

EMISSION SOURCES - EMISSION CAPS AND INDIVIDUAL EMISSION LIMITATIONS

Flexible Permit Numbers 1176 and PSD-TX-782

This table lists the maximum allowable emission caps or rates and all sources of air contaminants 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 No. (1)	Source Name (2)	Air Contaminant Name (3)	<u>Emission Rates*</u> lb/hr TPY**	
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CO Sources

Combustion Sources:

HF-201	PX-1 ISOM Heater H-101	CO
HF-203	PX-1 Reboilers H-103/104	CO
F-204	PX-1 LAF/TDP Furnace H-501	CO
HF-451	PX-2 ISOM Heater H-1101	CO
HF-453	PX-2 H-Reboilers 1103/1104	CO
HF-601	MX-2 Heater H-102	CO
HF-602	MX-2 Heater H-201	CO

Flare Systems:

FL-201	PX-1 Flare	CO
FL-401	PX-2 Flare	CO
FL-351	POLYB Flare	CO
TEMPTO	Temporary Thermal Oxidizer	CO

Emission Caps	Normal Operations	CO	86.01	388.54
	Planned Maintenance, Startup, and Shutdown (MSS) Activities	CO	601.77	10.57

NO_x Sources

Combustion Sources:

HF-201	PX-1 ISOM Heater H-101	NO _x
HF-203	PX-1 Reboilers H-103/104	NO _x
F-204	PX-1 LAF/TDP Furnace H-501	NO _x

HF-451 PX-2 ISOM Heater H-1101 NO_x
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			lb/hr	TPY**
HF-453	PX-2 H-Reboilers 1103/1104	NO _x		
HF-601	MX-2 Heater H-102	NO _x		
HF-602	MX-2 Heater H-201	NO _x		
Flare Systems:				
FL-201	PX-1 Flare	NO _x		
FL-401	PX-2 Flare	NO _x		
FL-351	POLYB Flare	NO _x		
TEMPTO	Temporary Thermal Oxidizer	NO _x		
Emission Caps	Normal Operations	NO _x	39.00	158.54
	Planned MSS Activities	NO _x	110.03	2.07

PM₁₀ Sources

Combustion Sources:

HF-201	PX-1 ISOM Heater H-101	PM ₁₀
HF-203	PX-1 Reboilers H-103/104	PM ₁₀
F-204	PX-1 LAF/TDP Furnace H-501	PM ₁₀
HF-451	PX-2 ISOM Heater H-1101	PM ₁₀
HF-453	PX-2 H-Reboilers 1103/1104	PM ₁₀
HF-601	MX-2 Heater H-102	PM ₁₀
HF-602	MX-2 Heater H-201	PM ₁₀

Cooling Towers:

CT-451	PX-2, MX-2 Cooling Tower	PM ₁₀
CT-351	PX-3, POLYB Cooling Tower	PM ₁₀

Emission Cap	Normal Operations	PM ₁₀	9.06	39.68
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			lb/hr	TPY**

SO₂ Sources

Combustion Sources:

HF-201	PX-1 ISOM Heater H-101	SO ₂
HF-203	PX-1 Reboilers H-103/104	SO ₂
F-204	PX-1 LAF/TDP Furnace H-501	SO ₂
HF-451	PX-2 ISOM Heater H-1101	SO ₂
HF-453	PX-2 H-Reboilers 1103/1104	SO ₂
HF-601	MX-2 Heater H-102	SO ₂
HF-602	MX-2 Heater H-201	SO ₂

Flare Systems:

PX-1 Flare	SO ₂		
FL-401	PX-2 Flare	SO ₂	
POLYB Flare	SO ₂		
TEMPTO	Temporary Thermal Oxidizer	SO ₂	
Emission Caps	Normal Operations	SO ₂	0.51 2.23
Planned MSS Activities		SO ₂	0.25 0.01

VOC Sources

Combustion Sources:

HF-201	PX-1 ISOM Heater H-101	VOC
HF-203	PX-1 Reboilers H-103/104	VOC
F-204	PX-1 LAF/TDP Furnace H-501	VOC
HF-451	PX-2 ISOM Heater H-1101	VOC
HF-453	PX-2 H-Reboilers 1103/1104	VOC
HF-601	MX-2 Heater H-102	VOC
	MX-2 Heater H-201	VOC

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Separators:

FS-201	PX-1 Separator	VOC
S-451	PX-2 Separator	VOC

Regenerator Vent:

LPV-452	PX-2 Regeneration Vent	VOC
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Flare Systems:

FL-201	PX-1 Flare	VOC
FL-401	PX-2 Flare	VOC
FL-351	POLYB Flare	VOC

Loading:

