

# ATTACHMENT A-1

Permit Number 41618

## EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

### SHORT-TERM EMISSIONS

This table lists the maximum allowable short-term 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 short-term rates allowed for these facilities. 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)	<u>Emission Rates *</u> Pounds per Hour
<b>A TANK FARM</b>			
STA 3.5-1	Fixed-Roof Storage Tank A-3.5-1	VOC	54.00
STA 3.5-2	Fixed-Roof Storage Tank A-3.5-2	VOC	54.00
STA 3.5-3	Fixed-Roof Storage Tank A-3.5-3	VOC	54.00
STA 3.5-4	Fixed-Roof Storage Tank A-3.5-4	VOC	54.00
STA 3.5-5	Internal Floating Roof Storage Tank A-3.5-5	VOC	0.91
STA 3.5-6	Fixed-Roof Storage Tank A-3.5-6	VOC	54.00
STA 3.5-7	Fixed-Roof Storage Tank A-3.5-7	VOC	54.00
STA 3.5-8	Fixed-Roof Storage Tank A-3.5-8	VOC	54.00
STA 6-3	Fixed-Roof Storage Tank A-6-3	VOC	54.00
STA 6-4	Fixed-Roof Storage Tank A-6-4	VOC	54.00
STA 6-5	Fixed-Roof Storage Tank A-6-5	VOC	54.00
STA 7.5-5	Fixed-Roof Storage Tank A-7.5-5	VOC	54.00
STA 7.5-6	Fixed-Roof Storage Tank A-7.5-6	VOC	54.00
STA 7.5-7	Fixed-Roof Storage Tank A-7.5-7	VOC	54.00

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES  
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Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	AIR CONTAMINANTS DATA
			<u>Emission Rates *</u> <u>Pounds per Hour</u>
STA 7.5-8	Fixed-Roof Storage Tank A-7.5-8	VOC	54.00
STA 7.5-9	Fixed-Roof Storage Tank A-7.5-9	VOC	54.00
STA 7.5-10	Internal Floating Roof Storage Tank A-7.5-10	VOC	0.98
STA 7.5-11	Fixed-Roof Storage Tank A-7.5-11	VOC	54.00
STA 7.5-12	Fixed-Roof Storage Tank A-7.5-12	VOC	54.00
STA 12-5	Fixed-Roof Storage Tank A-12-5	VOC	54.00
STA 12-6	Internal Floating Roof Storage Tank A-12-6	VOC	1.29
STA 12-7	Fixed-Roof Storage Tank A-12-7	VOC	54.00
STA 12-8	Fixed-Roof Storage Tank A-12-8	VOC	54.00
STA 12-9	Fixed-Roof Storage Tank A-12-9	VOC	54.00
STA 12-10	Fixed-Roof Storage Tank A-12-10	VOC	54.00
STA 12-11	Fixed-Roof Storage Tank A-12-11	VOC	54.00
STA 12-12	Internal Floating Roof Storage Tank A-12-12	VOC	1.29
STA 12-13	Fixed-Roof Storage Tank A-12-13	VOC	54.00
STA 15-1	Fixed-Roof Storage Tank A-15-1	VOC	54.00
STA 15-2	Fixed-Roof Storage Tank A-15-2	VOC	54.00
STA 15-3	Fixed-Roof Storage Tank A-15-3	VOC	54.00
STA 15-4	Fixed-Roof Storage Tank A-15-4	VOC	54.00
STA 15-5	Fixed-Roof Storage Tank A-15-5	VOC	54.00

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES  
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Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	AIR CONTAMINANTS DATA
			<u>Emission Rates *</u> <u>Pounds per Hour</u>
STA 15-6	Fixed-Roof Storage Tank A-15-6	VOC	54.00
STA 15-7	Fixed-Roof Storage Tank A-15-7	VOC	54.00
STA 15-8	Fixed-Roof Storage Tank A-15-8	VOC	54.00
STA 15-9	Internal Floating Roof Storage Tank A-15-9	VOC	1.30
STA 15-10	Internal Floating Roof Storage Tank A-15-10	VOC	1.30
STA 15-11	Fixed-Roof Storage Tank A-15-11	VOC	54.00
STA 15-12	Fixed-Roof Storage Tank A-15-12	VOC	54.00
STA 15-13	Fixed-Roof Storage Tank A-15-13	VOC	54.00
STA 15-14	Fixed-Roof Storage Tank A-15-14	VOC	54.00
STA 15-15	Fixed-Roof Storage Tank A-15-15	VOC	54.00
STA 15-16	Fixed-Roof Storage Tank A-15-16	VOC	54.00
STA 20-1	Fixed-Roof Storage Tank A-20-1	VOC	54.00
<b>B TANK FARM</b>			
STB 25-1	Internal Floating Roof Storage Tank B-25-1	VOC	1.62
STB 30-1	Fixed-Roof Storage Tank B-30-1	VOC	54.00
STB 30-2	Fixed-Roof Storage Tank B-30-2	VOC	54.00

