

ALLEGHENY COUNTY HEALTH DEPARTMENT
AIR QUALITY PROGRAM

July 11, 2014

SUBJECT: Review of Application
Title V Operating Permit
Gulf Oil, Limited Partnership
Neville Island Terminal
400 Grand Avenue
Neville Township, PA 15225

RE: Operating Permit File #0062 - Renewal
Bulk Petroleum Distribution Terminal

TO: Sandra L. Etzel
Chief Engineer

FROM: David D. Good, Air Quality Engineer

FACILITY DESCRIPTION:

The Gulf Oil, Limited Partnership, Neville Island Township Terminal is an aboveground bulk material storage tank distribution facility for petroleum products, with allowable tank truck loading racks (TLR) throughput limitations of 300,000,000 gallons/yr of gasoline, 148,920,000 gallons/yr of aviation gasoline and 525,600,000 gallons/yr of distillate products. The terminal receives bulk petroleum products, such as gasoline and distillate oil via pipeline, barge or truck and stores them in one of fifteen (15) large aboveground storage tanks (ASTs). Petroleum liquids and distillate products are transferred from these ASTs, upon demand, via pipelines to the terminals TLR and vapor combustion unit (VCU) for loading of tanker trucks. Gasoline and distillate products may also be loaded onto barges at the terminal's marine vessel loading facility (MVLV), up to a maximum throughput equal to 21 tons/yr of volatile organic compound emissions. The facility is a major source of volatile organic compounds (VOCs) and hazardous air pollutants (HAPs) and a minor source of total particulate matter (PM), particulate matter < 10 microns in diameter (PM-10), sulfur dioxide (SO₂), nitrogen oxides (NO_x) and carbon monoxide (CO) as defined in section §2101.20 of Article XXI.

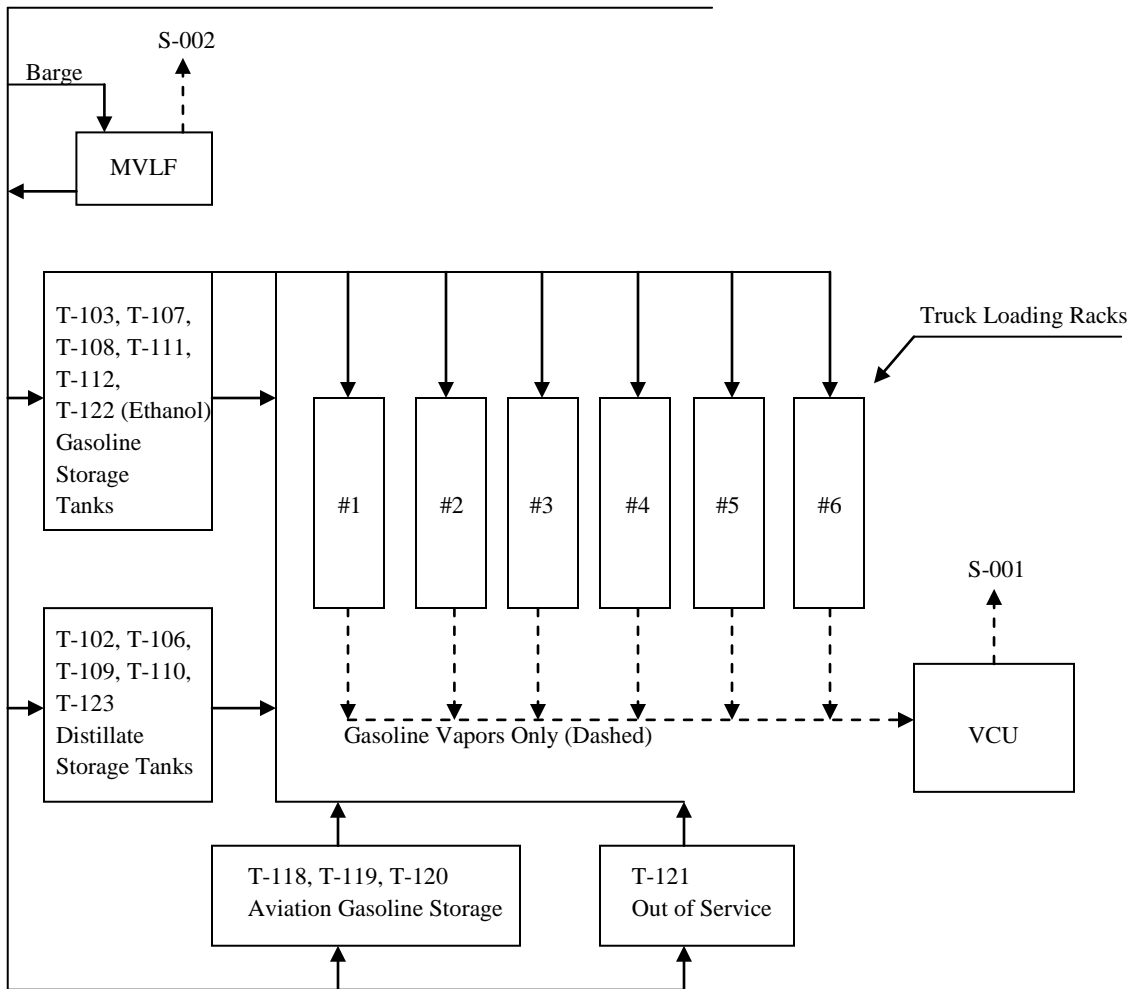
The facility presently consists of the following emission units:

