

## EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

Flexible Permit Numbers 95 and PSD-TX-854M2

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 No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates *	
			lb/hr	TPY**
<b><u>Sources Contributing to Plant NO<sub>x</sub> Emissions</u></b>				
DB-104	Pyrolysis Furnace	NO <sub>x</sub>		
DDB-101A	Pyrolysis Furnace	NO <sub>x</sub>		
DDB-101B	Pyrolysis Furnace	NO <sub>x</sub>		
DDB-101C	Pyrolysis Furnace	NO <sub>x</sub>		
DDB-101D	Pyrolysis Furnace	NO <sub>x</sub>		
DDB-102A	Pyrolysis Furnace	NO <sub>x</sub>		
DDB-102B	Pyrolysis Furnace	NO <sub>x</sub>		
DDB-102C	Pyrolysis Furnace	NO <sub>x</sub>		
DDB-102D	Pyrolysis Furnace	NO <sub>x</sub>		
DDB-104A	Pyrolysis Furnace	NO <sub>x</sub>		
DDB-104B	Pyrolysis Furnace	NO <sub>x</sub>		
DB-105	Pyrolysis Furnace	NO <sub>x</sub>		
DB-106	Pyrolysis Furnace	NO <sub>x</sub>		
DB-107	Pyrolysis Furnace	NO <sub>x</sub>		
DB-108	Pyrolysis Furnace	NO <sub>x</sub>		
DB-109	Pyrolysis Furnace	NO <sub>x</sub>		
DDB-1	Pyrolysis Furnace	NO <sub>x</sub>		
DDB-2	Pyrolysis Furnace	NO <sub>x</sub>		
DDB-3	Pyrolysis Furnace	NO <sub>x</sub>		
DDB-4	Pyrolysis Furnace	NO <sub>x</sub>		
DDB-5	Pyrolysis Furnace	NO <sub>x</sub>		
DM-1101	No. 1 Olefins Flare	NO <sub>x</sub>		
DDM-3101	No. 2 Olefins Flare	NO <sub>x</sub>		
AM-1500	Dock Flare	NO <sub>x</sub>		
J-2	Regeneration	NO <sub>x</sub>		
	Knockout			
	Drum			
DD-606	Hydrotreater	NO <sub>x</sub>		

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### Regenerator Stack

DDD-606	Hydrotreater	NO <sub>x</sub>
	Regenerator Stack	
DB-201	Regeneration	NO <sub>x</sub>
	Furnace	
DB-601	Regeneration Heater	NO <sub>x</sub>
DDB-201	Regeneration Heater	NO <sub>x</sub>
DDB-601	Regeneration Heater	NO <sub>x</sub>
J-1	2nd Stage	NO <sub>x</sub>
	Hydrotreater	
	Feed Heater	

### Total NO<sub>x</sub> Routine Emission Plant Cap

**447.83**

**1275.44**

### Start-Up, Shutdown, and Maintenance NO<sub>x</sub> Emissions

DM-1101/ DDM-3101	Olefin Nos. 1 and 2	NO <sub>x</sub>	1420.12	47.53
	Flares			
	Start-Up, Shutdown, and Maintenance Emissions			

### Sources Contributing to Plant VOC Emissions

DB-104	Pyrolysis Furnace	VOC
DDB-101A	Pyrolysis Furnace	VOC
DDB-101B	Pyrolysis Furnace	VOC
DDB-101C	Pyrolysis Furnace	VOC
DDB-101D	Pyrolysis Furnace	VOC
DDB-102A	Pyrolysis Furnace	VOC
DDB-102B	Pyrolysis Furnace	VOC
DDB-102C	Pyrolysis Furnace	VOC
DDB-102D	Pyrolysis Furnace	VOC
DDB-104A	Pyrolysis Furnace	VOC
DDB-104B	Pyrolysis Furnace	VOC
DB-105	Pyrolysis Furnace	VOC
DB-106	Pyrolysis Furnace	VOC

