2006 ANNUAL EMISSIONS INVENTORY AND VOC REPORT

SPRAGUE
RIVER ROAD TERMINAL
AVERY LANE TERMINAL

NEWINGTON, NEW HAMPSHIRE

PREPARED FOR:
Sprague
Portsmouth, New Hampshire

PREPARED BY:
GZA GeoEnvironmental, Inc.
Manchester, New Hampshire

April 2007
File No. 04.0024355.00

Copyright © 2007 GZA GeoEnvironmental, Inc.

2006 ANNUAL AIR EMISSIONS REPORT
State Permit To Operate FP-S-0034
River Road Terminal
SPRAGUE
126 River Road
Newington, New Hampshire 03801
SIC Code 5171

CERTIFICATE OF ACCURACY

I am authorized to make this submission on behalf of the facility for which the submission is made. Based on information and belief formed after reasonable inquiry, I certify that the statements and information in the enclosed documents are to the best of my knowledge and belief true, accurate and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Burton S. Russell
Vice President, Terminals & Transportation

4/12/07
Date

TABLE 1
2006 EMISSIONS STATEMENT
SUMMARY

Sprague
River Road Terminal
Newington, New Hampshire

Facility Emissions:	
SO_2 Emissions from #6/#4 Blend Oil Fired Boilers	37.98 tons
NO_x Emissions from #6/#4 Blend Oil Fired Boilers	14.85 tons
CO Emissions from #6/#4 Blend Oil Fired Boilers	1.35 tons
PM Emissions from #6/#4 Blend Oil Fired Boilers	2.70 tons
VOC Emissions from #6/#4 Blend Oil Fired Boilers	0.08 tons
SO_2 Emissions from Generators	0.011 tons
NO_x Emissions from Generators	0.164 tons
CO Emissions from Generators	0.035 tons
PM Emissions from Generators	0.012 tons
VOC Emissions from Generators	0.013 tons
Total Facility Emissions	**57.19 tons**

Fee	
Per Ton Fee ($/ton)	$90.95
Total Emissions (tons)	57.19
Total Fee	**$5,201.54**

TABLE 2
2006 VOC AND NO_x EMISSIONS SUMMARY

Sprague
River Road Terminal
Newington, New Hampshire

Operating Schedule	
Typical, Annual	7 days/week, 24 hours/day
Typical, Ozone Season Only	7 days/week, 24 hours/day
Actual Annual VOC Emissions	
#5 Fuel Oil Boilers	0.08 tons/yr
Emergency Generator	0.01 tons/yr
Total	**0.09 tons/yr**
Typical Daily VOC Emissions (Annual)	
#5 Fuel Oil Boilers	0.41 lb/day
Emergency Generator	0.07 lb/day
Total	**0.49 lb/day**
Typical Daily VOC Emissions (Ozone Season Only)	
#5 Fuel Oil Boilers	0.38 lb/day
Emergency Generator	0.07 lb/day
Total	**0.46 lb/day**
Actual Annual NO_X Emissions	
#5 Fuel Oil Boilers	14.85 tons/yr
Emergency Generator	0.16 tons/yr
Total	**15.02 tons/yr**
Typical Daily NO_X Emissions (Annual)	
#5 Fuel Oil Boilers	81.38 lb/day
Emergency Generator	0.90 lb/day
Total	**82.28 lb/day**
Typical Daily NO_X Emissions (Ozone Season Only)	
#5 Fuel Oil Boilers	75.35 lb/day
Emergency Generator	0.90 lb/day
Total	**76.25 lb/day**

TABLE 3
2006 EMISSIONS FROM NO.5 OIL FIRED COMBUSTION UNITS

Sprague
River Road Terminal
Newington, New Hampshire

Boiler	Fuel Input Rating MMBtu/hr
Boiler 1	25.0
Boiler 2	33.5

Combined Boilers	
Annual No.5 Oil Use	540,078
Sulfur Content of Oil	0.896

Pollutant	AP-42 Industrial Boiler Emission Factors (1)	Annual Emissions (TPY) (2)	Ozone Season Emissions (TPY) (3)
SO_2	141 lb/Mgal	37.98	8.86
NO_x	55.0 lb/Mgal	14.85	3.47
CO	5.0 lb/Mgal	1.35	0.32
VOC (4)	0.28 lb/Mgal	0.08	0.02
PM	10.0 lb/Mgal	2.70	0.63

2006	2006 #5 Oil Usage (bbl)	2006 #5 Oil Usage (gallons)
Jan	691	29,022
Feb	530	22,260
Mar	1,220	51,240
Apr	1,438	60,396
May	1,365	57,330
Jun	1,217	51,114
Jul	862	36,204
Aug	922	38,724
Sep	832	34,944
Oct	1,395	58,590
Nov	1,362	57,204
Dec	1,025	43,050
TOTAL	**12,859**	**540,078**

NOTES:

1. Emission factors from NHARD Table One, Boilers 10 - 100MMBTU/hr (10MAR03 Revision). NHARD references emission factors from EPA's AP-42. Sulfur emissions based on blended sulfur content.
2. Fuel oil emissions = fuel usage ÷ 1,000 gals x emission factor (lb/1,000 gals) ÷ 2,000 lbs/ton
3. Ozone season emissions are June, July and August emissions.
4. VOC reported is equivalent to Non-Methane Total Organic Carbon (NMTOC)

TABLE 4
2006 EMISSIONS FROM DIESEL FUEL FIRED GENERATOR

Sprague
River Road Terminal
Newington, New Hampshire

Device	Rated Output (kW)	Efficiency %	Rated Output (hp)	Operating Hours
Emergency Diesel Generator	500	0.95	706.46	15.00

Pollutant	Factor (lb/hp-hr)
Oxides of Nitrogen (NO_x)	3.10E-02
Carbon Monoxide (CO)	6.68E-03
Sulfur Dioxide (SO_2)	2.05E-03
Particulate Matter (PM)	2.20E-03
Total Organic Carbon (TOC)	2.51E-03

Emission factors from AP-42, Section 3.3 *Gasoline and Diesel Industrial Engines, Table 3.3-1*