1. Loading racks of 6 bays with fourteen (14) multiple loading arms and one VCU.
2. Six (6) vertical internal floating roof AST's with a safe fill capacity ranging from 780,360 gal to 4,754,652 gal dedicated to gasoline and other approved products of lesser vapor pressure storage.

3. Four (4) vertical internal floating roof ASTs with a safe fill capacity ranging from 371,448 gal to 397,908 gal dedicated to aviation gasoline and other approved products of lesser vapor pressure storage.
4. Five (5) vertical fixed roof AST's with a safe fill capacity ranging size from 815,220 gal to 3,260,670 gal dedicated to distillate storage.
5. One (1) marine vessel loading facility MVLFF for gasoline and distillate barge loading.

Facility Process Diagram:

Gasoline, Aviation Gasoline or Distillate from Pipeline or Barge



Storage Tank Data:

Tank I.D.	Safe Fill Capacity	Year Built/Modified	Type	Controls	Normal Storage
T-102	77,635 bbl	1958	Vertical Above Ground	Pressure Relief Valves	Distillate @ ambient temp.
T-103	71,845 bbl	1958/2004	Vertical Above Ground	Internal Floating Roof w/ mechanical shoe and vapor-mounted seal	Gasoline @ ambient temp.
T-106	77,621 bbl	1950	Vertical Above Ground	Pressure Relief Valves	Distillate @ ambient temp.
T-107	72,713 bbl	1958/2005	Vertical Above Ground	Internal Floating Roof w/ mechanical shoe and vapor-mounted seal	Gasoline @ ambient temp.
T-108	72,632 bbl	1958/2004	Vertical Above Ground	Internal Floating Roof w/ mechanical shoe and vapor-mounted seal	Gasoline @ ambient temp.
T-109	52,692 bbl	1958	Vertical Above Ground	Pressure Relief Valves	Distillate @ ambient temp.
T-110	52,687 bbl	1942	Vertical Above Ground	Pressure Relief Valves	Distillate @ ambient temp.
T-111	113,206 bbl	1952/2004	Vertical Above Ground	Internal Floating Roof w/ mechanical shoe and vapor-mounted seal	Gasoline @ ambient temp.
T-112	106,761 bbl	1952/2002	Vertical Above Ground	Internal Floating Roof w/ mechanical shoe and vapor-mounted seal	Gasoline @ ambient temp.
T-118	8,844 bbl	1958	Vertical Above Ground	Internal Floating Roof w/ mechanical shoe and vapor-mounted seal	Aviation Gasoline @ ambient temp.
T-119	8,827 bbl	1958	Vertical Above Ground	Internal Floating Roof w/ mechanical shoe and vapor-mounted seal	Aviation Gasoline @ ambient temp.
T-120	9,474 bbl	1958	Vertical Above Ground	Internal Floating Roof w/ vapor-mounted seal	Aviation Gasoline @ ambient temp.
T-121	9,477 gal.	1958	Vertical Above Ground	Internal Floating Roof w/ vapor-mounted seal	Out of Service
T-122	18,580 bbl	1958/2008	Vertical Above Ground	Internal Floating Roof w/ mechanical shoe and vapor-mounted seal	Ethanol @ ambient temp.
T-123	19,410 bbl	1958	Vertical Above Ground	Pressure Relief Valves	Kerosene @ ambient temp.