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DB-107	Pyrolysis Furnace	VOC
DB-108	Pyrolysis Furnace	VOC
DB-109	Pyrolysis Furnace	VOC
DDB-1	Pyrolysis Furnace	VOC
DDB-2	Pyrolysis Furnace	VOC
DDB-3	Pyrolysis Furnace	VOC
DDB-4	Pyrolysis Furnace	VOC
DDB-5	Pyrolysis Furnace	VOC
DM-1101	No. 1 Olefins Flare	VOC
DDM-3101	No. 2 Olefins Flare	VOC
AM-1500	Dock Flare	VOC
DF-101	Decoke Stack	VOC
DF-104	Decoke Stack	VOC
DF-105	Decoke Stack	VOC
DDF-101	Decoke Stack	VOC
DDF-104	Decoke Stack	VOC
DDF-105	Decoke Stack	VOC
AT-1210	No. 1 Olefins Cooling Tower	VOC
DAT-3201	No. 2 Olefins Cooling Tower	VOC
AF-1105	Fixed-Roof Storage Tank	VOC
AF-1106	Fixed-Roof Storage Tank	VOC
AF-1905	Fixed-Roof Storage Tank	VOC
AF-3905	Fixed-Roof Storage Tank	VOC
DDF-1001	Fixed-Roof Storage Tank	VOC
DF-1001	Fixed-Roof Storage Tank	VOC
DF-502	Fixed-Roof Storage Tank	VOC
DF-916	Fixed-Roof Storage Tank	VOC
FUELTRK1	No.1 Olefins Truck	VOC

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FUELTRK2	Loading No. 2 Olefins Truck	VOC
FUELTRK3	Loading Truck Loading Facility	VOC
AF-1101	External Floating Roof Tank	VOC
AF-1102	External Floating Roof Tank	VOC
AF-1901	External Floating Roof Tank	VOC
AF-1902	External Floating Roof Tank	VOC
AF-1903	External Floating Roof Tank	VOC
AF-1904	External Floating Roof Tank	VOC
AF-3101	External Floating Roof Tank	VOC
AF-3102	External Floating Roof Tank	VOC
AF-3901	External Floating Roof Tank	VOC
AF-1103	Acetonitrile Storage Tank	VOC
AF-1104	Acetonitrile Storage Tank	VOC
AF-3103	Acetonitrile Storage Tank	VOC
DDF-1301	Methanol Storage Tank	VOC
DDF-202	Methanol Storage Tank	VOC
DF-1301	Methanol Storage Tank	VOC
AF-3701	Slop	VOC
AF-4601A	Storm/Process Wastewater Tank	VOC
AF-4601B	Storm/Process Wastewater Tank	VOC

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FAM1704	No. 1 Olefins	VOC
	Wastewater Facility	
FUGOF1WW	Fugitive Emissions	VOC
FAM3706	No. 2 Olefins	VOC
	Wastewater Facility	
FUG2WWT	Fugitive Emissions	VOC
FUG-V10F	No. 1 Olefins Unit	VOC
	Fugitives	
FUG-V20F	No. 2 Olefins Unit	VOC
	Fugitives	
FUG-FTF	Tank Farm Fugitives	VOC
FUG-VSSH	Second Stage	VOC
	Hydrotreater	
	Fugitives	
FUG-VBD	Marine Dock Fugitives	VOC
FUG-VCM	Metering Station	VOC
	Fugitives	
FUG-RAIL	Rail Loading Fugitives	VOC
FUG-A10F	No. 1 Olefins	VOC
	Analyzer	
	Vent Fug	
FUG-A20F	No. 2 Olefins	VOC
	Analyzer	
	Vent Fug	
OF1SOVENT	Seal Oil Vents	VOC
DB-201	Regeneration	VOC
	Furnace	
DB-601	Regeneration Heater	VOC
DDB-201	Regeneration Heater	VOC
DDB-601	Regeneration Heater	VOC
P4PEDRYER1	PP4 Dryer Vents	VOC
	(Product Residual VOC)	
P4PEDRYER2	PP4 Dryer Vents	VOC
	(Product Residual VOC)	
J-1	2nd Stage	VOC

