

ATTACHMENT A-2

Permit Number 41618

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 (127), SCRUBBER SCR-2, AND TANK FARM VENT FLARE

A Tank Farm: 45 Tanks	Terminal Storage Tanks, Scrubber SCR-2 (5), 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			
DIESEL-R4			
GASOLINE-1			
Scrubber SCR-2 (5)			
TVFL			
SCR-2	Scrubber SCR-2 (5)	Acetic Acid (5)	0.39
BLEACH-1	Bleach Storage Tank	Sodium Hypochlorite	< 0.01

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TERMINAL STORAGE TANKS (107) AND WASTEWATER EQUALIZATION TANK EQ-02

P Tank Farm: 10 Tanks (P-15-36 to P-15-42, P-25-2, P-25-3, and P-50-6 Only)	Terminal Storage Tanks and Wastewater Equalization Tank EQ-02	Total CO Cap**	20.56
		Total NO _x Cap**	5.02
		Total VOC Cap**	52.50
Q Tank Farm: 11 Tanks			
V Tank Farm: 4 Tanks			
AE Tank Farm: 36 Tanks			
BE Tank Farm: 16 Tanks			
CE Tank Farm: 8 Tanks			
DE Tank Farm: 13 Tanks			
EE Tank Farm: 9 Tanks			
Equalization Tank EQ-02			

TERMINAL LAND AND MARINE BASED LOADING FACILITIES

Racks T-3 to T-6, T-8 & T-9	Tank Truck, ISO Container, and Railcar Product Transfer	**Included in Above Caps	
Racks R-1 to R-3, R-5 to R-8	Racks		
A-1, A-2, A-3 & V Manifolds			
Ship Docks 2/3 and 10/11	Marine Vessel and Barge	**Included in Above Caps	
Barge Docks C and E	Product Transfer Docks (6)		
PSV-101 & PSV-409A	Barge Dock C & Ship Dock 2/3	N/A	(7)
	USCG Pressure Relief Valves		

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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 Loading and BE Tank Farm Low-Pressure Tank Flare FL-5, John Zink Marine Loading Flare (MLFR), and East Docks Marine Loading Flare (MLFR-2)	**Included in Above Caps	
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TERMINAL STEAM GENERATING UNITS

STM-GEN-S5	Steam Generator S-5: Clayton Industries Model SEG 654-1- FMB, 650 HP, 26.22 MMBTU/hr Heat Capacity, Serial #24810	CO NOx PM10 SO2 VOC	9.65 4.13 0.87 0.07 0.63
STM-GEN-S6	Steam Generator S-6: Clayton Industries Model SEG 654-1 FMB, 650 HP, 26.22 MMBTU/hr Heat Capacity, Serial #24809	CO NOx PM10 SO2 VOC	9.65 4.13 0.87 0.07 0.63

INTERNAL COMBUSTION ENGINES

FIRE-PUMP	Rack R-4 Fire Water Pump Diesel Engine: Caterpillar Model 3406B-T 370-Horsepower	CO NOx PM10 SO2 VOC	0.06 0.30 0.02 0.02 0.02
DOCK-ENG	John Deere 4045D	CO	0.10

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	Diesel Engine: Ship Dock 2/3 80-Horsepower	NO _x	0.35
		PM ₁₀	0.03
		SO ₂	0.03
		VOC	0.01

PIPING COMPONENT EQUIPMENT LEAK FUGITIVE EMISSIONS

FU	Piping Component Fugitive Emissions (4)	VOC	77.67
		Non-VOC	0.80

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
PM₁₀ - particulate matter (PM) equal to or less than 10 microns in diameter
SO₂ - sulfur dioxide
- (4) Fugitive emissions are an estimate only and are not considered as a maximum allowable emission rate.
- (5) Scrubber SCR-2 shall be used to control epichlorohydrin tank truck and railcar loading operations as shown on Permit Attachment B. Scrubber SCR-2 shall also be used to control acetic acid vapors from Storage Tanks E12-19SS, E12-20SS, and E12-21SS when in acetic acid service.
- (6) The permitted VOC emissions cap does not include transfer operations that occur directly

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between marine vessels berthed at Stolthaven Houston's docks not utilizing shore-based equipment to facilitate the product transfer (i.e., lightering operations).

- (7) Safety Relief Valve PSV-409A located at Ship Dock 2/3 and Safety Relief Valve PSV-101 located at Barge Dock C on the respective United States Coast Guard (USCG) safety and injection skids are listed for information and reference only. These two emission points do not have any allowable emissions authorized under Permit No. 41618.

- * 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 September 6, 2012