(1bbl = 42 gallons)

Loading Rack Data:

Maximum throughput:

Aviation gasoline = 17,000 gal/hr = 148,920,000 gal/yr
Gasoline = 102,000 gal/hr = 893,520,000 gal/yr
Distillates = 60,000 gal/hr = 525,600,000 gal/yr

Allowable throughput for gasoline = 300,000,000 gal/yr

Existing Tank Truck Terminal:

Bay	Material	No. of Arms	Maximum Pump Rate	Maximum Trucks/hr	Truck Size
1	Aviation Gasoline	1	350 gpm	2	8,500 gal
2	Gasoline	2	600 gpm	4	8,500 gal
3	Gasoline	2	600 gpm	4	8,500 gal
4	Gasoline	2	600 gpm	4	8,500 gal
5	Distillate	3	600 gpm	4	7,500 gal
6	Distillate	3	600 gpm	4	7,500 gal

Controls: Vapor combustion unit (VCU)

Vapor Combustion Unit:

Make: John Zink
Model: ZCT-3-8-45-X-2/8-2/8-X blower
Type: Vapor combustion unit (flare), enclosed, natural draft, air assisted, temperature controlled

Design Throughput: 6,600 gpm = 3.47 x 10⁹ gpy
Max. outlet conc. < 10 mg/l VOC, < 10 mg/l CO & < 4 mg/l NO_x guaranteed by manufacturer
Estimated efficiency: 98% +
Pilot: 21 scfh propane @4 psig
Operating velocity: 21.4 ft/sec
Instrumentation: John Zink Co., programmable logic controller

Marine Vessel Loading Facility:

Wharf contains two docks that can load one barge each in a twenty-four hour period. This is a capacity of 245,620 gal/barge or 491,240 gal/day. Allowable barge loading of gasoline and distillate are limited to 21 tons/yr of VOCs in accordance with RACT Order No. 250. This indirectly limits combined HAPs to 9.66 tons/yr. No aviation gasoline is loaded.

Fugitive Emission Sources:

Paved roads: Approximately 1.7 miles.
Paved parking: Approximately 6.5 acres.

EMISSION SOURCES OF MINOR SIGNIFICANCE:

1. Paved areas are a source of minor significance with negligible emissions of PM and PM-10 as per US EPA, AP-42, Section 13.2.1, "Paved Roads," March 2007 and Section 13.2.2, "Unpaved Roads," November 2006.
2. The fifteen (15) AST's for product additives, no. 2 heating oil and waste oil ranging in size from 275 gallons to 6,000 gallons have negligible emissions of VOC's and HAP's.
3. Fugitive VOC's and HAP's from valves, pumps, and flanges are negligible.
4. The six small combustion units < 0.5 MMBtu/hr have negligible emissions.
5. One 500,000 gallon oil/water separator.
6. One 20,000 gallon horizontal above ground diesel/biodiesel storage tank.

MAXIMUM POTENTIAL EMISSIONS SUMMARY:

Pollutant	Loading Racks & VCU	Marine Vessel Loading	Tank Storage	Tank Drawdown	Total
	Tons/yr	Tons/yr	Tons/yr	Tons/yr	Tons/yr
VOC's	39.38	21.00	19.98	2.11	82.47
Total HAP's	14.57	9.66	6.92	0.93	32.08
NOx	5.01	-	-	-	5.01
CO	12.52	-	-	-	12.52
CO₂	1,552	-	-	-	1,552

* A year is defined as any consecutive twelve-month period.