	2006 Emissions (tons/yr)				
Pollutant	NO_x	CO	SO_2	PM	TOC
Emergency Generator	0.164	0.035	0.011	0.012	0.013

TABLE 5
2006 BLENDED SULFUR CONTENT OF NO. 5 OIL

Sprague
River Road Terminal
Newington, New Hampshire

Month	Sulfur content - #6 fuel oil (%)	#6 Fuel Oil Blended Amount	Sulfur content - #4 fuel oil (%)	#4 Fuel Oil Blended Amount	Blend Sulfur Content (%)[1]	Monthly #6/4 blend oil usage (gallons)
24-Jan-06	2.000	7,803	0.650	16,000	1.093	29,022
17-Feb-06	1.780	7,803	0.660	16,000	1.027	22,260
16-Mar-06	1.780	7,803	0.660	16,000	1.027	51,240
27-Mar-06	1.780	7,803	0.660	16,000	1.027	
6-Apr-06	1.780	7,803	0.520	16,000	0.933	60,396
14-Apr-06	1.086	7,803	0.520	16,000	0.706	
28-Apr-06	1.086	7,803	0.520	16,000	0.706	
16-May-06	1.086	7,803	0.518	16,000	0.704	57,330
26-May-06	1.086	7,803	0.518	16,000	0.704	
9-Jun-06	1.086	7,803	0.518	16,000	0.704	51,114
23-Jun-06	1.086	7,803	0.518	16,000	0.704	
12-Jul-06	1.086	7,803	0.518	16,000	0.704	36,204
1-Aug-06	1.086	7,803	0.518	16,000	0.704	38,724
18-Aug-06	1.086	7,803	0.518	16,000	0.704	
8-Sep-06	1.064	7,803	0.438	16,000	0.643	34,944
29-Sep-06	1.405	7,803	0.637	16,000	0.889	
13-Oct-06	1.405	7,803	0.978	16,000	1.118	58,590
26-Oct-06	1.405	7,803	0.978	16,000	1.118	
6-Nov-06	1.405	7,803	0.978	16,000	1.118	57,204
16-Nov-06	1.405	7,803	0.978	16,000	1.118	
4-Dec-06	1.405	7,803	0.978	16,000	1.118	43,050
15-Dec-06	1.465	7,803	0.978	16,000	1.138	
				AVERAGE BLEND SULFUR CONTENT (%)		0.896

NOTES

1. Blend to boiler consists of approximately 67% No. 4 fuel oil, 33% #6 fuel oil.

2006 ANNUAL AIR EMISSIONS REPORT
Title V Operating Permit TV-OP-030
Avery Lane Terminal
SPRAGUE
194 Shattuck Way
Newington, New Hampshire 03801
SIC Code 4226

CERTIFICATE OF ACCURACY

I am authorized to make this submission on behalf of the facility for which the submission is made. Based on information and belief formed after reasonable inquiry, I certify that the statements and information in the enclosed documents are to the best of my knowledge and belief true, accurate and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Burton S. Russell
Vice President, Terminals & Transportation

4/12/07
Date

TABLE 1
FACILITY-WIDE POLLUTANT EMISSIONS SUMMARY- 2006

Sprague
Avery Lane Terminal
Newington, New Hampshire

Criteria Pollutant	Annual Emissions (TPY) (5)
NO_X	6.73
CO	4.35
SO_2 (2)	17.64
Particulate	0.62
VOC (3 - 5)	22.52
Total Facility Emissions	**51.86**

Hazardous/Regulated Toxic Air Pollutant (HAP/RTAP)	Annual Emissions (TPY) (5)
Methyl tert-butyl ether (MTBE)	2.28
Hexane	0.29
Ethylbenzene	0.02
2,2,4-Trimethylpentane	0.14
Benzene	0.08
Toluene	0.23
Xylenes	0.08
Total RTAP/HAP (1)	**3.12**

Fee	
Per Ton Fee ($/ton)	$90.95
Total Emissions (tons)	51.86
Total Fee	**$4,716.67**

NOTES:

1. HAP emissions are provided on an emission unit basis in the subsequent tables.
2. SO_2 emission factor assumes 0.4% sulfur content of fuels.
3. Emissions as "Post Control" - Fuel Loading facility utilizes an existing vapor balance and flare system for VOC control.
4. VOC emissions are based on 20 mg/l maximum permit limit at the gasoline loading rack flare.
5. VOC emissions include HAP emissions.

TABLE 2
VOC AND NOx EMISSIONS SUMMARY - 2006

Sprague
Avery Lane Terminal
Newington, New Hampshire

Operating Schedule	
Typical, Annual	7 days/week, 24 hours/day
Typical, Ozone Season Only	7 days/week, 24 hours/day
VOC Emissions	
#2 Fuel Oil Boilers	0.11 tons/yr
Fire Pump	0.00 tons/yr
Truck Loading Flare	1.05 tons/yr
Organic Liquid Storage and Dispensing	21.36 tons/yr
Total	**22.52 tons/yr**
Typical Daily VOC Emissions (Annual)	
#2 Fuel Oil Boilers	0.60 lb/day
Fire Pump (2)	0.00 lb/day
Truck Loading Flare	5.75 lb/day
Organic Liquid Storage and Dispensing	117.04 lb/day
Total	**123.39 lb/day**
Typical Daily VOC Emissions (Ozone Season Only)(1)	
#2 Fuel Oil Boilers	0.60 lb/day
Fire Pump (2)	0.00 lb/day
Truck Loading Flare	5.76 lb/day
Organic Liquid Storage and Dispensing	74.57 lb/day
Total	**80.93 lb/day**
NO_X Emissions	
#2 Fuel Oil Boilers	6.19 tons/yr
Fire Pump	0.01 tons/yr
Truck loading flare	0.53 tons/yr
Total	**6.73 tons/yr**
Typical Daily NO_X Emissions (Annual)	
#2 Fuel Oil Boilers	33.92 lb/day
Fire Pump (2)	1.67 lb/day
Truck Loading Flare	2.90 lb/day
Total	**35.59 lb/day**
Typical Daily NO_X Emissions (Ozone Season Only)(1)	
#2 Fuel Oil Boilers	33.92 lb/day
Fire Pump (2)	1.67 lb/day
Truck Loading Flare	2.90 lb/day
Total	**35.59 lb/day**

1. Typical daily values for Ozone Season emissions for #2 fuel oil boilers and the truck loading flare are assumed to be the same as typical daily annual values. This assumption is valid since the boilers are used year-round for process heating, not comfort heating.
2. Typical daily values for the fire pump are based on the frequency of twelve (12) operating days per year and three (3) operating days per season.