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Hydrotreater  
Feed Heater

<b>Total VOC Routine Emission Cap</b>	<b>VOC</b>	<b>1523.46</b>	<b>787.07</b>
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Start-Up, Shutdown, and Maintenance VOC Emissions

DM-1101/ DDM-3101	Olefin Nos. 1 and 2 Flares Start-Up, Shutdown, and Maintenance Emissions	VOC	3548.39	91.94
FUGOF1WW/ FUG2WWT	Nos. 1 and 2 Olefins Wastewater Unit Cleaning	VOC	40.0	0.24

Sources Contributing to Plant CO Emissions

DB-104	Pyrolysis Furnace	CO
DDB-101A	Pyrolysis Furnace	CO
DDB-101B	Pyrolysis Furnace	CO
DDB-101C	Pyrolysis Furnace	CO
DDB-101D	Pyrolysis Furnace	CO
DDB-102A	Pyrolysis Furnace	CO
DDB-102B	Pyrolysis Furnace	CO
DDB-102C	Pyrolysis Furnace	CO
DDB-102D	Pyrolysis Furnace	CO
DDB-104A	Pyrolysis Furnace	CO
DDB-104B	Pyrolysis Furnace	CO
DB-105	Pyrolysis Furnace	CO
DB-106	Pyrolysis Furnace	CO
DB-107	Pyrolysis Furnace	CO
DB-108	Pyrolysis Furnace	CO
DB-109	Pyrolysis Furnace	CO
DDB-1	Pyrolysis Furnace	CO
DDB-2	Pyrolysis Furnace	CO
DDB-3	Pyrolysis Furnace	CO
DDB-4	Pyrolysis Furnace	CO

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DDB-5	Pyrolysis Furnace	CO		
DM-1101	No. 1 Olefins Flare	CO		
DDM-3101	No. 2 Olefins Flare	CO		
AM-1500	Dock Flare	CO		
DF-101	Decoke Stack	CO		
DF-104	Decoke Stack	CO		
DF-105	Decoke Stack	CO		
DDF-101	Decoke Stack	CO		
DDF-104	Decoke Stack	CO		
DDF-105	Decoke Stack	CO		
J-2	Regeneration Knock-out Drum	CO		
DD-606	Hydrotreater Regenerator Stack	CO		
DDD-606	Hydrotreater Regenerator Stack	CO		
DB-201	Regeneration Furnace	CO		
DB-601	Regeneration Heater	CO		
DDB-201	Regeneration Heater	CO		
DDB-601	Regeneration Heater	CO		
J-1	2nd Stage Hydrotreater Feed Heater	CO		
<b>Total CO Routine Emission Cap</b>		<b>CO</b>	<b>1270.77</b>	<b>1071.52</b>

**Start-Up, Shutdown, and Maintenance CO Emissions**

DM-1101/ DDM-3101	Olefin Nos. 1 and 2 Flares Start-Up, Shutdown, and Maintenance Emissions	CO	6389.31	207.77
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## EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