EMISSION CALCULATIONS:

See Appendix A of this document.

OPERATING PERMIT APPLICATION COMPONENTS:

1. Title V Operating Permit Renewal Application No. 0062, dated August 9, 2007.
2. Minor Modification Installation Permit # 0062-I002a, dated February 14, 2003.
3. Minor Modification Installation Permit #0062-I003a, dated February 14, 2003.
4. Minor Modification Installation Permit #0062-I004, dated September 19, 2008.

TESTING REQUIREMENTS:

The permittee is subject to the testing requirements of Section 60.503 of 40 CFR 60, Subpart XX and Section 63.425 of 40 CFR 63, Subpart R, for the VCU VOC emission limitation, vapor recovery system leaks and maximum gauge pressure developed in the loading trucks. The permittee is subject to the testing requirements of Section §2105.13 of Article XXI for the efficiency of the VCU, vapor recovery system and tanks as specified in Section §2107.04 of Article XXI. All emission tests shall follow the requirements of Section §2108.02 of Article XXI. VCU compliance testing shall be conducted once every five years.

APPLICABLE REQUIREMENTS:

Article XXI, Requirements for Issuance:

The requirements of Article XXI, Parts B and C for the issuance of major operating permits have been met for this facility. Article XXI, Part D, E, and H will have the necessary sections addressed individually.

40 CFR Part 64, Compliance Assurance Monitoring (CAM):

The requirements of 40 CFR Part 64, Compliance Assurance Monitoring, were found not to be applicable to this facility because the facility is subject to 40 CFR Part 63, Subpart R which imposes monitoring that sufficiently ensures meeting the emission limit of the truck loading rack. See 2007 Operating Permit #0062 for specific regulatory provisions.

40 CFR Part 60, Subpart K, Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978:

No storage tanks at this facility are subject to this standard due to the age of the tanks or age of any modifications or sizes.

40 CFR Part 60, Subpart Ka, Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984:

No storage tanks at this facility are subject to this standard due to the age of the tanks or age of any modifications or sizes.

40 CFR Part 60, Subpart Kb, Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984:

Storage tanks T103, T107, T108, T111 T112, & 122 are subject to this standard due to the installation of fixed roofs with internal floating roofs after the aforementioned date.

40 CFR 63, Subpart R, National Emission Standards for Gasoline Distribution Facilities:

The total of all gasoline loading racks at the facility are affected units under Subpart R. See Operating Permit No. 0062 for specific regulatory provisions.

40 CFR 60, Subpart A, General Provisions:

The VCU meets the requirements of Section 63.11(b) for flares. See the design specifications and calculations for the VCU in Installation Permit Application 0062-I001.

40 CFR 60, Subpart XX, Standards of Performance for Bulk Gasoline Terminals:

The total of all gasoline loading racks at the facility are affected units under Subpart XX. See Operating Permit No. 0062 for specific regulatory provisions.

Article XXI, §2105.13 – Gasoline Loading Facilities:

This section is applicable to the facility. See the Operating Permit No. 0062 for specific regulatory provisions.

40 CFR 63, Subpart BBBBBB – National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Distribution Bulk Terminals, Bulk Plants and Pipeline Facilities:

This section is not applicable to the facility. Gulf is a bulk gasoline terminal that is subject to 40 CFR Part 63 Subpart R.

METHOD OF COMPLIANCE DETERMINATION:

Compliance with the emission standards set in this permit will be demonstrated by compliance with the above applicable regulations, testing of the VCU and loading racks every five years, along with monitoring, record keeping and reporting requirements.

See the Operating Permit No. 0062 for specific compliance methods, record keeping and reporting requirements for the facility.

GREENHOUSE GASES:

There are presently no Greenhouse Gas requirements at the Gulf terminal.