TABLE 3
VOC EMISSIONS SUMMARY - ORGANIC LIQUID STORAGE AND DISPENSING ACTIVITIES - 2006

Sprague
Avery Lane Terminal
Newington, New Hampshire

POTENTIAL ANNUAL VOC EMISSIONS - STORAGE					
NHDES Emission Unit	**Tank No.**	**Material Stored/Activity**	**Annual VOC Emissions Before Control (TPY) (1,2)**	**Annual VOC Emissions After Control (TPY) (1,2)**	**Reference**
EU01	**1**	RFG (RVP7, 13)	4.20	4.20	EPA Tanks 4.09d
EU02	**2**	RFG (RVP7, 8, 9, 12, 13)	3.13	3.13	EPA Tanks 4.09d
EU04	**5**	RFG (RVP7, 9, 13)	4.72	4.72	EPA Tanks 4.09d
EU03	**4**	Asphalt (Formerly Gasoline)	0.01	0.01	EPA Tanks 4.09d
Insig	**6**	Diesel Fuel Tank	0.00	0.00	EPA Tanks 4.09d
EU10	**11**	Aviation Gasoline Tank (Formerly MMA)	1.33	1.33	EPA Tanks 4.09d
Insig	**Various**	RFG Additive Tanks	0.04	0.04	EPA Tanks 4.09d
None	**Various**	Asphalt Storage Tanks	0.04	0.04	EPA Tanks 4.09d
None	**Various**	Asphalt Additive tanks (kerosene and hydrolene)	0.01	0.01	EPA Tanks 4.09d
EU05	**N/A**	RFG Loading	148.46	4.96	Table 8
EU05	**N/A**	RFG - Fugitive Line Losses	2.02	2.02	Table 8
EU07	**N/A**	Aviation Gasoline Loading	3.06	0.10	Table 8
Insig	**N/A**	Asphalt Loading Racks	0.40	0.40	Table 8
Insig	**NA**	Diesel Loading Racks	0.40	0.40	Table 8
		TOTALS (Post Control):	**167.82**	**21.36**	

NOTES:

1. Emissions as "Post Control" - Truck Loading facility utilizes an existing vapor balance and flare system for VOC control. Includes barge loading (uncontrolled).
2. VOC emissions are based on 20 mg/l maximum permit limit at the RFG loading rack flare.

ANNUAL OZONE SEASON VOC EMISSIONS - STORAGE					
NHDES Emission Unit	**Tank No.**	**Material Stored/Activity**	**Annual VOC Emissions Before Control (TPY) (1,2)**	**Annual VOC Emissions After Control (TPY) (1,2)**	**Reference**
EU01	**1**	RFG (RVP7, 13)	0.65	0.65	EPA Tanks 4.09d
EU02	**2**	RFG (RVP7, 8, 9, 12, 13)	0.81	0.81	EPA Tanks 4.09d
EU03	**4**	Asphalt (Formerly Gasoline)	0.001	0.001	EPA Tanks 4.09d
EU04	**5**	RFG (RVP7, 9, 13)	0.79	0.79	EPA Tanks 4.09d
Insig	**6**	Diesel Fuel Tank	0.00	0.00	EPA Tanks 4.09d
EU10	**11**	Aviation Gasoline (RVP 6)	0.40	0.40	EPA Tanks 4.09d
Insig	**Various**	RFG Additive Tanks	0.03	0.03	EPA Tanks 4.09d
None	**Various**	Asphalt Storage Tanks	0.01	0.01	EPA Tanks 4.09d
None	**Various**	Asphalt Additive tanks (kerosene and hydrolene)	0.00	0.00	EPA Tanks 4.09d
EU05	**N/A**	RFG Loading	0.00	0.00	Table 8
EU05	**N/A**	RFG - Fugitive Line Losses	0.51	0.51	Table 8
EU07	**N/A**	Aviation Gasoline Loading	0.03	0.03	Table 8
Insig	**N/A**	Asphalt Loading Racks	0.10	0.10	Table 8
Insig	**NA**	Diesel Loading Racks	0.10	0.10	Table 8
		TOTALS (Post Control):	**3.43**	**3.43**	

TABLE 4

HAP/AIR TOXICS EMISSIONS SUMMARY - ORGANIC LIQUID STORAGE/DISPENSING ACTIVITIES - 2006

Sprague
Avery Lane Terminal
Newington, New Hampshire

RFG and Aviation Gasoline Tanks

NHDES Emission Unit	Tank No.	Constituent	Weight Percent in Vapor (1)	Annual Emissions (TPY)
EU01, EU02, EU04, EU10	1,2,5,11	MTBE	11.12%	1.49
EU01, EU02, EU04, EU10	1,2,5,11	Hexane	1.40%	0.19
EU01, EU02, EU04, EU10	1,2,5,11	Benzene	0.40%	0.05
EU01, EU02, EU04, EU10	1,2,5,11	Toluene	1.10%	0.15
EU01, EU02, EU04, EU10	1,2,5,11	Ethylbenzene	0.10%	0.01
EU01, EU02, EU04, EU10	1,2,5,11	o-Xylene	0.40%	0.05
EU01, EU02, EU04, EU10	1,2,5,11	2,2,4-Trimethylpentane	0.70%	0.09
			Total	2.03

RFG and Aviation Gasoline Loading Racks and Fugitives (Pre Control)

NHDES Emission Unit	Tank No.	Constituent	Weight Percent in Vapor (2)	Annual Emissions (TPY)
EU05	Loading	MTBE	11.12%	17.07
EU05	Loading	Hexane	1.40%	2.15
EU05	Loading	Benzene	0.40%	0.61
EU05	Loading	Toluene	1.10%	1.69
EU05	Loading	Ethylbenzene	0.10%	0.15
EU05	Loading	o-Xylene	0.40%	0.61
EU05	Loading	2,2,4-Trimethylpentane	0.70%	1.07
			Total	23.35

