Flexible Permit Numbers 22690 and PSD-TX-751M1

This table lists the emission caps and individual emission limitations for all sources of air contaminants on the applicant's property covered by this permit. The emission caps and individual emission limitations shown are those derived from information submitted as part of the application for permit and allowed for these facilities. Any proposed change in emission caps or individual emission limitations will require an application for a modification of the facilities covered by this permit.

			Emission Cap or Individual
		Air Contaminant_	Emission Limit *
Point No. (1)	Name (2)	Name (3)	lb/hr
TPY_	ν		
CO Sources			
Ethylono Unit 22			
Ethylene Unit 22			
22-36-1	22 Furnace 1	CO	
22-36-2	22 Furnace 2	CO	
22-36-3	22 Furnace 3	CO	
22-36-4	22 Furnace 4	CO	
22-36-5	22 Furnace 5	CO	
22-36-6	22 Furnace 6	CO	
22-36-7	22 Furnace 7	CO	
22-36-8	22 Furnace 8	CO	
Ethylono Unit 24			
Ethylene Unit 24			
24-36-1	24 Furnace 1	CO	
24-36-2	24 Furnace 2	CO	
24-36-3	24 Furnace 3	CO	
24-36-4	24 Furnace 4	CO	
24-36-5	24 Furnace 5	CO	
24-36-6	24 Furnace 6	CO	
24-36-7	24 Steam Superheater 7	CO	
24-36-8	24 DAC Hydrotreater Heater		
24-36-9	24 Furnace 9	CO	

Emission	Source	Air Contaminant	Emissi Indiv Emissio		or *
Point No. (1)	Name (2)	Name (3)		lb/hr	
TPY	•				
Ethylene Unit 33					
33-36-1	33 Furnace 1	CO (8)			
33-36-2	33 Furnace 2	CO (8)			
33-36-3	33 Furnace 3	CO (8)			
33-36-4	33 Furnace 4	CO (8)			
33-36-5	33 Furnace 5	CO (8)			
33-36-6 33-36-7	33 Furnace 6 33 Furnace 7	CO (8) CO (8)			
33-36-8	33 Furnace 8	CO (8)			
33-36-9	33 Furnace 9	CO (8)			
Flare System		, ,			
56-61-10	Unit 21, 22 Flare (Flare 10)	CO			
56-61-12	Unit 22 Flare (Flare 12)	CO			
56-61-14	Unit 24 Flare (Flare 14)	CO			
56-61-20 56-61-22	Unit 24 Process Flare (Flare 2	,			
56-61-22	Unit 33 Flare (Flare 22)	CO (8)			
	Emission Cap	СО	478.62	2096.	06
Decoking Equipment	- Start-Up, Shutdown, and Main	tenance			
22-95-(3, 3A, 3B & 3C 24-95-300 33-95-376 and 376A	U24 Decoke	U22 Decoke CO CO	СО		
	Emission Cap	СО	792.82	89.	86

Emission Point No. (1) TPY	Source A Name (2)	Air Contaminant Name (3)	Emission Individo Emission Ib	ual .
Flare System				
56-61-4 56-61-8 56-61-9	Unit 10D/18 Flare (Flare 4) Unit 10, 12 Low Pressure Flare Unit 10, 12 High Pressure Flare			
Flare System - Start-U	Emission Cap Jp, Shutdown, and Maintenance	со	1.79	7.84
56-61-4 56-61-8 56-61-10 56-61-20 56-61-22	Unit 10D/18 Flare (Flare 4) Unit 10, 12 Low Pressure Flare Unit 21, 22 Flare (Flare 10) Unit 24 Process Flare (Flare 20) Unit 33 Flare (Flare 22)	CO		
	Emission Cap	со	172.49	1.53
H ₂ S Sources				
Flare System				
56-61-4 56-61-8 56-61-9 56-61-10 56-61-12 56-61-14 56-61-20 56-61-22	Unit 10D/18 Flare (Flare 4) Unit 10, 12 Low Pressure Flare Unit 10, 12 High Pressure Flare Unit 21, 22 Flare (Flare 10) Unit 22 Flare (Flare 12) Unit 24 Flare (Flare 14) Unit 24 Process Flare (Flare 20) Unit 33 Flare (Flare 22)	e 9 H ₂ S H ₂ S H ₂ S H ₂ S		
	Emission Cap	H₂S	0.10	0.29

