

Permit Number 41618

ATTACHMENT A-2

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

ANNUAL EMISSIONS

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. 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 Numbers (1)	Source Names (2)	Air Contaminant Name (3)	<u>Emission Rates *</u> Tons per Year
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TERMINAL STORAGE TANKS (125), SCRUBBER SCR-2, AND TANK FARM VENT FLARE

A Tank Farm: 45 Tanks	Terminal Storage Tanks, Scrubber SCR-2 (4), and Tank Farm Vent Flare (TVFL)	Total CO Cap	21.64
B Tank Farm: 11 Tanks		Total NO _x Cap	2.52
D Tank Farm: 25 Tanks		Total VOC Cap	114.60
E Tank Farm: 13 Tanks			
F Tank Farm: 10 Tanks			
P Tank Farm: 15 Tanks (P-15-29 to P-15-35, P-40-1 to P-40-3, and P-50-1 to P-50-5 Only)			
S Tank Farm: 4 Tanks			
DIESEL-1			
GASOLINE-1			
Scrubber SCR-2 (4)			
TVFL			
SCR-2	Scrubber SCR-2 (4)	Acetic Acid (4)	0.39

TERMINAL STORAGE TANKS (103) AND WASTEWATER EQUALIZATION TANK EQ-02

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Emission Point Numbers (1)	Source Names (2)	Air Contaminant Name (3)	<u>Emission Rates *</u> Tons per Year
P Tank Farm: (P-15-36 to P-15-42, P-25-2, P-25-3, and P-50-6 Only)	10 Tanks Terminal Storage Tanks and Wastewater Equalization Tank EQ-02	Total CO Cap** Total NO _x Cap** Total VOC Cap**	20.56 5.02 52.50
Q Tank Farm: 11 Tanks			
V Tank Farm: 4 Tanks			
AE Tank Farm: 12 Tanks			
CE Tank Farm: 12 Tanks			
DE Tank Farm: 8 Tanks			
EE Tank Farm: 13 Tanks			
FE Tank Farm: 9 Tanks			
GE Tank Farm: 24 Tanks			
Equalization Tank EQ-02 (5)			

TERMINAL LAND AND MARINE BASED LOADING FACILITIES

Racks T-3 to T-6, T-8 to T-10 Racks R-1 to R-3, R-5 to R-8	Tank Truck, ISO Container, and Railcar Product Transfer Racks	**Included in Above Caps
Ship Docks 2/3 and 10/11 Barge Docks C and E	Marine Vessel and Barge Transfer Docks (6)	**Included in Above Caps

TERMINAL LAND AND MARINE BASED LOADING FLARES

Flares FL-1, FL-5, MLFR and MLFR-2	McGill Truck and Railcar Loading Flare FL-1, East Truck	**Included in Above Caps
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and Railcar Loading Flare FL-5,
John Zink Marine Loading Flare (MLFR),
and East Docks Marine Loading
Flare (MLFR-2)

TERMINAL BOILERS

BLR-2	Boiler BLR-2 (32.7 MM Btu/Hour)	CO	21.48
	Cleaver-Brooks Model CB-LE	NO _x	10.03
	800-Horsepower (S-4 Boiler)	PM	1.43
		SO ₂	0.14
		VOC	0.79

INTERNAL COMBUSTION ENGINES

FIRE-PUMP	Rack R-4 Fire Water Pump	CO	0.06
	Diesel (7) Engine - Caterpillar	NO _x	0.30
	Model 3406B-T	PM	0.02
	370-Horsepower	SO ₂	0.02
		VOC	0.02

DOCK-ENG	John Deere 4045D	CO	0.10
	Diesel Engine Ship	NO _x	0.35
	Dock 2/380-Horsepower	PM	0.03
		SO ₂	0.03
		VOC	0.01

PIPING COMPONENT EQUIPMENT LEAK FUGITIVE EMISSIONS

FU	Piping Component Fugitive Emissions (8)	VOC	77.67
		Non-VOC	0.80

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TERMINAL MAINTENANCE OPERATIONS

DEGREASER	Power Systems Parts Washer Model Number 93-06-P5-5563	VOC	0.01
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- (1) Emission point identification - either specific equipment designation or emission point number from a plot plan.
- (2) Specific point source names. For fugitive sources use area name or fugitive source name.
- (3) CO - carbon monoxide
NO_x - total oxides of nitrogen
VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
MeOH - methanol
PM - particulate matter, suspended in the atmosphere, including PM₁₀.
PM₁₀ - particulate matter equal to or less than 10 microns in diameter. Where PM is not listed, it shall be assumed that no PM greater than 10 microns in emitted.
SO₂ - sulfur dioxide
- (4) Scrubber SCR-2 is authorized under Permit Number 41618 to control epichlorohydrin tank truck and railcar loading operations as shown on Permit Attachment B. Scrubber SCR-2 is also authorized under 30 TAC § 106.472(8) effective September 4, 2000 to control acetic acid vapors from Storage Tanks E12-19SS, E12-20SS, and E12-21SS.
- (5) Wastewater Equalization Tank EQ-02 is authorized under Permit by Rule § 106.472(2) effective September 4, 2000. Tank EQ-02 was constructed in May of 2002 and did not require agency registration.
- (6) The permitted VOC emissions cap does not include transfer operations that occur directly between marine vessels berthed at Stolthaven Houston's docks not utilizing shore-based equipment to facilitate the product transfer (i.e., lightering operations).
- (7) The R-4 Fire Water Pump Diesel Engine is authorized under Permit by Rule § 106.511 effective September 4, 2000. This engine was installed in November of 2000 and did not require agency registration.

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

- * Compliance with annual emission limits is based on a rolling 12-month period. Emission rates are based on (and the facilities are limited by) the following maximum operating schedule:

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

Dated April 6, 2009