RFG and Aviation Gasoline Loading Racks and Fugitives (Post Control)

NHDES Emission Unit	Tank No.	Constituent	Weight Percent in Vapor (2)	Annual Emissions (TPY)
EU05	Loading	MTBE	11.12%	0.79
EU05	Loading	Hexane	1.40%	0.10
EU05	Loading	Benzene	0.40%	0.03
EU05	Loading	Toluene	1.10%	0.08
EU05	Loading	Ethylbenzene	0.10%	0.01
EU05	Loading	o-Xylene	0.40%	0.03
EU05	Loading	2,2,4-Trimethylpentane	0.70%	0.05
			Total	1.09

NOTES:

(1) Ref: Gasoline Distribution Industry (Stage I) Background Information for Proposed Promulgated Standards (EPA-453/R-94-002b). MTBE emissions estimated from vapor-liquid equilibrium data assuming 15% MTBE by volume in the liquid phase.
For Tanks 1, 2, 5, 11 and Loading Racks and Fugitives

TABLE 5
RFG STORAGE TANKS MONTHLY AND ANNUAL THROUGHPUT SUMMARY - 2006

Sprague
Avery Lane Terminal
Newington, New Hampshire

Month	Tank 1			Tank 2			Tank 5			Total of Three Tanks	
	Tanks 4.0 RVP	Throughput (bbl)	Throughput (gal)	Tanks 4.0 RVP	Throughput (bbl)	Throughput (gal)	Tanks 4.0 RVP	Throughput (bbl)	Throughput (gal)	Throughput (bbl)	Throughput (gal)
Jan	13.00	14,670	624,953	13.00	56,852	2,421,896	13.00	146,230	6,229,388	217,752	9,276,237
Feb	13.00	16,700	711,402	13.00	67,480	2,874,648	13.00	143,359	6,107,109	227,539	9,693,159
Mar	13.00	16,192	689,784	13.00	39,468	1,681,323	13.00	160,792	6,849,721	216,452	9,220,828
Apr	13.00	6,238	265,720	12.00	28,084	1,196,389	12.00	79,311	3,378,645	113,633	4,840,754
May	0.00	0	0	0.00	0	0	0.00	0	0	0	0
Jun	0.00	0	0	0.00	0	0	0.00	0	0	0	0
Jul	0.00	0	0	0.00	0	0	0.00	0	0	0	0
Aug	0.00	0	0	0.00	0	0	0.00	0	0	0	0
Sep	0.00	0	0	0.00	0	0	0.00	0	0	0	0
Oct	0.00	0	0	0.00	0	0	0.00	0	0	0	0
Nov	0.00	0	0	0.00	0	0	0.00	0	0	0	0
Dec	0.00	0	0	0.00	0	0	0.00	0	0	0	0
TOTAL		**53,800**	**2,291,859**		**191,884**	**8,174,256**		**529,692**	**22,564,863**	**775,376**	**33,030,978**
RVP 7 TOTAL		0	0		0	0		0	0	0	0
RVP 8 TOTAL		0	0		0	0		0	0	0	0
RVP 9 TOTAL		0	0		0	0		0	0	0	0
RVP 12 TOTAL		0	0		28,084	1,196,389		79,311	3,378,645	107,395	4,575,034
RVP 13 TOTAL		53,800	2,291,859		163,800	6,977,867		450,381	19,186,218	667,981	28,455,944

Tank No.	Dia (ft.)	Contents	Capacity (gallons)	Color	Control Type	Annual Throughput (gal/yr)
1	120	RFG	3,722,533	Alum	DSIFR	2,291,859
2	120	RFG	3,722,533	Alum	DSIFR	8,174,256
5	150	RFG	6,080,843	Alum	DSIFR	22,564,863

TABLE 6
AVIATION GASOLINE ANNUAL THROUGHPUT - 2006

Sprague
Avery Lane Terminal
Newington, New Hampshire

Month	Fuel/Material	Throughput (gal/month)
Jan	Aviation Gasoline	46,041
Feb	Aviation Gasoline	34,679
Mar	Aviation Gasoline	31,191
Apr	Aviation Gasoline	46,863
May	Aviation Gasoline	224,662
Jun	Aviation Gasoline	135,100
Jul	Aviation Gasoline	184,905
Aug	Aviation Gasoline	244,079
Sep	Aviation Gasoline	142,562
Oct	Aviation Gasoline	181,506
Nov	Aviation Gasoline	210,233
Dec	Aviation Gasoline	149,375
	TOTAL	***1,631,196***

Tank No.	Dia (ft.)	Capacity (gallons)	Color	Control Type	Throughput (gal/yr)	Turnover Ratio
11	40	616,818	White	Internal Floating Roof	1,631,196	2.64

TABLE 7
AVIATION GASOLINE, ASPHALT AND ADDITIVES STORAGE SUMMARY - 2006

Sprague
Avery Lane Terminal
Newington, New Hampshire

AVIATION GASOLINE STORAGE TANK 11

		Throughput (gal/year)				
	TOTAL	*1,631,196*				
Tank No.	**Dia (ft.)**	**Capacity (gallons)**	**Color**	**Control Type**	**Throughput (gal/yr)**	**Turnover Ratio**
11	40	616,818	White	None	1,631,196	2.6

GASOLINE ADDITIVES TANKS (TYPICAL 1 OF 4)

		Maximum Throughput per tank (gal/year)				
	TOTAL	*25,000*				
Tank No.	**Dia (ft.)**	**Capacity (gallons)**	**Color**	**Control Type**	**Throughput (gal/yr)**	**Turnover Ratio**
Typical 1 of 4	10	3,000	White	None	2,962	1.0

ASPHALT TANKS (TYPICAL 1 OF 8)

		Maximum Throughput per tank (gal/year)				
	TOTAL	*12,000,000*				
Tank No.	**Dia (ft.)**	**Capacity (gallons) (1)**	**Color**	**Control Type**	**Throughput (gal/yr)**	**Turnover Ratio**
Typical 1 of 8	95	1,923,421	Silver	None	12,000,000	6.2

ASPHALT ADDITIVE TANKS (DIESEL, ANTI-STRIP)