24 Furnace 9

24-36-9

EMISSION SOURCES - EMISSION CAPS AND INDIVIDUAL EMISSION LIMITATIONS

AIR CONTAMINANTS DATA

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Cap or Individual Emission Limit * Ib/hr
TPY_	Nume (2)	rvaine (o)	10/111
NO _x Sources			
Ethylene Unit 22			
22-36-1	22 Furnace 1	NO_x	
22-36-2	22 Furnace 2	NO _x	
22-36-3	22 Furnace 3	NO_x	
22-36-4	22 Furnace 4	NO_x	
22-36-5	22 Furnace 5	NO_x	
22-36-6	22 Furnace 6	NO_x	
22-36-7	22 Furnace 7	NO_x	
22-36-8	22 Furnace 8	NO_x	
Ethylene Unit 24			
24-36-1	24 Furnace 1	NO_x	
24-36-2	24 Furnace 2	NO_x	
24-36-3	24 Furnace 3	NO_x	
24-36-4	24 Furnace 4	NO_x	
24-36-5	24 Furnace 5	NO_x	
24-36-6	24 Furnace 6	NO_x	
24-36-7	24 Steam Superheater 7	NO_x	
24-36-8	24 DAC Hydrotreater Heater 8	3 NO _x	

 NO_x

AIR CONTAMINANTS DATA

Emission Cap or

			Indivi	idual [']
Emission	Source	Air Contaminant	<u>Emission</u>	n Limit *
Point No. (1)	Name (2)	Name (3)		lb/hr
<u>TPY</u>				
Ethylene Unit 33				
33-36-1 33-36-2 33-36-3 33-36-4 33-36-5 33-36-6 33-36-7 33-36-8 33-36-9	33 Furnace 1 33 Furnace 2 33 Furnace 3 33 Furnace 4 33 Furnace 5 33 Furnace 6 33 Furnace 7 33 Furnace 8 33 Furnace 9	NO _x (8) NO _x (8)		
Flare System				
56-61-10 56-61-12 56-61-14 56-61-20 56-61-22	Unit 21, 22 Flare (Flare 10) Unit 22 Flare (Flare 12) Unit 24 Flare (Flare 14) Unit 24 Process Flare (Flare Unit 33 Flare (Flare 22)	NO _x NO _x NO _x 20) NO _x NO _x (8)		
	Emission Cap	NO_x	481.86	2110.54
Flare System				
56-61-4 56-61-8 56-61-9	Unit 10D/18 Flare (Flare 4) Unit 10, 12 Low Pressure Fla Unit 10, 12 High Pressure Fla			

			Emissior Individ	•
Emission	Source	Air Contaminant	Emission	Limit *
Point No. (1)	Name (2)	Name (3)	<u>lb</u>	/hr
TPY				
	Emission Cap	NO _×	0.34	1.50

Emission	Source A	ir Contaminant	Emission Individ Emission	
Point No. (1)	Name (2)	Name (3)		/hr
TPY				
Flare System - Start-U	Jp, Shutdown, and Maintenance			
56-61-4 56-61-8 56-61-10 56-61-20 56-61-22	Unit 10D/18 Flare (Flare 4) Unit 10, 12 Low Pressure Flare Unit 21, 22 Flare (Flare 10) Unit 24 Process Flare (Flare 20) Unit 33 Flare (Flare 22)	NO_x		
	Emission Cap	NO _x	24.68	0.25
PM and PM/PM ₁₀ Sou	<u>irces</u>			
Cooling Towers				
54-22-5	Unit 12 Cooling Tower (CT-5)	PM/PM ₁₀		
54-22-6	Unit 10ABC Cooling Tower (CT-	,		
54-22-7	Unit 10ABC Cooling Tower (CT-			
54-22-9	Unit 10D/18 Cooling Tower (CT-			
54-22-12	Unit 21/22 Cooling Tower (CT-1	•		
54-22-13 54-22-17	Unit 24 Cooling Tower (CT-13) Unit 33 Cooling Tower (CT-17)			
J4 22 11	Office 33 Cooling Tower (CT 17)	1 141/1 14170		
	Emission Cap	PM/PM ₁₀	27.16	118.97
Ethylene Unit 22				
22-36-1	22 Furnace 1	PM_{10}		
22-36-2	22 Furnace 2	PM ₁₀		
22-36-3	22 Furnace 3	PM ₁₀		
22-36-4	22 Furnace 4	PM_{10}		
22-36-5	22 Furnace 5	PM_{10}		
22-36-6	22 Furnace 6	PM_{10}		

22-95-(3, 3A, 3B & 3C)