### **Sources Contributing to Plant PM<sub>10</sub> Emissions**

DB-104	Pyrolysis Furnace	PM <sub>10</sub>
DDB-101A	Pyrolysis Furnace	PM <sub>10</sub>
DDB-101B	Pyrolysis Furnace	PM <sub>10</sub>
DDB-101C	Pyrolysis Furnace	PM <sub>10</sub>
DDB-101D	Pyrolysis Furnace	PM <sub>10</sub>
DDB-102A	Pyrolysis Furnace	PM <sub>10</sub>
DDB-102B	Pyrolysis Furnace	PM <sub>10</sub>
DDB-102C	Pyrolysis Furnace	PM <sub>10</sub>
DDB-102D	Pyrolysis Furnace	PM <sub>10</sub>
DDB-104A	Pyrolysis Furnace	PM <sub>10</sub>
DDB-104B	Pyrolysis Furnace	PM <sub>10</sub>
DB-105	Pyrolysis Furnace	PM <sub>10</sub>
DB-106	Pyrolysis Furnace	PM <sub>10</sub>
DB-107	Pyrolysis Furnace	PM <sub>10</sub>
DB-108	Pyrolysis Furnace	PM <sub>10</sub>
DB-109	Pyrolysis Furnace	PM <sub>10</sub>
DDB-1	Pyrolysis Furnace	PM <sub>10</sub>
DDB-2	Pyrolysis Furnace	PM <sub>10</sub>
DDB-3	Pyrolysis Furnace	PM <sub>10</sub>
DDB-4	Pyrolysis Furnace	PM <sub>10</sub>
DDB-5	Pyrolysis Furnace	PM <sub>10</sub>
DF-101	Decoke Stack	PM <sub>10</sub>
DF-104	Decoke Stack	PM <sub>10</sub>
DF-105	Decoke Stack	PM <sub>10</sub>
DDF-101	Decoke Stack	PM <sub>10</sub>
DDF-104	Decoke Stack	PM <sub>10</sub>
DDF-105	Decoke Stack	PM <sub>10</sub>
J-2	Regeneration Knockout Drum	PM <sub>10</sub>
DD-606	Hydrotreater Regenerator Stack	PM <sub>10</sub>
DDD-606	Hydrotreater Regenerator Stack	PM <sub>10</sub>
AT-1210	No. 1 Olefins Cooling Tower	PM <sub>10</sub> (5)



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DAT-3201	No. 2 Olefins Cooling Tower	PM <sub>10</sub> (5)		
A-11	Hopper Vent	PM <sub>10</sub>		
A-12	Hopper Vent	PM <sub>10</sub>		
DB-201	Regeneration Furnace	PM <sub>10</sub>		
DB-601	Regeneration Heater	PM <sub>10</sub>		
DDB-201	Regeneration Heater	PM <sub>10</sub>		
DDB-601	Regeneration Heater	PM <sub>10</sub>		
J-1	2nd Stage Hydrotreater Feed Heater	PM <sub>10</sub>		
<b>Total PM<sub>10</sub> Routine Emission Cap</b>		<b>PM<sub>10</sub></b>	<b>51.92</b>	<b>146.73</b>

**Sources Contributing to Plant SO<sub>2</sub> Emissions**

DB-104	Pyrolysis Furnace	SO <sub>2</sub>
DDB-101A	Pyrolysis Furnace	SO <sub>2</sub>
DDB-101B	Pyrolysis Furnace	SO <sub>2</sub>
DDB-101C	Pyrolysis Furnace	SO <sub>2</sub>
DDB-101D	Pyrolysis Furnace	SO <sub>2</sub>
DDB-102A	Pyrolysis Furnace	SO <sub>2</sub>
DDB-102B	Pyrolysis Furnace	SO <sub>2</sub>
DDB-102C	Pyrolysis Furnace	SO <sub>2</sub>
DB-102D	Pyrolysis Furnace	SO <sub>2</sub>
DDB-104A	Pyrolysis Furnace	SO <sub>2</sub>
DDB-104B	Pyrolysis Furnace	SO <sub>2</sub>
DB-105	Pyrolysis Furnace	SO <sub>2</sub>
DB-106	Pyrolysis Furnace	SO <sub>2</sub>
DB-107	Pyrolysis Furnace	SO <sub>2</sub>
DB-108	Pyrolysis Furnace	SO <sub>2</sub>
DB-109	Pyrolysis Furnace	SO <sub>2</sub>
DDB-1	Pyrolysis Furnace	SO <sub>2</sub>
DDB-2	Pyrolysis Furnace	SO <sub>2</sub>
DDB-3	Pyrolysis Furnace	SO <sub>2</sub>
DDB-4	Pyrolysis Furnace	SO <sub>2</sub>
DDB-5	Pyrolysis Furnace	SO <sub>2</sub>