		Maximum Throughput per tank (gal/year)				
	TOTAL	*3,000,000*				
Tank No.	**Dia (ft.)**	**Capacity (gallons)**	**Color**	**Control Type**	**Throughput (gal/yr)**	**Turnover Ratio**
Diesel	16	20,000	Silver	None	99,485	5.0
Anti-Strip	16	20,000	Silver	None	4,797	0.2

DIESEL FUEL STORAGE TANK

		Maximum Throughput (gal/year)				
	TOTAL	*10,000,000*				
Tank No.	**Dia (ft.)**	**Capacity (gallons)**	**Color**	**Control Type**	**Throughput (gal/yr)**	**Turnover Ratio**
Diesel Fuel	30	175,052	Red/Primer	None	0	0.0

Note:
1. Asphalt tanks based on 15.4 million gallons of total storage capacity divided by 8 tanks

TABLE 8
RFG AND AVIATION GASOLINE TRUCK LOADING RACK AND FUGITIVE EMISSIONS - 2006

Sprague
Avery Lane Terminal
Newington, New Hampshire

Loading racks: 2006 Summary

Product	Annual Throughput (gallons)	Ozone Season Throughput (gallons)	Annual Tons VOC (Pre Control)	Annual Tons VOC (Post Control)	Annual Ozone Season Tons VOC (Post Control)
RFG- RVP7 (1)	0	0	0.00	0.00	0.00
RFG- RVP8 (1)	0	0	0.00	0.00	0.00
RFG- RVP9 (1)	0	0	0.00	0.00	0.00
RFG- RVP12 (1)	4,575,034	0	19.54	0.64	0.00
RFG-RVP13 (1)	28,455,944	0	128.92	4.22	0.00
AVIATION GASOLINE (3)	1,631,196	564,084	3.06	0.10	0.03
ASPHALT (4)	96,000,000	24,000,000	0.40	0.40	0.10
DIESEL (4)	0	0	0.40	0.40	0.10
	TOTAL		***152.32***	***5.76***	***0.23***
				Limit = 28.39	

Notes:

1. Basis: AP-42 loading equation Chapter 5 (1)

L = 12.46* (SPM/T)*(1-eff/100)*(V/1,000)

S = 1 (dedicated, submerged fill, vapor balance - due to Stage I implementation)
P = 2.98 psia for RVP 7, 3.46 for RVP 8, 3.96 for RVP9, 5.49 for RVP 12, 6.01 for RVP 13, 2.21 for Av Gas
T = 52.4 degrees F (512.4 degrees R)
M = 68 lb/lb-mole for RVP 7 and 8, 67 for RVP 9, 64 for RVP 12, 62 for RVP 13, 69 for Av Gas
V = annual throughput (gallons)
Flare control efficiency @ 20 mg VOC/l is equivalent to 99.2% reduction (based on stack test)
Capture efficiency @ 13 mg VOC/l is equivalent to 99.7% reduction (40 CFR 63.420, NESHAP Standard)
Overall efficiency is (0.990 x 0.997) x 100 = 96.726%.

2. Basis: Gasoline Loading to Barge, AP-42 (1/95) table 5.2-2 - Typical overall situation
Assumed an annual throughput of two (2) loads @ 20,000 barrels each for a given year.

3. Prposed Aviation Gasoline throughput.

S = 1 (dedicated, submerged fill, vapor balance - due to Stage I implementation)
P= 2.211 psia
T = 505.3 degrees R
M = 69 lbs./ lb-mole
Overall efficiency is (0.990 x 0.997) x 100 = 96.726%.

4. Basis: Molecular weights and exact vapor pressures of asphalt and diesel fuel are not known; assume 0.4 tons per year emissions for each constituent at the loading racks.

Fugitives: Potential Summary

Component	Qty.	Emissions Lbs/hr/unit	Emissions (lbs./year)	Emissions (tons/year)
Pump Seals (Light liquid)	10	0.00053	43	0.022
Valves	290	0.000092	218	0.109
Connectors	2000	0.000084	1371	0.686
Load Arm Valves (gas)	4	0.045	1469	0.735
Load Arm Valves (light liquid)	2	0.0087	142	0.071
Open-end Lines (gas)	7	0.0067	383	0.192
Open-end Lines (light liquid)	7	0.0065	371	0.186
Other	15	0.0003	37	0.019
		TOTAL	**4034**	**2.020**

TABLE 9
CRITERIA POLLUTANT EMISSIONS FROM NO. 2 OIL-FIRED COMBUSTION UNITS - 2006

Sprague
Avery Lane Terminal
Newington, New Hampshire

Boiler Information	
Combustion Units: 2 GEKA Boilers	(8.0 and 9.9 MMBTU/hr units)
Maximum Heat Input (both units):	17.9 MMBTU/hr
Maximum Hourly Fuel Input (both units):	127.9 gal/hr
Maximum Annual Fuel Usage: (8760 hr/year)	1,120,404 gal/yr
Annual Distillate Oil Use	618,849 gallons

Pollutant	AP-42 Industrial Boiler Emission Factors	Emissions (TPY)
NO_X	20 lb/Mgal	6.19
CO	5 lb/Mgal	1.55
SO_2 (3)	57 lb/Mgal	17.64
Particulate	2.0 lb/Mgal	0.62
VOC	0.34 lb/Mgal	0.11

Month	No. 2 oil Usage (bbl)	No. 2 oil Usage (gallons)
Jan	994	41,753
Feb	895	37,574
Mar	1,397	58,687
Apr	1,205	50,612
May	1,473	61,846
Jun	1,468	61,640
Jul	1,235	51,883
Aug	1,181	49,601
Sep	1,329	55,808
Oct	1,373	57,664
Nov	1,209	50,795
Dec	976	40,986
TOTAL	**14,735**	**618,849**

NOTES:

1. Emission factors from NHARD Table One, Boilers 0.5 - 10MMBTU/hr (10MAR03 Revision). NHARD references emission factors from EPA's AP-42.
2. Fuel oil emissions = fuel usage ÷ 1,000 gals x emission factor (lb/1,000 gals) ÷ 2,000 lbs/ton
3. SO_2 emission factor assumes 0.4% sulfur content of fuels

