6	1T-403 Heavy Olefins Storage	VOC	0.69	0.01
W-H-7	1T-402 Heavy Olefins Storage	VOC	0.09	0.01
W-H-8	1T-401 Heavy Olefins Storage	VOC	0.17	0.01
W-H-9	1T-431 Heavy Olefins Storage	VOC	0.55	0.01
W-I-0	1T-432 Heavy Olefins Storage	VOC	0.55	0.01
W-I-1	1T-451 Heavy Olefins Storage	VOC	0.60	0.01
W-I-4A	1T-452 Heavy Olefins Storage	VOC	0.07	0.01
W-I-4B	1T-453 Heavy Olefins Storage	VOC	0.21	0.01

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<u>TPY**</u>				
W-I-4C	1T-441 Heavy Olefins Storage	VOC	0.01	0.01
W-I-5	1T-433 Heavy Olefins Storage	VOC	0.01	0.01
L-G-3A	1T-241 Storage Tank	VOC	1.22	0.22
L-G-3B	1T-242 Storage Tank	VOC	1.22	0.22
L-G-3C	1T-243 Storage Tank	VOC	1.22	0.22
L-G-4	1T-251 Storage Tank	VOC	1.77	2.24
U-G-4	1T-501 Tank Vent	VOC	0.89	0.22
U-G-5	1T-502 Tank Vent	VOC	0.89	0.22
U-G-6	1T-521 Tank Vent	VOC	0.72	0.02
U-G-7	1T-522 Tank Vent	VOC	0.72	0.02
U-G-8	1T-511 Tank Vent	VOC	0.62	0.14
L-D-0T	Portable Flare for T-4613D Degas	VOC	0.01	0.01
		NO _x	0.03	0.01
		CO	0.06	0.01
L-D-1T	Portable Flare for T-4621C Degas	VOC	0.15	0.01
		NO _x	0.03	0.01
		CO	0.06	0.01
VCSTK	Marine Vapor Combustor System (MVCS) Loading	VOC	5.94	0.56
		NO _x	1.77	1.01
		CO	3.53	2.02
		SO ₂	0.01	0.01
		PM ₁₀ /PM _{2.5}	0.05	0.02

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<u>TPY**</u>				
K-A-1C	East Dock - Fuel Oil/Olefins	VOC	0.01	0.01
HPIB FUG	HPIB Fugitive Emissions (4)	VOC	1.68	7.38
TT/RC FUG	Tank Truck/Rail Rack Fugitives (4)	VOC	2.79	1.05
BARGUNC	Barge Loading Uncontrolled (4)	VOC	71.57	0.91
MARINE FUG	Marine Fugitive Emissions (4)	VOC	0.11	0.37
E TNK FUG	E Tank Farm Fugitive Emissions (4)	VOC	0.23	0.93
S TNK FUG	S Tank Farm Fugitive Emissions (4)	VOC	0.20	0.65
N TNK FUG	N Tank Farm Fugitive Emissions (4)	VOC	0.08	0.11
NW TNK FUG	NW Tank Farm Fugitive Emissions (4)	VOC	0.11	0.08
TNK GAS FUG	Gasoline Blendstock Piping Fugitive Emissions (4)	VOC	0.06	0.04
U-G-6 MSS	S3-02-01 Tank MSS Emissions	VOC (5)	2.26	0.01
U-G-7 MSS	S3-03-01 Tank MSS Emissions	VOC (5)	2.26	0.01
U-G-2 MSS	S3-05-01 Tank MSS Emissions	VOC (6)	3.54	0.01
		VOC (7)	1.15	0.01
TNK MSS UNC	Uncontrolled Tank MSS Emissions (10)	VOC	113.13	3.68
MVCS MSS TNK	Controlled Tank Degassing (10)	VOC	0.91	(11)
		NO _x	0.46	(11)
		CO	0.91	(11)
		SO ₂	0.01	(11)

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<u>TPY**</u>				
		PM ₁₀ /PM _{2.5}	0.01	(11)
PORTICE-1	Portable Internal Combustion Unit (10)	VOC	1.83	(11)
		NO _x	0.02	(11)
		CO	0.01	(11)
		PM ₁₀ /PM _{2.5}	0.01	(11)
PORTO-1	Portable Thermal Oxidizer (10)	VOC	0.18	(11)
		NO _x	0.07	(11)
		CO	0.22	(11)
PORTFL-1	Portable Flare (10)	VOC	3.65	(11)
		NO _x	0.05	(11)
		CO	0.47	(11)
TNKDEGAS	Controlled Tank Degassing (10)	VOC		0.28
		NO _x		0.04
		CO		0.07
		SO ₂		0.01
		PM ₁₀ /PM _{2.5}		0.01
VACTRK MSS CONTROL	Vacuum Truck w/control	VOC	1.03	0.03
PUMP MSS	Uncontrolled Pump Degassing Emissions	VOC (6)	0.01	0.01
MISC-MSS	Uncontrolled MSS Emissions from miscellaneous degassing	VOC (8)	14.22	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

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TPY**			

CO - carbon monoxide

SO₂ - sulfur dioxide

PM₁₀ - particulate matter (PM) equal to or less than 10 microns in diameter. Where PM is not listed, it shall be assumed that no particulate matter greater than 10 microns is emitted.

PM_{2.5} - particulate matter (PM) equal to or less than 2.5 microns in diameter.

VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1

- (4) Emission rate is an estimate and compliance is demonstrated by meeting the requirements of the applicable special conditions and permit application representations.
- (5) Storing materials have true vapor pressures less than 0.5 psia. All degassing and refilling emissions are uncontrolled.
- (6) Uncontrolled degassing emissions after VOC concentration has been detected as equal or below 10,000 ppmv.
- (7) Tank roof landing refill emissions.

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- (8) Total of all uncontrolled degassing emissions from miscellaneous MSS activities for filters, process reactors, and process columns.
 - (9) Annual VOC emission rate is included in the Boiler Cap (EPN BLR-CAP).
 - (10) Emissions from tank roof landings for EPNs M-H-3, M-H-1, L-G-3A, L-G-3B, L-G-3C, L-G-4, Q-G-1, and Q-G-0.
 - (11) Annual emissions for EPNs MVCS MSS TNK, PORTICE-1, PORTTO-1, and PORTFL-1 are included in EPN TNKDEGAS. Only 1 control device may operate at any given time during degassing activities.
- * Emission rates are based on and the facilities are limited by the following maximum operating schedule:
8,760 Hrs/year
- ** Compliance with annual emission limits is based on a rolling 12-month period.

Dated March 1, 2011