EMISSION SOURCES - EMISSION CAPS AND INDIVIDUAL EMISSION LIMITATIONS

AIR CONTAMINANTS DATA

U22 Decoke PM/PM₁₀

			Emissior Individ	ual [.]	or
Emission	Source	Air Contaminant	<u>Emission</u>		*
Point No. (1)	Name (2)	Name (3)	lb	<u>/hr</u>	
<u>TPY</u>					
22-36-7	22 Furnace 7	PM_{10}			
22-36-8	22 Furnace 8	PM ₁₀			
22 00 0	ZZ i difface o	1 14110			
Ethylene Unit 24					
24-36-1	24 Furnace 1	PM_{10}			
24-36-2	24 Furnace 2	PM_{10}			
24-36-3	24 Furnace 3	PM_{10}			
24-36-4	24 Furnace 4	PM_{10}			
24-36-5	24 Furnace 5	PM_{10}			
24-36-6	24 Furnace 6	PM_{10}			
24-36-7	24 Steam Superheater 7	PM_{10}			
24-36-8	24 DAC Hydrotreater Heater				
24-36-9	24 Furnace 9	PM_{10}			
Ethylene Unit 33					
33-36-1	33 Furnace 1	PM ₁₀ (8)			
33-36-2	33 Furnace 2	PM ₁₀ (8)			
33-36-3	33 Furnace 3	PM_{10} (8)			
33-36-4	33 Furnace 4	PM_{10} (8)			
33-36-5	33 Furnace 5	PM ₁₀ (8)			
33-36-6	33 Furnace 6	PM ₁₀ (8)			
33-36-7	33 Furnace 7	PM ₁₀ (8)			
33-36-8	33 Furnace 8	PM ₁₀ (8)			
33-36-9	33 Furnace 9	PM_{10} (8)			
	Emission Cap	PM ₁₀	41.43	181.	53
Decoking - Start up, S	Shutdown and Maintenance				

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Individ Emission	
TPY_				
24-95-300 33-95-376 and 376A	U24 Decoke U33 Decoke	PM/PM ₁₀ PM/PM ₁₀		
	Emission Cap	PM/PM ₁₀	607.69	62.09

Emission Point No. (1) TPY	Source Name (2)	Air Contaminant Name (3)	Emission Cap or Individual Emission Limit * Ib/hr
SO₂ Sources			
Ethylene Unit 22			
22-36-1 22-36-2 22-36-3 22-36-4 22-36-5 22-36-6 22-36-7 22-36-8 Ethylene Unit 24	22 Furnace 1 22 Furnace 2 22 Furnace 3 22 Furnace 4 22 Furnace 5 22 Furnace 6 22 Furnace 7 22 Furnace 8	SO ₂ SO ₂ SO ₂ SO ₂ SO ₂ SO ₂ SO ₂	
24-36-1 24-36-2 24-36-3 24-36-4 24-36-5 24-36-6 24-36-7 24-36-8 24-36-9	24 Furnace 1 24 Furnace 2 24 Furnace 3 24 Furnace 4 24 Furnace 5 24 Furnace 6 24 Steam Superheater 7 24 DAC Hydrotreater Heater 8 24 Furnace 9	SO ₂ SO ₂ SO ₂ SO ₂ SO ₂ SO ₂ SO ₂ SO ₂	

Emission		Air Contaminant	Indiv Emissio	
Point No. (1)	Name (2)	Name (3)		lb/hr
<u>TPY</u>				
Ethylene Unit 33				
33-36-1 33-36-2 33-36-3 33-36-4 33-36-5 33-36-6 33-36-7 33-36-8 33-36-9	33 Furnace 1 33 Furnace 2 33 Furnace 3 33 Furnace 4 33 Furnace 5 33 Furnace 6 33 Furnace 7 33 Furnace 8 33 Furnace 9 Emission Cap	SO ₂ (8) SO ₂ (8)	223.90	374.52
Flare System				
56-61-4 56-61-8 56-61-9 56-61-10 56-61-12 56-61-20 56-61-22	Unit 10D/18 Flare (Flare 4) Unit 10, 12 Low Pressure Flare Unit 10, 12 High Pressure Flare Unit 21, 22 Flare (Flare 10) Unit 22 Flare (Flare 12) Unit 24 Flare (Flare 14) Unit 24 Process Flare (Flare 20) Unit 33 Flare (Flare 22)	9 SO ₂ SO ₂ SO ₂ SO ₂		
	Emission Cap	SO ₂	18.33	24.72