RECOMMENDATIONS:

The facility is in compliance with all applicable regulations of Article XXI and it is recommended that the Operating Permit No. 0062 renewal is issued.

APPENDIX A

Potential Emission Calculations

EMISSION CALCULATIONS:

Loading Rack Potential Emissions:

Gasoline, Aviation Gasoline & Distillate VOC emissions:

1. Maximum capacity for loading racks:

Aviation Gasoline = 148,920,000 gal/yr	17,000 gal/hr
Gasoline = 300,000,000 gal/yr	102,000 gal/hr
Distillates = 525,600,000 gal/yr	60,000 gal/hr

2. Maximum potential VOC emissions from gasoline (RVP 8 to RVP 13) truck loading:

Emissions controlled by VCU

$$300,000,000 \text{ gal/yr} * (10\text{mg/l} + 9 \text{ mg/l}) * 8.346 * 10^{-6} \text{ lb-l/mg-gal} * 1/2000 = \mathbf{23.79 \text{ tpy}}$$
$$102,000 \text{ gal/hr} * (10\text{mg/l} + 9\text{mg/l}) * 8.346 * 10^{-6} \text{ lb-l/mg-gal} = \mathbf{16.17 \text{ lbs/hr}}$$

3. Maximum potential VOC emissions from aviation gasoline (RVP-5.5 to RVP-7) truck loading:

Emissions controlled by VCU

$$148,920,000 \text{ gal/yr} * (10\text{mg/l} + 9 \text{ mg/l}) * 8.346 * 10^{-6} \text{ lb-l/mg-gal} * 1/2000 = \mathbf{11.81 \text{ tpy}}$$
$$17,000 \text{ gal/hr} * (10\text{mg/l} + 9 \text{ mg/l}) * 8.346 * 10^{-6} \text{ lb-l/mg-gal} = \mathbf{2.70 \text{ lbs/hr}}$$

4. Maximum potential VOC emissions from distillate truck loading:

Emissions not controlled by VCU

$$12.46 * [(1.0 * 0.0045 \text{ psi} * 130 \text{ lb/lb-mole}) / (510^\circ\text{R})] = 0.0143 \text{ lbs/1000 gal}$$
$$0.0143 * (528,600,000 \text{ gal/1000 gal}) = 7,559 \text{ lbs/yr} = \mathbf{3.78 \text{ tpy}}$$
$$(60,000 \text{ gal/1000 gal}) * 0.0143 \text{ lbs/1000 gal} = \mathbf{0.86 \text{ lbs/hr}}$$

5. Maximum potential Nitrogen Oxides emissions from gasoline truck loading:

Emissions controlled by VCU

$$300,000,000 \text{ gal/yr} * (4\text{mg/l}) * 8.346 * 10^{-6} \text{ lb-l/mg-gal} * 1/2000 = \mathbf{5.01 \text{ tpy}}$$
$$102,000 \text{ gal/hr} * (4\text{mg/l}) * 8.346 * 10^{-6} \text{ lb-l/mg-gal} = \mathbf{3.41 \text{ lbs/hr}}$$

6. Maximum potential Carbon Monoxide emissions from gasoline truck loading:

Emissions controlled by VCU

$$300,000,000 \text{ gal/yr} * (10\text{mg/l}) * 8.346 * 10^{-6} \text{ lb-l/mg-gal} * 1/2000 = \mathbf{12.52 \text{ tpy}}$$

$$102,000 \text{ gal/hr} * (10\text{mg/l}) * 8.346 * 10^{-6} \text{ lb-l/mg-gal} = \mathbf{8.51 \text{ lbs/hr}}$$

7. Maximum potential Carbon Dioxide emissions from gasoline truck loading:

Emissions controlled by VCU

$$300,000,000 \text{ gal/yr} * (1239.4\text{mg/l}) * 8.346 * 10^{-6} \text{ lb-l/mg-gal} * 1/2000 = \mathbf{1,552 \text{ tpy}}$$

$$102,000 \text{ gal/hr} * (1239.4\text{mg/l}) * 8.346 * 10^{-6} \text{ lb-l/mg-gal} = \mathbf{1,055 \text{ lbs/hr}}$$