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DM-1101	No. 1 Olefins Flare	SO <sub>2</sub>		
DDM-3101	No. 2 Olefins Flare	SO <sub>2</sub>		
AM-1500	Dock Flare	SO <sub>2</sub>		
J-2	Regeneration	SO <sub>2</sub>		
	Knockout			
	Drum			
DD-606	Hydrotreater	SO <sub>2</sub>		
	Regenerator Stack			
DDD-606	Hydrotreater	SO <sub>2</sub>		
	Regenerator Stack			
DB-201	Regeneration	SO <sub>2</sub>		
	Furnace			
DB-601	Regeneration Heater	SO <sub>2</sub>		
DDB-201	Regeneration Heater	SO <sub>2</sub>		
DDB-601	Regeneration Heater	SO <sub>2</sub>		
J-1	2nd Stage	SO <sub>2</sub>		
	Hydrotreater			
	Feed Heater			
<b>Total SO<sub>2</sub> Routine Emission Cap</b>		<b>SO<sub>2</sub></b>	<b>154.64</b>	<b>22.65</b>

### Sources Contributing to Plant NH<sub>3</sub> Emissions

DB-104	Pyrolysis Furnace	NH <sub>3</sub>
DDB-101A	Pyrolysis Furnace	NH <sub>3</sub>
DDB-101B	Pyrolysis Furnace	NH <sub>3</sub>
DDB-101C	Pyrolysis Furnace	NH <sub>3</sub>
DDB-101D	Pyrolysis Furnace	NH <sub>3</sub>
DDB-102A	Pyrolysis Furnace	NH <sub>3</sub>
DB-102B	Pyrolysis Furnace	NH <sub>3</sub>
DDB-102C	Pyrolysis Furnace	NH <sub>3</sub>
DDB-102D	Pyrolysis Furnace	NH <sub>3</sub>
DDB-104A	Pyrolysis Furnace	NH <sub>3</sub>
DDB-104B	Pyrolysis Furnace	NH <sub>3</sub>
DB-105	Pyrolysis Furnace	NH <sub>3</sub>

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

DB-106	Pyrolysis Furnace	NH <sub>3</sub>
DB-107	Pyrolysis Furnace	NH <sub>3</sub>
DB-108	Pyrolysis Furnace	NH <sub>3</sub>
DB-109	Pyrolysis Furnace	NH <sub>3</sub>
DDB-1	Pyrolysis Furnace	NH <sub>3</sub>
DDB-2	Pyrolysis Furnace	NH <sub>3</sub>
DDB-3	Pyrolysis Furnace	NH <sub>3</sub>
DDB-4	Pyrolysis Furnace	NH <sub>3</sub>
DDB-5	Pyrolysis Furnace	NH <sub>3</sub>
FUG-SCR	SCR System	NH <sub>3</sub>
	Fugitives	

<b>Total NH<sub>3</sub> Routine Emission Cap</b>	<b>NH<sub>3</sub></b>	<b>24.24</b>	<b>106.16</b>
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**Sources Contributing to Plant 1,3-Butadiene Emissions**

DM-1101	No. 1 Olefins Flare	1,3 Butadiene
DDM-3101	No. 2 Olefins Flare	1,3 Butadiene
AM-1500	Dock Flare	1,3 Butadiene
DF-101	Decoke Stack	1,3 Butadiene

DF-104	Decoke Stack	1,3 Butadiene
DF-105	Decoke Stack	1,3 Butadiene
DDF-101	Decoke Stack	1,3 Butadiene
DDF-104	Decoke Stack	1,3 Butadiene
DDF-105	Decoke Stack	1,3 Butadiene
AT-1210	No. 1 Olefins Cooling Tower	1,3 Butadiene
DAT-3201	No. 2 Olefins Cooling Tower	1,3 Butadiene
AF-4601A	Storm/Process Wastewater Tank	1,3 Butadiene
AF-4601B	Storm/Process Wastewater Tank	1,3 Butadiene
FAM1704	No. 1 Olefins Wastewater Facility	1,3 Butadiene
FUGOF1WW	Fugitive Emissions	1,3 Butadiene
FAM3706	No. 2 Olefins	1,3 Butadiene