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AIR CONTAMINANTS DATA			
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	<u>Emission Rates *</u> <u>Pounds per Hour</u>
STB30-3	Fixed-Roof Storage Tank B-30-3	VOC	54.00
STB 30-4	Fixed-Roof Storage Tank B-30-4	VOC	54.00
STB 30-5	Fixed-Roof Storage Tank B-30-5	VOC	54.00
STB 30-6	Internal Floating Roof Storage Tank B-30-6	VOC	2.91
STB 30-7	Fixed-Roof Storage Tank B-30-7	VOC	54.00
STB 30-8	Fixed-Roof Storage Tank B-30-8	VOC	54.00
STB 30-11	Fixed-Roof Storage Tank B-30-11	VOC	54.00
STB 30-12	Fixed-Roof Storage Tank B-30-12	VOC	54.00
<b>D TANK FARM</b>			
STD 7-1	Low-Pressure Storage Tank D-7-1	VOC	11.49
STD 7-2	Low-Pressure Storage Tank D-7-2	VOC	11.49
STD 7-3	Low-Pressure Storage Tank D-7-3	VOC	11.49
STD 7.5-13	Low-Pressure Storage Tank D-7.5-13	VOC	5.97
STD 7.5-14	Low-Pressure Storage Tank D-7.5-14	VOC	5.97
STD 7.5-15	Low-Pressure Storage Tank D-7.5-15	VOC	5.97
STD 10-1	Low-Pressure Storage Tank D-10-1	VOC	6.00
STD 10-2	Low-Pressure Storage Tank D-10-2	VOC	6.00
STD 10-3	Low-Pressure Storage Tank D-10-3	VOC	6.00

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AIR CONTAMINANTS DATA			
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	<u>Emission Rates *</u> <u>Pounds per Hour</u>
STD 15-17	Low-Pressure Storage Tank D-15-17	VOC	5.82
STD 15-18	Low-Pressure Storage Tank D-15-18	VOC	5.82
STD 15-19	Low-Pressure Storage Tank D-15-19	VOC	5.82
STD 15-20	Low-Pressure Storage Tank D-15-20	VOC	5.82
STD 15-21	Low-Pressure Storage Tank D-15-21	VOC	5.82
STD 15-22	Low-Pressure Storage Tank D-15-22	VOC	5.82
STD 15-23	Low-Pressure Storage Tank D-15-23	VOC	5.82
STD 15-24	Low-Pressure Storage Tank D-15-24	VOC	5.82
STD 15-25	Low-Pressure Storage Tank D-15-25	Lube Oil	0.01
STD 15-26	Low-Pressure Storage Tank D-15-26	Lube Oil	0.01
STD 15-27	Low-Pressure Storage Tank D-15-27	Lube Oil	0.01
STD 15-28	Low-Pressure Storage Tank D-15-28	Lube Oil	0.01
STD 20-2	Low-Pressure Storage Tank D-20-2	VOC	5.72
STD 20-3	Low-Pressure Storage Tank D-20-3	VOC	5.72
STD 30-9	Low-Pressure Storage Tank D-30-9	VOC	22.60
STD 30-10	Low-Pressure Storage Tank D-30-10	VOC	5.54

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES  
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AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	<u>Emission Rates *</u> <u>Pounds per Hour</u>
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**E TANK FARM**

STE 12-14	Fixed-Roof Storage Tank E-12-14	VOC	54.00
STE 12-15	Fixed-Roof Storage Tank E-12-15	VOC	54.00
STE 12-16	Fixed-Roof Storage Tank E-12-16	VOC	54.00
STE 12-17	Fixed-Roof Storage Tank E-12-17	VOC	54.00
STE 12-18	Fixed-Roof Storage Tank E-12-18	VOC	54.00
STE 12-19	Fixed-Roof Storage Tank E-12-19	VOC	54.00
STE 12-20	Fixed-Roof Storage Tank E-12-20	VOC	54.00
STE 12-21	Fixed-Roof Storage Tank E-12-21	VOC	54.00
STE 12-22	Fixed-Roof Storage Tank E-12-22	VOC	54.00
STE 12-23	Fixed-Roof Storage Tank E-12-23	Cyclohexanol	0.06
STE 12-24	Fixed-Roof Storage Tank E-12-24	Cyclohexanol	0.06
STE 12-25	Fixed-Roof Storage Tank E-12-25	Cyclohexanol	0.06
STE 12-26	Fixed-Roof Storage Tank E-12-26	Cyclohexanol	0.06