Notes on the above emission calculations:

1. National Weather Service 30 year mean (1961-1990) average yearly temperature for Pittsburgh, PA = 50.3°F
2. Vapor pressures as per US EPA TANKS 4.0 program = 1.009 psi @ 50.3°F for aviation gasoline (JP-4) and 0.0045 psi @ 50.3°F for no. 2 distillate oil.
3. Vapor Molecular weight as per US EPA TANKS 4.0 program = 80.0 Lbs/lb-mole for aviation gasoline (JP-4) and 130 Lbs/lb-mole for no. 2 distillate oil.
4. 96% VCU control efficiency used in JP-4 calculations corresponds to 9.45 mg/l of emissions.
5. NOx guarantee is 4 mg/liter product loaded and CO is 10 mg/liter product loaded.
6. CO2 emission factor is from 9/22/2009 stack test (CO2 = 6889.91 ppm = 1239.4 mg/liter of gasoline loaded).

Gasoline, Aviation Gasoline and Distillate HAP emissions:

1. HAP weight fractions in material loaded at truck loading rack:

	Gasoline	Aviation Gasoline	Distillate
Benzene	0.05	0.01	N/A
Toluene	0.09	0.15	N/A
Naphthalene	N/A	N/A	0.02
Xylenes	0.14	0.10	N/A
n-Hexane	0.04	0.02	N/A
Ethyl Benzene	0.05	0.05	0.01
1.2.4-Trimethyl Benzene	0.05	N/A	0.02
Cyclohexane	0.02	N/A	N/A

Cumene (0 – 0.01) and Biphenyl (Diphenyl) (0 – 0.02) were not included for distillate because the high end assumptions were already being made for the other HAPs. The total HAPs for these pollutants would have only added 0.11 tons per year. All of the distillate fractions were taken from the ultra low sulfur diesel fuel MSDS in lieu of the diesel #2 MSDS because the HAP weight fractions were higher.

- The above concentrations were used to calculate the HAP emissions in the emission summary below by applying the concentrations to the VOC emissions.

Loading Rack Potential Emissions Summary:

Pollutant	Gasoline		Aviation Gasoline		Distillate		Total	
	Lbs/hr	Tons/yr	Lbs/hr	Tons/yr	Lbs/hr	Tons/yr	Lbs/hr	Tons/yr
VOCs	16.17	23.79	2.70	11.81	0.86	3.78	19.73	39.38
Benzene	0.81	1.19	0.03	0.12	N/A	N/A	0.84	1.31
Toluene	1.46	2.14	0.41	1.77	N/A	N/A	1.87	3.91
Naphthalene	N/A	N/A	N/A	N/A	0.02	0.08	0.02	0.08
Xylenes	2.26	3.33	0.27	1.18	N/A	N/A	2.53	4.51
N-Hexane	0.65	0.95	0.05	0.24	N/A	N/A	0.70	1.19
Ethyl Benzene	0.81	1.19	0.14	0.59	0.01	0.04	0.96	1.82
1,2,4-Trimethyl Benzene	0.81	1.19	N/A	N/A	0.02	0.08	0.83	1.27
Cyclohexane	0.32	0.48	N/A	N/A	N/A	N/A	0.32	0.48
Total HAPs	7.12	10.47	0.90	3.90	0.05	0.20	8.07	14.57

Marine Vessel Loading Facility Potential Emissions:

Gasoline and Distillate VOC emissions:

- Wharf contains two docks that can load one barge each in a twenty-four hour period. This is a capacity of 245,620 gal/barge or 491,240 gal/day. Allowable loading is limited to gal/yr of gasoline and distillate where emissions of VOC's do not exceed 21 tons/yr. No aviation gasoline is loaded.
- Barge loading is submerged with an S factor of 0.5 (AP-42, 5.2, 1/95).
- Gasoline or distillate emissions = $12.46 * S * V_p * MW/^{\circ}R = \text{lbs}/10^3 \text{ gal}$.
- Monthly barge loading emission estimates shall be made to ensure any consecutive twelve-month total does not exceed **21 tpy**. V_p and $^{\circ}R$ shall be calculated using the product V_p loaded at the average temperature during loading, per barge.