			Emission Cap or Individual
Emission	Source	Air Contaminant	Emission Limit *
Point No. (1)	Name (2)	Name (3)	lb/hr
TPY_	Name (2)	Name (5)	ID/III
<u></u>			
VOC Sources			
Ethylene Unit 22			
22-36-1	22 Furnace 1	VOC	
22-36-2	22 Furnace 2	VOC	
22-36-3	22 Furnace 3	VOC	
22-36-4	22 Furnace 4	VOC	
22-36-5	22 Furnace 5	VOC	
22-36-6	22 Furnace 6	VOC	
22-36-7	22 Furnace 7	VOC	
22-36-8	22 Furnace 8	VOC	
Ethylene Unit 24			
24-36-1	24 Furnace 1	VOC	
24-36-2	24 Furnace 2	VOC	
24-36-3	24 Furnace 3	VOC	
24-36-4	24 Furnace 4	VOC	
24-36-5	24 Furnace 5	VOC	
24-36-6	24 Furnace 6	VOC	
24-36-7	24 Steam Superheater 7	VOC	
24-36-8	24 DAC Hydrotreater Heater		
24-36-9	24 Furnace 9	VOC	

Emission	Source A	sir Contaminant	Emission Cap or Individual Emission Limit *
Point No. (1)	Name (2)	Name (3)	lb/hr
TPY			
Ethylene Unit 33			
33-36-1	33 Furnace 1	VOC	
33-36-2	33 Furnace 2	VOC	
33-36-3	33 Furnace 3	VOC	
33-36-4 33-36-5	33 Furnace 4 33 Furnace 5	VOC VOC	
33-36-6	33 Furnace 6	VOC	
33-36-7	33 Furnace 7	VOC	
33-36-8	33 Furnace 8	VOC	
33-36-9	33 Furnace 9	VOC	
Process Fugitive Equ	iipment		
10.1-0-0	Unit 10AC Process Fugitives (4)) VOC	
10.2-0-0	Unit 10D Process Fugitives (4)	VOC	
10.3-0-0	Unit 10B Process Fugitives (4)	VOC	
12-0-0	Unit 12 Process Fugitives (4)	VOC	
18-0-0 21-0-0	Unit 18 Process Fugitives (4) Unit 21 Process Fugitives (4)	VOC VOC	
24.1-0-0	Unit 24.1 Process Fugitives (4)	VOC	
22-0-0	Unit 22 Process Fugitives (4)	VOC	
24-0-0	Unit 24 Process Fugitives (4)	VOC	
33-0-0	Unit 33 Process Fugitives (4)	VOC	
Cooling Towers			
54-22-5	Unit 12 Cooling Tower (CT-5)	VOC	
54-22-6	Unit 10ABC Cooling Tower (CT-	6) VOC	

			Emission Cap or Individual
Emission	Source	Air Contaminant	Emission Limit *
Point No. (1)	Name (2)	Name (3)	lb/hr
TPY			
54-22-7	Unit 10ABC Cooling Tower (C	T-7) VOC	
54-22-9	Unit 10D/18 Cooling Tower (C	T-9) VOC	
54-22-12	Unit 21/22 Cooling Tower (CT-	-12) VOC	
54-22-13	Unit 24 Cooling Tower (CT-13)) VOC	
54-22-17	Unit 33 Cooling Tower (CT-17)	VOC	

Emission Point No. (1) TPY	Source Name (2)	Air Contaminant Name (3)	Emission Cap or Individual Emission Limit * Ib/hr
<u> </u>			
Fixed-Roof Storage T	anks		
24-95-314 33-95-10 33-95-14	Methanol Storage Tank Methanol Storage Tank TBC Storage Tank	VOC VOC VOC	
Lube/Seal Reservoirs	;		
10-95-328 10-95-357 18-95-54 21-95-120 22-95-100 22-95-101 22-95-120 22-95-130 24-95-304 24-95-305 24-95-306 24-95-307 33-95-15 33-95-19	D-328 Seal Oil Reservoir D-357 Lube/Seal Oil Reservoir D-54 Lube/Seal Oil Reservoir D-120 Lube/Seal Oil Reservoir D-100 Lube Oil Reservoir D-101 Seal Oil Reservoir D-120 Lube/Seal Oil Reservoir D-130 Lube/Seal Oil Reservoir D-304 Lube/Seal Oil Reservoir D-305 Lube/Seal Oil Reservoir D-306 Lube/Seal Oil Reservoir C-101 (Cracked Gas) C-102 (Ethylene)	VOC VOC VOC VOC ir VOC ir VOC ir VOC voC VOC VOC VOC VOC	
33-95-19 33-95-390 33-95-392 33-95-394	C-103 (Propylene) C-101 (Cracked Gas) C-102 (Ethylene) C-103 (Propylene)	VOC VOC VOC	