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Wastewater Facility				
FUG2WWT	Fugitive Emissions	1,3 Butadiene		
FUG-V10F	No. 1 Olefins Unit	1,3 Butadiene		
	Fugitives			
FUG-V20F	No. 2 Olefins Unit	1,3 Butadiene		
	Fugitives			
FUG-VBD	Marine Dock Fugitives	1,3 Butadiene		
FUG-RAIL	Rail Loading Fugitives	1,3 Butadiene		
<b>1,3-Butadiene Routine Emission Cap</b>		<b>1,3-Butadiene</b>	<b>921.27</b>	<b>52.05</b>
<b><u>Start-Up, Shutdown, and Maintenance Emissions</u></b>				
DM-1101/DDM-3101	Olefin Nos. 1 and 2 Flares Start-Up, Shutdown, and Maintenance Emissions	1,3-Butadiene	1050.00	17.50
FUGOF1WW/FUG2WW T	Nos. 1 and 2 Olefins Wastewater Unit Cleaning	1,3 Butadiene	0.01	0.01
<b><u>Sources Contributing to Plant Benzene Emissions</u></b>				
DM-1101	No. 1 Olefins Flare	Benzene		
DDM-1301	No. 2 Olefins Flare	Benzene		
AM-1500	Dock Flare	Benzene		
DF-101	Decoke Stack	Benzene		
DF-104	Decoke Stack	Benzene		
DF-105	Decoke Stack	Benzene		
DDF-101	Decoke Stack	Benzene		
DDF-104	Decoke Stack	Benzene		
DDF-105	Decoke Stack	Benzene		
AT-1210	No. 1 Olefins Cooling Tower	Benzene		
DAT-3201	No. 2 Olefins Cooling Tower	Benzene		
AF-1105	Fixed-Roof Storage Tank	Benzene		

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AF-1106	Fixed-Roof Storage Tank	Benzene
AF-1905	Fixed-Roof Storage Tank	Benzene
AF-3905	Fixed-Roof Storage Tank	Benzene
DDF-1001	Fixed-Roof Storage Tank	Benzene
DF-1001	Fixed-Roof Storage Tank	Benzene
DF-502	Fixed-Roof Storage Tank	Benzene
DF-916	Fixed-Roof Storage Tank	Benzene
FUELTRK1	No.1 Olefins Truck Loading	Benzene
FUELTRK2	No. 2 Olefins Truck Loading	Benzene
FUELTRK3	Truck Loading Facility	Benzene
AF-1101	External Floating Roof Tank	Benzene
AF-1102	External Floating Roof Tank	Benzene
AF-1901	External Floating Roof Tank	Benzene
AF-1902	External Floating Roof Tank	Benzene
AF-1903	External Floating Roof Tank	Benzene
AF-1904	External Floating Roof Tank	Benzene
AF-3101	External Floating Roof Tank	Benzene
AF-3102	External Floating Roof Tank	Benzene
AF-3901	External Floating Roof Tank	Benzene
AF-4601A	Storm/Process Wastewater Tank	Benzene

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AF-4601B	Storm/Process Wastewater Tank	Benzene		
FAM1704	No. 1 Olefins Wastewater Facility	Benzene		
FUGOF1WW	Fugitive Emissions	Benzene		
FAM3706	No. 2 Olefins Wastewater Facility	Benzene		
FUG2WWT	Fugitive Emissions	Benzene		
FUG-V20F	No. 2 Olefins Unit	Benzene		
	Fugitives			
FUG-FTF	Tank Farm Fugitives	Benzene		
FUG-VSSH	Second Stage Hydrotreater	Benzene		
	Fugitives			
FUG-VBD	Marine Dock Fugitives	Benzene		
FUG-VCM	Metering Station	Benzene		
	Fugitives			
<b>Benzene Plant Routine Emission Cap</b>		<b>Benzene</b>	<b>19.26</b>	<b>15.09</b>
<u>Start-Up, Shutdown, and Maintenance Emissions</u>				
FUGOF1WW/ FUG2WWT	Nos. 1 and 2 Olefins Wastewater Unit Cleaning	Benzene	<b>4.00</b>	<b>0.02</b>
<u>Sources Contributing to Plant Ethylene Emissions</u>				
DM-1101	No. 1 Olefins Flare	Ethylene		
DDM-3101	No. 2 Olefins Flare	Ethylene		
DF-101	Decoke Stack	Ethylene		
DF-104	Decoke Stack	Ethylene		
DF-105	Decoke Stack	Ethylene		
DDF-101	Decoke Stack	Ethylene		
DDF-104	Decoke Stack	Ethylene		
DDF-105	Decoke Stack	Ethylene		
AT-1210	No. 1 Olefins Cooling Tower	Ethylene		
DAT-3201	No. 2 Olefins Cooling Tower	Ethylene		