**F TANK FARM**

STF 6-1	Fixed-Roof Storage Tank F-6-1	VOC	54.00
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EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES  
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Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	AIR CONTAMINANTS DATA
			<u>Emission Rates *</u> <u>Pounds per Hour</u>
STF 6-2	Fixed-Roof Storage Tank F-6-2	VOC	54.00
STF 7.5-1	Fixed-Roof Storage Tank F-7.5-1	VOC	54.00
STF 7.5-2	Fixed-Roof Storage Tank F-7.5-2	VOC	54.00
STF 7.5-3	Fixed-Roof Storage Tank F-7.5-3	VOC	54.00
STF 7.5-4	Fixed-Roof Storage Tank F-7.5-4	VOC	54.00
STF 12-1	Fixed-Roof Storage Tank F-12-1	VOC	54.00
STF 12-2	Fixed-Roof Storage Tank F-12-2	VOC	54.00
STF 12-3	Fixed-Roof Storage Tank F-12-3	VOC	54.00
STF 12-4	Fixed-Roof Storage Tank F-12-4	VOC	54.00
<b>P TANK FARM</b>			
STP 15-29	Internal Floating Roof Storage Tank P-15-29	VOC	1.30
STP 15-30	Internal Floating Roof Storage Tank P-15-30	VOC	1.30
STP 15-31	Internal Floating Roof Storage Tank P-15-31	VOC	1.30
STP 15-32	Internal Floating Roof Storage Tank P-15-32	VOC	1.30
STP 15-33	Low-Pressure Storage Tank P-15-33	VOC	5.82
STP 15-34	Low-Pressure Storage Tank P-15-34	VOC	5.82

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES  
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AIR CONTAMINANTS DATA			
Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	<u>Emission Rates *</u> <u>Pounds per Hour</u>
STP 15-35	Low-Pressure Storage Tank P-15-35	VOC	5.82
STP 40-1	Internal Floating Roof Storage Tank P-40-1	VOC	0.70
STP 40-2	Internal Floating Roof Storage Tank P-40-2	VOC	0.70
STP 40-3	Fixed-Roof Storage Tank P-40-3	Lube Oil C10+ Olefins	0.05 12.59
STP 50-1	Fixed Roof Storage Tank P-50-1	VOC	4.04
STP 50-2	Internal Floating Roof Storage Tank P-50-2	VOC	0.97
STP 50-3	Internal Floating Roof Storage Tank P-50-3	VOC Methylene Chloride	0.97 1.06
STP 50-4	Internal Floating Roof Storage Tank P-50-4	VOC	0.97
STP 50-5	Internal Floating Roof Storage Tank P-50-5	VOC	0.76
<b>S TANK FARM</b>			
STS 100-1	Internal Floating Roof Storage Tank S100-1	MeOH	1.58
STS 100-2	Internal Floating Roof Storage Tank S100-2	MeOH	1.58
STS 100-3	Internal Floating Roof Storage Tank S100-3	MeOH	1.58
STS 100-4	Internal Floating Roof Storage Tank S100-4	MeOH	1.58
WASH-1	Cleaning Station Wash Water Storage Tank No. 1	VOC Non-VOC	0.79 0.63
WASH-2	Cleaning Station Wash Water Storage Tank No. 2	VOC Non-VOC	0.79 0.63



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Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	<u>Emission Rates *</u> <u>Pounds per Hour</u>
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**MARINE, RAILCAR, TANK TRUCK, AND ISO CONTAINER LOADING/CLEANING FACILITIES**

RACK R-1	Railcar Loading/Unloading Rack 1	VOC	17.97
RACK R-2	Railcar Loading/Unloading Rack 2	VOC	17.97
RACK R-3	Railcar Loading/Unloading Rack 3	VOC	1.94
RACK R-4	Railcar Cleaning/Loading/Unloading Rack 4	VOC	36.18
		Non-VOC	0.13
RACK T-3	Tank Truck Loading/Unloading Rack 3	VOC	17.97
RACK T-4	Tank Truck Loading/Unloading Rack 4	VOC	17.97
RACK T-5	Tank Truck Loading/Unloading Rack 5	Tallow	0.01
RACK T-6	Tank Truck Loading/Unloading Rack 6	VOC	17.97
RACK T-7	Tank Truck and ISO Container Cleaning/ Loading/Unloading Rack 7	VOC	34.73
		Non-VOC	0.13
SHIP DOCK 2	Ship Dock 2 (6)	Methacrylic Acid	1.42
		Propionic Acid	7.60
SHIP DOCK 3	Ship Dock 3 (6)	Methacrylic Acid	1.42
		Propionic Acid	7.60
BARGE DOCK C	Barge Dock C (6)	Methacrylic Acid	3.54
		Propionic Acid	7.60

**EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES  
SHORT-TERM EMISSIONS**

**AIR CONTAMINANTS DATA**

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	<u>Emission Rates *</u> <u>Pounds per Hour</u>
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**VESSEL CLEANING/INTERMODAL LOADING STATION CARBON ADSORPTION SYSTEM**

CAS-1	Carbon Adsorption System (T-7 and R-4)	VOC	0.10
		Non-VOC	0.06

**EPICHLOROHYDRIN CAUSTIC SCRUBBER SYSTEMS**

SCR-1	A Tank Farm Caustic Scrubber	Epichlorohydrin	1.79
SCR-2	Tank P50-2 Caustic Scrubber	Epichlorohydrin	0.01

**TERMINAL FLARES**

TVFL	Tank Farm Vent Flare (7) (T-6, R-2, and "D" Tank Farm [25 tanks])	CO	42.29
		NO <sub>x</sub>	4.93
		VOC	1.89
FL-1	McGill Loading Flare (R-1, R-3, T-3, and T-4)	CO	23.20
		NO <sub>x</sub>	2.71
		VOC	10.57
MLFR	Marine Loading Flare (Ship Dock 2/3 and Barge Dock C)	CO	21.04
		NO <sub>x</sub>	4.21
		VOC	46.26
FL-4	Railcar, Tank Truck, and ISO Container Cleaning/Transmodal Loading Flare	CO	4.50
		NO <sub>x</sub>	2.25

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Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	<u>Emission Rates *</u> <u>Pounds per Hour</u>
	(R-4 and T-7)	SO <sub>2</sub>	28.08
		VOC	16.48
		Non-VOC	5.86

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Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	<u>Emission Rates *</u> <u>Pounds per Hour</u>
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**TERMINAL BOILERS**

BLR-1	Boiler BLR-1 (29 MMBtu/Hour)	CO	2.39
		NO <sub>x</sub>	2.84
		PM	0.22
		SO <sub>2</sub>	0.02
		VOC	0.16
BLR-2	Boiler BLR-2 (32.7 MMBtu/Hour) Cleaver-Brooks Model CB-LE	CO	4.91
		NO <sub>x</sub>	2.29
		PM	0.33
		SO <sub>2</sub>	0.03
		VOC	0.18

**ENGINES**

FIRE-PUMP	Rack R-4 Fire Water Pump Engine (5)	CO	2.47
		NO <sub>x</sub>	11.47
		PM	0.81
		SO <sub>2</sub>	0.76
		VOC	0.93

**EQUIPMENT LEAK FUGITIVE EMISSIONS**

FU	Piping Fugitive Emissions (4)	VOC	4.27
		Non-VOC	0.18

- (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  
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- (3) CO - carbon monoxide  
MeOH - methanol  
PM - particulate matter, suspended in the atmosphere, including PM<sub>10</sub>.  
PM<sub>10</sub> - particulate matter 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 in emitted.  
SO<sub>2</sub> - sulfur dioxide  
NO<sub>x</sub> - total oxides of nitrogen  
VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code (30

TAC) § 101.1

(4) Fugitive emissions are an estimate only and are not considered as a maximum allowable emission rate.

(5) Rack R-4 Fire Water Pump is covered under Permit by Rule (PBR) § 106.511. The Engine was installed in November 2000 and did not require registration

(6) Additional chemicals handled at Ship Docks 2/3 and Barge Dock C and their associated emission rates are authorized according to: (1) the permitted product transfer scenarios of Permit Attachments B and C, (2) the transfer operations specified within the special conditions of the permit, (3) applicable PBRs of 30 TAC Chapter 106, and (4) the agency guidance for marine based operations conducted prior to the September 1, 2001 effective date for 30 TAC Chapter 116 applicability to emissions from dockside marine vessels as described in the Texas Commission on Environmental Quality (TCEQ) draft publication Dockside Vessel Emissions dated September 2001. A permit amendment in accordance to Special Condition No. 12 must be submitted to the TCEQ by February 1, 2005.

(7) Low Pressure Storage Tank P-50-6 is authorized via PBR Registration Number 54010 to also vent to this flare.

\* Emission rates are based on, and the facilities are limited by, the following maximum operating schedule:

Hrs/day 24 Days/week 7 Weeks/year 52

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES  
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Dated September 13, 2004