TABLE 10
CRITERIA POLLUTANT EMISSIONS FROM DIESEL FUEL-FIRED EMERGENCY FIRE PUMP - 2006

Sprague
Avery Lane Terminal
Newington, New Hampshire

AP-42, Section 3.3 *Gasoline and Diesel Industrial Engines*, states that the input heat value of
No. 2 fuel oil as: 140,000 Btu/gal

Source	Rated Output		Rated Input (1)	Fuel Usage		Gallons
				Rated	Hours	
	(kW)	(hp)	(BTU/hr)	(gal/hr)	(hr/yr)	(gal/yr)
Emergency Diesel Fire Pump	133	178.52	1,249,640	8.9	1.75	16

AP-42, Section 3.3 *Gasoline and Diesel Industrial Engines*, presents the following emissions factors for criteria pollutants:

Pollutant	Factor (lb/1,000-gal)
Oxides of Nitrogen (NOx)	604.20
Carbon Monoxide (CO)	130.15
Sulfur Dioxide (SO2)	39.73
Particulate Matter (PM)	42.47
Volatile Organic Compounds (VOC)	

NOTES:

1. Input = Output HP x 7,000 BTU/HP-hr = 1,249,640 input BTU/hr

Criteria Pollutant Emissions

Source	Fuel Usage (gal/hr)	Hourly Emissions (lb/hr)				
		NOx	CO	SO2	PM	VOC
Emergency Diesel Fire Pump	8.9	5.38	1.16	0.35	0.38	0.00

Source	Fuel Usage (gal/yr)	2006 Emissions (ton/yr)				
		NOx	CO	SO2	PM	VOC
Emergency Diesel Fire Pump	16	0.005	0.0010	0.0003	0.0003	0.0000

TABLE 11
CRITERIA POLLUTANT EMISSIONS FROM LOADING RACK FLARE - 2006

Sprague
Avery Lane Terminal
Newington, New Hampshire

FLARE HEAT INPUT:

Vapor Recovery Rate:	3,600 gal/min
Vapor Recovery Rate:	481 SCFM
Estimated BTU value of recovered vapor plus propane additive necessary for combustion:	200 BTU/SCF
Estimated flare capacity	96,200 BTU/min
Estimated flare capacity	5,772,000 BTU/hr
Estimated flare capacity	5.77 MMBTU/hr

2006 FLARE EMISSIONS (1)

	Emission Factor (lb/MMBTU)	Emissions (Lb./hour)	Emissions (ton/year)
Total hydrocarbons (2)	0.14	0.24	1.05
Carbon monoxide	0.37	0.64	2.80
Nitrogen Oxides	0.07	0.12	0.53
Soot (3)	0.00	0.00	0.00

POTENTIAL FLARE EMISSIONS

	Emission Factor (lb/MMBTU)	Emissions (Lb./hour)	Emissions (ton/year)
Total hydrocarbons (2)	0.14	0.81	3.55
Carbon monoxide	0.37	2.13	9.33
Nitrogen Oxides	0.07	0.40	1.75
Soot (3)	0.00	0.00	0.00

Notes:
1. Actual flare emissions are estimated based on operating at 30% capacity
2. Total hydrocarbons are primarily methane; assume residual VOC is negligible from combustion process
3. Assume soot is negligible from clean burning process

TANKS OUTPUT FILES

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Tank 1 Gasoline
City:	Newington
State:	New Hampshire
Company:	Sprague
Type of Tank:	Internal Floating Roof Tank
Description:	Sprague Avery Lane

Tank Dimensions

Diameter (ft):	120.00
Volume (gallons):	3,722,533.00
Turnovers:	0.62
Self Supp. Roof? (y/n):	Y
No. of Columns:	0.00
Eff. Col. Diam. (ft):	0.00

Paint Characteristics

Internal Shell Condition:	Light Rust
Shell Color/Shade:	Aluminum/Diffuse
Shell Condition	Good
Roof Color/Shade:	Aluminum/Diffuse
Roof Condition:	Good

Rim-Seal System

Primary Seal:	Liquid-mounted
Secondary Seal	Rim-mounted

Deck Characteristics

Deck Fitting Category:	Detail
Deck Type:	Bolted
Construction:	Sheet
Deck Seam:	Sheet: 6 Ft Wide
Deck Seam Len. (ft):	1,922.65

Deck Fitting/Status	Quantity
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1
Automatic Gauge Float Well/Bolted Cover, Gasketed	1
Column Well (24-in. Diam.)/Pipe Col.-Sliding Cover, Gask.	7
Roof Leg or Hanger Well/Adjustable	41
Sample Pipe or Well (24-in. Diam.)/Slotted Pipe-Sliding Cover, Gask.	1
Ladder Well (36-in. Diam.)/Sliding Cover, Gasketed	1

Meterological Data used in Emissions Calculations: Concord, New Hampshire (Avg Atmospheric Pressure = 14.54 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Tank 1 Gasoline - Internal Floating Roof Tank
Newington, New Hampshire

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Gasoline (RVP 13)	Jan	37.74	31.17	44.31	47.66	4.4994	N/A	N/A	62.0000			92.00	Option 4: RVP=13, ASTM Slope=3
Gasoline (RVP 13)	Feb	40.49	32.65	48.33	47.66	4.7576	N/A	N/A	62.0000			92.00	Option 4: RVP=13, ASTM Slope=3
Gasoline (RVP 13)	Mar	46.79	37.90	55.68	47.66	5.3937	N/A	N/A	62.0000			92.00	Option 4: RVP=13, ASTM Slope=3
Gasoline (RVP 13)	Apr	53.11	42.35	63.87	47.66	6.0978	N/A	N/A	62.0000			92.00	Option 4: RVP=13, ASTM Slope=3
Gasoline (RVP 13)	May	59.39	46.97	71.81	47.66	6.8678	N/A	N/A	62.0000			92.00	Option 4: RVP=13, ASTM Slope=3
Gasoline (RVP 13)	Jun	64.10	51.30	76.89	47.66	7.4950	N/A	N/A	62.0000			92.00	Option 4: RVP=13, ASTM Slope=3
Gasoline (RVP 13)	Jul	66.35	53.62	79.09	47.66	7.8113	N/A	N/A	62.0000			92.00	Option 4: RVP=13, ASTM Slope=3
Gasoline (RVP 13)	Aug	64.25	52.67	75.84	47.66	7.5167	N/A	N/A	62.0000			92.00	Option 4: RVP=13, ASTM Slope=3
Gasoline (RVP 13)	Sep	58.84	48.67	69.02	47.66	6.7984	N/A	N/A	62.0000			92.00	Option 4: RVP=13, ASTM Slope=3
Gasoline (RVP 13)	Oct	52.09	43.57	60.61	47.66	5.9797	N/A	N/A	62.0000			92.00	Option 4: RVP=13, ASTM Slope=3
Gasoline (RVP 13)	Nov	45.70	39.68	51.73	47.66	5.2792	N/A	N/A	62.0000			92.00	Option 4: RVP=13, ASTM Slope=3
Gasoline (RVP 13)	Dec	39.65	34.07	45.22	47.66	4.6773	N/A	N/A	62.0000			92.00	Option 4: RVP=13, ASTM Slope=3

