

## EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

Permit No. 4773A

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 *	Source	Air Contaminant	<u>Emission Rates</u>	
Point No. (1)	Name (2)	Name (3)	lb/hr	TPY
SGC3CMPFUG	Propylene Refrigeration Fugitives (4)	VOC	1.68	7.36
SG/MEOH	Methanol Process Fugitives (4) 19.04	VOC		4.35
SG700-FU	Terminal Fugitives (4)	VOC	0.12	0.51
SG1340	Methanol Tank Farm Fugitives (4) 1.32	VOC		0.30
SGDOCKFUG	South Dock Fugitives (4)	VOC	0.14	0.60
SGFUG1	Syngas Process Fugitives (4) 31.44	VOC		7.18
		CO	20.32	89.00
SGCT	Cooling Tower	VOC	2.51	11.01
SGDOCKLOAD	South Dock Loading	VOC	62.96	72.60
SG810-21-1	Neutralization Tank	VOC	0.02	0.07
SG810-22-1	Equalization Tank	VOC	0.12	0.51
SG810-23	Aeration Basin	VOC	2.47	10.82
SG810-28	West Basin	VOC	11.43	50.06
SG20-1-1	Thermal Oxidizer (Natural Gas)	VOC	<0.10	0.30
		NO <sub>x</sub>	4.50	19.80
		SO <sub>2</sub>	22.88	90.20

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Emission *	Source	Air Contaminant	<u>Emission Rates</u>	
<u>Point No. (1)</u>	<u>Name (2)</u>	<u>Name (3)</u>	<u>lb/hr</u>	<u>TPY</u>
		PM	0.20	0.50
		CO	0.80	3.50

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Emission * Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lb/hr	TPY
SG20-1-1	Thermal Oxidizer (Fuel Oil)	VOC	<0.10	0.10
		NO <sub>x</sub>	6.80	0.60
		SO <sub>2</sub>	22.20	1.90
		PM	0.20	<0.10
		CO	0.40	<0.10
SG23-50-1	CE Boiler (Natural Gas)	VOC	2.73	4.02
		NO <sub>x</sub>	53.60	235.00
		SO <sub>2</sub>	0.20	0.70
		PM	1.40	6.10
		CO	9.97	43.71
SG23-50-1	CE Boiler (HRFG & Natural Gas)	VOC	2.73	4.02
		NO <sub>x</sub>	140.00	613.00
		SO <sub>2</sub>	0.20	0.70
		PM	1.40	6.10
		CO	9.97	43.71
SG23-51-1	Superheater (Natural Gas)	VOC	0.40	1.90
		NO <sub>x</sub>	29.80	131.00
		SO <sub>2</sub>	<0.01	0.04
		PM	0.80	3.50
		CO	5.50	24.10
SG23-51-1	Superheater (HRFG & Natural Gas)	VOC	0.40	1.90
		NO <sub>x</sub>	99.00	434.00
		SO <sub>2</sub>	<0.01	<0.01
		PM	0.80	3.50
		CO	5.50	24.10
SG7-9-14	Stripper Flare	NH <sub>3</sub>	0.17	0.74
		CO	0.01	0.05
		NO <sub>x</sub>	0.33	1.42
SG20-2-2	Acid Gas Flare (5)	VOC	<0.01	<0.01

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<u>Point No. (1)</u>	<u>Name (2)</u>	<u>Name (3)</u>	<u>lb/hr</u>	<u>TPY</u>
		CO	0.04	0.20
		NO <sub>x</sub>	0.02	0.10
		SO <sub>2</sub>	<0.01	<0.01
		H <sub>2</sub> S	<0.01	<0.01

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Emission * Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lb/hr	TPY
SG20-3-2	Cold Flare (5)	VOC	<0.01	<0.01
		SO <sub>2</sub>	<0.01	<0.01
		H <sub>2</sub> S	<0.01	<0.01
		NO <sub>x</sub>	0.03	0.11
		CO	0.06	0.23
SG21-1-1	High Pressure Flare (5)	VOC	<0.01	<0.01
		SO <sub>2</sub>	<0.01	<0.01
		H <sub>2</sub> S	<0.01	<0.01
		NO <sub>x</sub>	0.07	0.31
		CO	0.14	0.61
SG35-1-2	South Residue Tank Heater	VOC	0.01	0.03
		SO <sub>2</sub>	<0.01	<0.01
		CO	0.02	0.08
		NO <sub>x</sub>	0.12	0.52
		PM <sub>10</sub>	<0.01	0.02
SG35-1-3	South Residue Tank Heater	VOC	0.01	0.03
		SO <sub>2</sub>	<0.01	<0.01
		CO	0.02	0.08
		NO <sub>x</sub>	0.12	0.52
		PM <sub>10</sub>	<0.01	0.02
SG35-1-4	South Residue Tank Heater	VOC	0.01	0.03
		SO <sub>2</sub>	<0.01	<0.01
		CO	0.02	0.08
		NO <sub>x</sub>	0.12	0.52
		PM <sub>10</sub>	<0.01	0.02
SG35-2-2	North Residue Tank Heater	VOC	0.01	0.03
		SO <sub>2</sub>	<0.01	<0.01
		CO	0.02	0.08
		NO <sub>x</sub>	0.12	0.52
		PM <sub>10</sub>	<0.01	0.02