Emission Point No. (1) TPY	Source Name (2)	Air Contaminant Name (3)	Emission Ca Individual <u>Emission Lim</u> lb/hr	•
Sumps				
10.1-SUMP1 12-SUMP1 21/22-SUMP1 24-SUMP2 24-SUMP3 33-SUMP1 33-SUMP2 33-SUMP3 33-SUMP4	10.1 Oily Water Sewer Sump 12 Oily Water Sewer Sump 21/22 Oily Water Sewer Sump 24 Ethylene Sodium Hydroxide Sump 24 Oily Water Sewer Sump 33 Sodium Hydroxide Sump 33 Water Sludge Pit 33 Oily Water Sewer Sump 33 Blowdown Drum Sump			
Flare System 56-61-4 56-61-8 56-61-9 56-61-10 56-61-12 56-61-14 56-61-20	Unit 10D/18 Flare (Flare 4) Unit 10, 12 Low Pressure Flare Unit 10, 12 High Pressure Flare Unit 21, 22 Flare (Flare 10) Unit 22 Flare (Flare 12) Unit 24 Flare (Flare 14) Unit 24 Process Flare (Flare 20)	e 9 VOC VOC VOC VOC		
56-61-22	Unit 33 Flare (Flare 22) Emission Cap	voc voc	120.36 49	97.29

Emission Point No. (1) TPY	Source Name (2)	Air Contaminant Name (3)	Emission (Individua <u>Emission Li</u> lb/h	al <u>mit *</u>
	p, Shutdown, and Maintenance			
56-61-4 56-61-8 56-61-10 56-61-20 56-61-22	Unit 10D/18 Flare (Flare 4) Unit 10, 12 Low Pressure Flare Unit 21, 22 Flare (Flare 10) Unit 24 Process Flare (Flare 2 Unit 33 Flare (Flare 22)	VOC		
	Emission Cap	VOC	235.12	2.14
Benzene Sources (5)				
10.1-0-0 10.2-0-0 10.3-0-0 12-0-0 21-0-0 24.1-0-0 22-0-0 24-0-0 33-0-0	Unit 10AC Process Fugitives (4) Unit 10D Process Fugitives (4) Unit 10B Process Fugitives (4) Unit 12 Process Fugitives (4) Unit 21 Process Fugitives (4) Unit 24.1 Process Fugitives (4) Unit 22 Process Fugitives (4) Unit 24 Process Fugitives (4) Unit 33 Process Fugitives (4)) Benzene Benzene Benzene Benzene		
	Emission Cap	Benzene	1.46	6.37

Emission	Source		Air Contaminant <u>Emission Rates *</u>		
Point No. (1)	Name (2)		Name (3)	lb/hr	TPY**
22-7-1	Boiler No. 10		CO	38.48	168.53
	(Boiler and Turbine		NO _x (prior to control)	72.53	317.68
	Combined) (6)		NO_x (after control)	44.23	193.72
		PM_{10}	3.92	17.24	
		SO_2	16.69	73.10	
			VOC	3.65	15.97
22-95-27	Propylene Compressor		СО	4.30	1.55
33	Turbine (operating alone) (6) (7)		NO _x (prior to control)		9.68
			NO_x (after control)	19.33	6.96
		PM_{10}	0.84	0.30	
		SO_2	0.44	0.16	
			VOC	1.41	0.51

- (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) CO carbon monoxide
 - H₂S hydrogen sulfide
 - NO_x total oxides of nitrogen
- PM particulate matter, suspended in the atmosphere, greater than 10 microns in diameter.
 - PM_{10} 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 is emitted.
 - SO₂ sulfur dioxide
 - VOC volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
- (4) Fugitive emissions are an estimate only and should not be considered as a maximum allowable emission rate.

- (5) Benzene from other facilities is included in the VOC cap and does not contribute to the benzene emission cap.
- (6) Boiler No. 10 shall be retrofitted with NO_x controls that meet the requirements of permit Special Condition No. 7 no later than March 31, 2007. The "after control" emission rates apply after the NO_x controls are installed, but not later than March 31, 2007.
- (7) 720 operating hours in a calendar year.
- (8) PSD-TX-751M1 pollutant

*	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
**	Compliance with annual emission limits is based on a rolling 12-month period.

Dated_____