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

Tank 1 Gasoline - Internal Floating Roof Tank
Newington, New Hampshire

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Rim Seal Losses (lb):	17.1635	18.3633	21.4530	25.1179	29.4669	33.3178	35.3798	33.4567	29.0591	24.4834	20.6821	17.9871
Seal Factor A (lb-mole/ft-yr):	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000
Seal Factor B (lb-mole/ft-yr (mph)^n):	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000
Value of Vapor Pressure Function:	0.0923	0.0987	0.1153	0.1350	0.1584	0.1791	0.1902	0.1799	0.1562	0.1316	0.1123	0.0967
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	4.4994	4.7576	5.3937	6.0978	6.8678	7.4950	7.8113	7.5167	6.7984	5.9797	5.2792	4.6773
Tank Diameter (ft):	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000
Vapor Molecular Weight (lb/lb-mole):	62.0000	62.0000	62.0000	62.0000	62.0000	62.0000	62.0000	62.0000	62.0000	62.0000	62.0000	62.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Withdrawal Losses (lb):	0.9822	1.1181	1.0841	0.4176	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Number of Columns:	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Effective Column Diameter (ft):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Net Throughput (gal/mo.):	624,953.0000	711,402.0000	689,784.0000	265,720.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Shell Clingage Factor (bbl/1000 sqft):	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015
Average Organic Liquid Density (lb/gal):	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000
Tank Diameter (ft):	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000
Deck Fitting Losses (lb):	290.1114	310.3914	362.6149	424.5629	498.0728	563.1631	598.0170	565.5118	491.1793	413.8380	352.9660	304.0317
Value of Vapor Pressure Function:	0.0923	0.0987	0.1153	0.1350	0.1584	0.1791	0.1902	0.1799	0.1562	0.1316	0.1123	0.0967
Vapor Molecular Weight (lb/lb-mole):	62.0000	62.0000	62.0000	62.0000	62.0000	62.0000	62.0000	62.0000	62.0000	62.0000	62.0000	62.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Tot. Roof Fitting Loss Fact.(lb-mole/yr):	608.5000	608.5000	608.5000	608.5000	608.5000	608.5000	608.5000	608.5000	608.5000	608.5000	608.5000	608.5000
Deck Seam Losses (lb):	163.3966	174.6187	204.2320	239.1224	280.5246	317.1848	336.8152	318.5076	276.6421	233.0819	198.7975	171.2367
Deck Seam Length (ft):	1,922.6500	1,922.6500	1,922.6500	1,922.6500	1,922.6500	1,922.6500	1,922.6500	1,922.6500	1,922.6500	1,922.6500	1,922.6500	1,922.6500
Deck Seam Loss per Unit Length Factor (lb-mole/ft-yr):	0.1400	0.1400	0.1400	0.1400	0.1400	0.1400	0.1400	0.1400	0.1400	0.1400	0.1400	0.1400
Deck Seam Length Factor(ft/sqft):	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700
Tank Diameter (ft):	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000
Vapor Molecular Weight (lb/lb-mole):	62.0000	62.0000	62.0000	62.0000	62.0000	62.0000	62.0000	62.0000	62.0000	62.0000	62.0000	62.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total Losses (lb):	471.6538	504.6915	589.3840	689.2208	808.0643	913.6657	970.2120	917.4761	796.8805	671.4033	572.6457	493.2555

Roof Fitting/Status	Quantity	Roof Fitting Loss Factors KFa(lb-mole/yr)	KFb(lb-mole/(yr mph^n))	m	Losses(lb)
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1	6.20	1.20	0.94	52.8081
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1	1.60	0.00	0.00	13.6279
Automatic Gauge Float Well/Bolted Cover, Gasketed	1	2.80	0.00	0.00	23.8488
Column Well (24-in. Diam.)/Pipe Col.-Sliding Cover, Gask.	7	25.00	0.00	0.00	1,490.5504
Roof Leg or Hanger Well/Adjustable	41	7.90	0.00	0.00	2,758.7958
Sample Pipe or Well (24-in. Diam.)/Slotted Pipe-Sliding Cover, Gask.	1	43.00	0.00	0.00	366.2495
Ladder Well (36-in. Diam.)/Sliding Cover, Gasketed	1	56.00	0.00	0.00	476.9761

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: January, February, March, April, May, June, July, August, September, October, November, December

Tank 1 Gasoline - Internal Floating Roof Tank
Newington, New Hampshire

	Losses(lbs)				
Components	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	Total Emissions
Gasoline (RVP 13)	306.13	3.60	5,174.46	2,914.36	8,398.55

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Tank 2 Gasoline
City:	Newington
State:	New Hampshire
Company:	Sprague
Type of Tank:	Internal Floating Roof Tank
Description:	Sprague Avery lane

Tank Dimensions

Diameter (ft):		120.00
Volume (gallons):		3,722,533.00
Turnovers:		2.20
Self Supp. Roof? (y/n):	Y	
No. of Columns:		0.00
Eff. Col. Diam. (ft):		0.00

Paint Characteristics

Internal Shell Condition:	Light Rust
Shell Color/Shade:	Aluminum/Diffuse
Shell Condition	Good
Roof Color/Shade:	Aluminum/Diffuse
Roof Condition:	Good