- Maximum VOC emissions per day from RVP-13 = $12.46 * S * V_p * MW/^{\circ}R = 8.217 \text{ lbs}/10^3 \text{ gal}$. which is equal to $491,240 \text{ gal}/\text{day} * 8.217 \text{ lbs}/10^3 \text{ gal} = 4,036.4 \text{ lbs}/\text{day} = \underline{\underline{2.02 \text{ ton}/\text{day}}}$ for a maximum daily throughput of 491,240 gal.
- Maximum VOC emissions per day from distillate = $12.46 * S * V_p * MW/^{\circ}R = 0.024 \text{ lbs}/10^3 \text{ gal}$. $491,240 \text{ gal}/\text{day} * 0.024 \text{ lbs}/10^3 \text{ gal} = \underline{\underline{11.6 \text{ lbs}/\text{day} = 0.006 \text{ ton}/\text{day}}}$ for a maximum daily throughput of 491,240 gal.

Notes for maximum daily VOC calculations:

- National Weather Service highest mean daily temperature for Pittsburgh, PA (since 1901) = $90^{\circ}\text{F} = 550^{\circ}\text{R}$.
- Vapor Pressures as per US EPA TANKS 4.0 program = 11.7 psia @ 92°F for RVP-13 gasoline and 0.016 psia for distillate.
- Vapor molecular weight as per US EPA TANKS 4.0 program = 62.0 lbs/lb-mole for RVP-13 and 130 for distillate.

Gasoline and Distillate HAP emissions:

- HAP weight fractions in material loaded at the marine vessel loading facility:

Pollutant	Gasoline	Distillate
Benzene	0.05	N/A
Toluene	0.09	N/A
Naphthalene	N/A	0.02
Xylenes	0.14	N/A
n-Hexane	0.04	N/A
Ethyl benzene	0.05	0.01
1.2.4-Trimethyl Benzene	0.05	0.02
Cyclohexane	0.02	N/A

- The above concentrations were used to calculate the HAP emissions in the emission summary below by applying the concentrations to the VOC emissions.

Marine Vessel Loading Potential Emissions Summary

Pollutant	Gasoline		Distillate		Worst Case	
	Lbs/day	Tons/yr	Lbs/day	Tons/yr	Lbs/day	Tons/yr
VOCs	4036.5	21	11.8	21	4036.5	21
Benzene	201.83	1.05	N/A	N/A	201.83	1.05
Toluene	363.29	1.89	N/A	N/A	363.29	1.89
Naphthalene	N/A	N/A	0.24	0.42	0.24	0.42
Xylenes	565.11	2.94	N/A	N/A	565.11	2.94
n-Hexane	161.46	0.84	N/A	N/A	161.46	0.84

Ethyl Benzene	201.83	1.05	0.12	0.21	201.83	1.05
1,2,4-Trimethyl Benzene	201.83	1.05	0.24	0.42	201.83	1.05
Cyclohexane	80.73	0.42	N/A	N/A	80.73	0.42
Total HAPs	1776.08	9.24	0.60	1.05	1776.32	9.66

Gasoline, Aviation Gasoline and Distillate storage tank potential emissions:

Gasoline, Aviation Gasoline and Distillate VOC and HAP emissions:

1. VOC emissions were calculated using the US EPA TANKS 4.0.9d program. HAP emissions were calculated by applying the vapor weight percent of each HAP to the total VOCs from each tank. RVP values have been averaged to 9.0 for the whole year in lieu of monthly changes. See TANKS 4.0.9d runs in attachments.