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FUG-V20F	No. 2 Olefins Unit Fugitives	Ethylene		
<b>Ethylene Plant Routine Emission Cap</b>		<b>Ethylene</b>	<b>318.79</b>	<b>98.18</b>

Start-Up, Shutdown, and Maintenance Emissions

DM-1101/ DDM-3101	Olefin Nos. 1 and 2 Flares Start-Up, Shutdown, and Maintenance Emissions	Ethylene	3500.00	78.75
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Sources Contributing to Plant Propylene Emissions

DM-1101	No. 1 Olefins Flare	Propylene
DDM-3101	No. 2 Olefins Flare	Propylene
AM-1500	Dock Flare	Propylene
DF-101	Decoke Stack	Propylene
DF-104	Decoke Stack	Propylene
DF-105	Decoke Stack	Propylene
DDF-101	Decoke Stack	Propylene
DDF-104	Decoke Stack	Propylene
DDF-105	Decoke Stack	Propylene
AT-1210	No. 1 Olefins Cooling Tower	Propylene
DAT-3201	No. 2 Olefins Cooling Tower	Propylene
FUG-V10F	No. 1 Olefins Unit Fugitives	Propylene
FUG-V20F	No. 2 Olefins Unit Fugitives	Propylene
FUG-VBD	Marine Dock Fugitives	Propylene
FUG-RAIL	Rail Loading Fugitives	Propylene
P4PEDRYER1	PP4 Dryer Vents (Product Residual VOC)	Propylene
P4PEDRYER2	PP4 Dryer Vents (Product Residual VOC)	Propylene

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<b>Propylene Plant Routine Emission Cap</b>	<b>Propylene</b>	<b>553.05</b>	<b>119.74</b>
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### Start-Up, Shutdown, and Maintenance Emissions

DM-1101/ DDM-3101	Olefin Nos. 1 and 2 Flares Start-Up, Shutdown, and Maintenance Emissions	Propylene	3500.00	78.75
MSSFUG1 & MSSCAP2	Portable/Fugitive Sources and Activities resulting in MSS emissions & Flexible cap for sitewide MSS emissions not individually listed	VOC	83.74	3.08
		NOx	0.17	0.07
		CO	0.89	0.35
		SO2	0.01	0.01

### INDIVIDUAL SOURCES OUTSIDE OF THE CAP

A-100	Cogen (Effective 12/31/08)	NO <sub>x</sub>	58.62	256.77
		CO	35.68	156.30
		VOC	2.04	8.93
		PM <sub>10</sub>	4.38	19.20
		SO <sub>2</sub>	1.68	7.35

**Standard Permit Registration Number 76394 is incorporated by reference only**

- (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 an area name or fugitive source name.
- (3) VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
- NO<sub>x</sub> - total oxides of nitrogen
- SO<sub>2</sub> - sulfur dioxide
- PM - particulate matter, suspended in the atmosphere, including PM<sub>10</sub> and PM<sub>2.5</sub>
- PM<sub>2.5</sub> - particulate matter equal to or less than 2.5 microns in diameter
- PM<sub>10</sub> - particulate matter equal to or less than 10 microns in diameter
- CO - carbon monoxide



EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

NH<sub>3</sub> - ammonia

- (4) Fugitive emissions are an estimate only and should not be considered as a maximum allowable emission rate.
- (5) Emission Point Numbers AT-1210 and DAT-3201 additionally are authorized to emit total PM not to exceed 10.8 lb/hr and 33.0 TPY each.

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

\_\_\_Hrs/day \_\_\_Days/week \_\_\_Weeks/year or 8,760 Hrs/year

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

Date: May 15, 2012