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Emission * Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lb/hr	TPY
SG35-2-3	North Residue Tank Heater	VOC	0.01	0.03
		SO <sub>2</sub>	<0.01	<0.01
		CO	0.02	0.08
		NO <sub>x</sub>	0.12	0.52
		PM <sub>10</sub>	<0.01	0.02
SG35-2-4	North Residue Tank Heater	VOC	0.01	0.03
		SO <sub>2</sub>	<0.01	<0.01
		CO	0.02	0.08
		NO <sub>x</sub>	0.12	0.52
		PM <sub>10</sub>	<0.01	0.02
SG35-2-5	North Residue Tank Heater	VOC	0.01	0.03
		SO <sub>2</sub>	<0.01	<0.01
		CO	0.02	0.08
		NO <sub>x</sub>	0.12	0.52
		PM <sub>10</sub>	<0.01	0.02
SG5-1-1	Wastewater Hold Tank Conservation Vent	H <sub>2</sub> S	0.02	0.10
		CO	0.02	0.10
		VOC	0.11	0.50
		NH <sub>3</sub>	0.27	1.20
SG5-1-17	Gray Water Conservation Vent 0.50	VOC		0.11
		NH <sub>3</sub>	0.27	1.20
		H <sub>2</sub> S	0.02	0.10
		CO	0.02	0.10
SG5-1-14	Carbon Water Conservation Vent 0.50	VOC		0.11
		NH <sub>3</sub>	0.27	1.20
		H <sub>2</sub> S	0.02	0.10
		CO	0.02	0.10

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Emission * Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lb/hr	TPY
SG103-25-1	Compressor Gas Vent Pot	CO <sub>2</sub>	0.37	1.62
		VOC	0.07	0.31
		CO	0.41	1.80
SG103-25-2	Recycle Compressor Seal Vent 0.13		VOC	0.03
		H <sub>2</sub> S	0.20	0.88
		CO	0.20	0.88
SG105-24-1	Liquid Organic Conservation Vent 2.29		VOC	0.52
SG13-25-1	De-Inventory Tank	VOC	1.25	0.56

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Emission * Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lb/hr	TPY
SG35-1-1	South Residue Tank	VOC	<0.01	0.01
SG36-2-1	North Residue Tank	VOC	<0.01	0.01
SG38-3-1	Cutterstock Day Tank	VOC	0.01	0.01
SG38-6-1	Cutterstock Storage Tank	VOC	<0.01	<0.01
SG40-1-1	Naphtha Storage Tank	VOC	2.13	3.00
SG112-1-1	Refined Methanol Tank	VOC	0.87	0.71
SG112-11-1	Refined Methanol Tank	VOC	0.87	0.71
SG120-1-1	Bulk Methanol Tank	VOC	0.49	1.06
SG120-2-1	Bulk Methanol Tank	VOC	0.49	1.06
SG700-1-1	Storage Tank (Terminal)	VOC	0.38	0.68
SG930D	Diesel Storage Tank	VOC	0.13	<0.01
SG930U	Gasoline Storage Tank	VOC	52.45	0.61
PW310-50-1	Emergency Firewater Pump	VOC	2.00	0.88
		SO <sub>2</sub>	1.60	0.72
		CO	5.30	2.34
		NO <sub>x</sub>	24.70	10.86
		PM <sub>10</sub>	1.80	0.77
PW310-50-3	Emergency Firewater Pump	VOC	0.60	0.25
		SO <sub>2</sub>	0.50	0.20
		CO	1.50	0.66
		NO <sub>x</sub>	7.00	3.06



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<u>Point No. (1)</u>	<u>Name (2)</u>	<u>Name (3)</u>	<u>lb/hr</u>	<u>TPY</u>
		PM <sub>10</sub>	0.50	0.22

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Emission * Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates	
			lb/hr	TPY
PW453-50-0	Emergency Firewater Pump	VOC	0.10	0.05
		SO <sub>2</sub>	0.10	0.04
		CO	0.30	0.14
		NO <sub>x</sub>	1.50	0.65
		PM <sub>10</sub>	0.10	0.05

(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) VOC - volatile organic compounds as defined in General Rule 101.1

NO<sub>x</sub> - total oxides of nitrogen

NH<sub>3</sub> - ammonia

SO<sub>2</sub> - sulfur dioxide

H<sub>2</sub>S - hydrogen sulfide

PM - particulate matter

PM<sub>10</sub> - particulate matter, 10 microns or less

CO - carbon monoxide

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

(5) These flares are used to control emissions during start-up and upset conditions. Allowable emissions represent pilot gas combustion.

\* 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

Dated:\_\_\_\_\_