2. Tank data and emissions:

Tank No.	Safe-Fill Capacity (gal)	Max Turnovers	Contents	VOC tons/yr
T-102	3,260,670	57.23	Distillate	1.14
T-103	3,017,490	16.36	Gasoline	2.14
T-106	3,260,082	57.23	Distillate	1.13
T-107	3,053,946	16.36	Gasoline	2.15
T-108	3,050,544	16.36	Gasoline	2.15
T-109	2,213,064	57.23	Distillate	0.80
T-110	2,212,854	57.23	Distillate	0.79
T-111	4,754,652	16.36	Gasoline	2.74
T-112	4,483,962	7.00	Gasoline	3.93
T-118	371,448	187.12	Aviation Gasoline	0.63
T-119	370,734	187.12	Aviation Gasoline	0.63
T-120	397,908	187.12	Aviation Gasoline	0.63
T-122	780,360	36	Ethanol/7.8 RVP/Distillate	0.78
T-123	815,220	57.23	Kerosene	0.34
Total VOC				19.98

Tank T-112 emissions come from IP #0062-I003a issued February 14, 2003.

Tank T-122 turnovers and VOC/year comes from IP #0062-I004 issued on September 19, 2008.

HAP	Vapor wt. fraction			Emissions tons/yr			Tons/yr Total
	Gasoline	Aviation	Distillate	Gasoline	Aviation	Distillate	
VOCs	1.0	1.0	1.0	13.89	1.89	4.20	19.98
Benzene	0.05	0.01	N/A	0.69	0.02	N/A	0.71

Toluene	0.09	0.15	N/A	1.25	0.28	N/A	1.53
Naphthalene	N/A	N/A	0.02	N/A	N/A	0.08	0.08
Xylenes	0.14	0.10	N/A	1.94	0.19	N/A	2.13
n-Hexane	0.04	0.02	N/A	0.56	0.04	N/A	0.60
Ethyl Benzene	0.05	0.05	0.01	0.69	0.09	0.04	0.82
1,2,4-Trimethyl Benzene	0.05	N/A	0.02	0.69	N/A	0.08	0.77
Cyclohexane	0.02	N/A	N/A	0.28	N/A	N/A	0.28
Total HAPs	0.44	0.33	0.05	6.10	0.62	0.2	6.92

3. Tank drawdown emissions: The facility is a consumer provider of gasoline and distillate products which are ordered in batch quantities. After every batch is processed through the facility the storage tank (s) must be landed to retrieve all of the customer's product before receiving a new batch. Product tank drawdown refers to any material or mixture of materials discharged from a product tank for the purpose of removing water or other contaminants from the product tank. Landings are only permitted when switching to/from low RVP gasoline. Tank cleanings are insignificant emissions and are not included in this section because the product does not sit below the roof for a long enough period to produce significant emissions. See attachments for emissions calculations.

Tank	Gasoline tpy
T-103	0.51
T-111	0.80
T-112	0.80
Total	2.11

HAP	Vapor wt. Fraction	Tons/yr
	Gasoline	Total
VOCs	1.0	2.11
Benzene	0.05	0.106
Toluene	0.09	0.19
Xylenes	0.14	0.30
n-Hexane	0.04	0.08
Ethylbenzene	0.05	0.106
1,2,4-Trimethyl Benzene	0.05	0.106
Cyclohexane	0.02	0.04
Total HAPs	0.44	0.93

APPENDIX B
Small Storage Tank Data

Tank Data:

Tank I.D.	Stored Product	Capacity (gallons)
T136	Waste Oil	275
2 AST	Heating tank (no. 2 fuel oil)	3,000
3 AST	Heating tank (no. 2 fuel oil)	500
4 AST	Heating tank (no. 2 fuel oil) – not in use	500
T131	diesel additive	2,000
T127	gas additive	6,000
T134	Automate red dye	275
T132	Diesel Additive	3,000
T128	Dieseselect Additive	2,000
T129	Lubricity Additive (Lubrizol)	550
T130	Lubricity Additive (Lubrizol)	1,030
T137	Kerosene	350
T133	Slop Tank	500
T135	BP Gas Additive	2000
15 AST	Propane	1000