SP-50	Recovery Dock 50	VOC
SP-51	Recovery Dock 51	VOC
SP-52	Recovery Dock 52	VOC
SP-54	HAB Truck Loading 54	VOC
SP-201	PX-1 Truck Loading	VOC

Fugitives: (4)

FU-201	PX-1 Fugitives	VOC
FU-451	PX-2 Fugitives	VOC
FU-551	PX-3 Fugitives	VOC
FU-152	Dock Fugitives	VOC
FU-210	PX-1 LAF Fugitives	VOC

Cooling Towers:

CT-451	PX-2, MX-2 Cooling Tower	VOC
CT-351	PX-3, POLYB Cooling Tower	VOC

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Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates*	
			lb/hr	TPY**
Tanks:				
	Utilities	VOC		
ST-201	PX-1 Tank TF-111	VOC		
ST-202	PX-1 Tank TF-112	VOC		
ST-203	PX-1 Tank TF-113	VOC		
ST-204	PX-1 Tank TF-114	VOC		
ST-205	PX-1 Tank TF-115	VOC		
ST-206	PX-1 Tank TF-117	VOC		
ST-207	PX-1 Tank TF-118	VOC		
ST-208	PX-1 Tank TF-120	VOC		
ST-209	PX-1 Tank TF-121	VOC		
ST-210	PX-1 Tank TF-116	VOC		
ST-451	PX-2 Tank F-1117	VOC		
ST-452	PX-2 Tank F-1111	VOC		
ST-453	PX-2 Tank F-1112	VOC		
ST-454	PX-2 Tank F-1113	VOC		
ST-455	PX-2 Tank F-1114	VOC		
ST-457	PX-2 Tank F-1118	VOC		
ST-2113	PX-3 Tank TF-2113	VOC		
ST-2114	PX-3 Tank TF-2114	VOC		
ST-2118	PX-3 Tank TF-2118	VOC		
ST-151	Dock Tank TK-201	VOC		
ST-152	Dock Tank TK-202	VOC		
ST-153	Dock Tank TK-203	VOC		
ST-154	Dock Tank TK-204	VOC		
ST-155	Dock Tank TK-205	VOC		
ST-156	Dock Tank TK-206	VOC		
ST-157	Dock Tank TK-207	VOC		
ST-159	Dock Tank TK-208	VOC		
ST-161	Dock Tank TK-401	VOC		
ST-162	Dock Tank TK-402	VOC		
Emission Caps	Normal Operations	VOC (6) (7)	261.23	321.29
		Benzene	6.79	29.71
		Styrene	19.85	31.56

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			lb/hr	TPY**
FL-201, FL-401, FL-351, and FL-601. 177.19 2.69	Planned MSS Activities	VOC (6) Emissions routed to flares, and Benzene	1125.80	6.35
TEMPTO.	Temporary Thermal Oxidizer	Styrene	1.16	0.01
MSSATM and MSSFUG	Planned MSS Activities Emissions vented to atmosphere. Fugitives.	VOC (6) Benzene Styrene	181.06 1.52 1.50	15.67 0.01 0.04

H₂SO₄ Source

Loading Operation:

SP-54A	Dock 54A	H ₂ SO ₄		
Emission Cap	Normal Operations	H ₂ SO ₄	0.001	0.001

HCl Source

Combustion Source:

FL-201	PX-1 Flare (5)	HCl		
Emission Cap	Normal Operations	HCl	0.50	2.10

- (1) Emission point identification - either specific equipment designation or emission point number from plot plan.
- (2) Specific point source name.

EMISSION SOURCES - EMISSION CAPS AND INDIVIDUAL EMISSION LIMITATIONS

- (3) VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code 101.1
- NO_x - total oxides of nitrogen
- 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 PM greater than 10 microns is emitted.
- CO - carbon monoxide
- H₂SO₄ - sulfuric acid
- HCl - hydrogen chloride
- (4) Emission rate is an estimate and compliance is demonstrated by meeting the requirements of the applicable special conditions and permit application representations.
- (5) Emissions of HCl from EPN FL-201 are combustion emissions associated with pressure relief emissions of ethyl chloride from single pressurized storage tank identified as MS-101 associated with Permit Numbers 8978 and PSD-TX-459M3.
- (6) VOC emissions include Benzene and Styrene.
- (7) Cap includes 0.005 lb/hr and 0.02 TPY of VOC emissions authorized under Permit-by-Rule Registration No. 88401. This PBR was authorized for Permit Nos. 1176 and 31329, and it is incorporated by reference only.
- * These initial cap 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: April 28,

2011