Rim-Seal System

Primary Seal:	Liquid-mounted
Secondary Seal	Rim-mounted

Deck Characteristics

Deck Fitting Category:	Detail	
Deck Type:	Bolted	
Construction:	Sheet	
Deck Seam:	Sheet: 6 Ft Wide	
Deck Seam Len. (ft):		1,922.65

Deck Fitting/Status	Quantity
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1
Automatic Gauge Float Well/Bolted Cover, Gasketed	1
Column Well (24-in. Diam.)/Pipe Col.-Sliding Cover, Gask.	7
Roof Leg or Hanger Well/Adjustable	41
Sample Pipe or Well (24-in. Diam.)/Slotted Pipe-Sliding Cover, Gask.	1
Ladder Well (36-in. Diam.)/Sliding Cover, Gasketed	1

Meterological Data used in Emissions Calculations: Concord, New Hampshire (Avg Atmospheric Pressure = 14.54 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Tank 2 Gasoline - Internal Floating Roof Tank
Newington, New Hampshire

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Gasoline (RVP 13)	Jan	37.74	31.17	44.31	47.66	4.4994	N/A	N/A	62.0000			92.00	Option 4: RVP=13, ASTM Slope=3
Gasoline (RVP 13)	Feb	40.49	32.65	48.33	47.66	4.7576	N/A	N/A	62.0000			92.00	Option 4: RVP=13, ASTM Slope=3
Gasoline (RVP 13)	Mar	46.79	37.90	55.68	47.66	5.3937	N/A	N/A	62.0000			92.00	Option 4: RVP=13, ASTM Slope=3
Gasoline (RVP 12)	Apr	53.11	42.35	63.67	47.66	5.5689	N/A	N/A	64.0000			92.00	Option 4: RVP=12, ASTM Slope=3
Gasoline (RVP 12)	May	59.39	46.97	71.81	47.66	6.2808	N/A	N/A	64.0000			92.00	Option 4: RVP=12, ASTM Slope=3
Gasoline (RVP 12)	Jun	64.10	51.30	76.89	47.66	6.8614	N/A	N/A	64.0000			92.00	Option 4: RVP=12, ASTM Slope=3
Gasoline (RVP 12)	Jul	66.35	53.62	79.09	47.66	7.1544	N/A	N/A	64.0000			92.00	Option 4: RVP=12, ASTM Slope=3
Gasoline (RVP 12)	Aug	64.25	52.67	75.84	47.66	6.8815	N/A	N/A	64.0000			92.00	Option 4: RVP=12, ASTM Slope=3
Gasoline (RVP 12)	Sep	58.64	48.67	69.02	47.66	6.2166	N/A	N/A	64.0000			92.00	Option 4: RVP=12, ASTM Slope=3
Gasoline (RVP 12)	Oct	52.09	43.57	60.61	47.66	5.4597	N/A	N/A	64.0000			92.00	Option 4: RVP=12, ASTM Slope=3
Gasoline (RVP 12)	Nov	45.70	39.68	51.73	47.66	4.8131	N/A	N/A	64.0000			92.00	Option 4: RVP=12, ASTM Slope=3
Gasoline (RVP 12)	Dec	39.65	34.07	45.22	47.66	4.2583	N/A	N/A	64.0000			92.00	Option 4: RVP=12, ASTM Slope=3

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

Tank 2 Gasoline - Internal Floating Roof Tank
Newington, New Hampshire

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Rim Seal Losses (lb):	17.1635	18.3633	21.4530	23.0598	26.9593	30.3786	32.1957	30.5014	26.5953	22.4877	19.2263	16.5877
Seal Factor A (lb-mole/ft-yr):	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000
Seal Factor B (lb-mole/ft-yr (mph)^n):	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000
Value of Vapor Pressure Function:	0.0923	0.0987	0.1153	0.1201	0.1404	0.1582	0.1677	0.1569	0.1385	0.1171	0.1001	0.0864
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	4.4994	4.7576	5.3937	5.5689	6.2808	6.8614	7.1544	6.8815	6.2166	5.4597	4.8131	4.2583
Tank Diameter (ft):	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000
Vapor Molecular Weight (lb/lb-mole):	62.0000	62.0000	62.0000	64.0000	64.0000	64.0000	64.0000	64.0000	64.0000	64.0000	64.0000	64.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Withdrawal Losses (lb):	3.8064	4.5180	2.6425	1.8803	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Number of Columns:	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Effective Column Diameter (ft):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Net Throughput (gal/mo.):	2,421,896.0000	2,874,648.0000	1,681,323.0000	1,196,389.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Shell Clingage Factor (bbl/1000 sqft):	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015
Average Organic Liquid Density (lb/gal):	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000
Tank Diameter (ft):	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000
Deck Fitting Losses (lb):	290.1114	310.3914	362.6149	389.7749	455.8875	513.4827	544.1964	515.5576	449.5346	380.1048	324.9771	280.3787
Value of Vapor Pressure Function:	0.0923	0.0987	0.1153	0.1201	0.1404	0.1582	0.1677	0.1569	0.1385	0.1171	0.1001	0.0864
Vapor Molecular Weight (lb/lb-mole):	62.0000	62.0000	62.0000	64.0000	64.0000	64.0000	64.0000	64.0000	64.0000	64.0000	64.0000	64.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Tot. Roof Fitting Loss Fact.(lb-mole/yr):	608.5000	608.5000	608.5000	608.5000	608.5000	608.5000	608.5000	608.5000	608.5000	608.5000	608.5000	608.5000
Deck Seam Losses (lb):	163.3966	174.8187	204.2320	219.5291	256.6524	289.2038	306.5024	290.3724	253.1869	214.0827	183.0337	157.9150
Deck Seam Length (ft):	1,922.6500	1,922.6500	1,922.6500	1,922.6500	1,922.6500	1,922.6500	1,922.6500	1,922.6500	1,922.6500	1,922.6500	1,922.6500	1,922.6500
Deck Seam Loss per Unit Length Factor (lb-mole/ft-yr):	0.1400	0.1400	0.1400	0.1400	0.1400	0.1400	0.1400	0.1400	0.1400	0.1400	0.1400	0.1400
Deck Seam Length Factor(ft/sqft):	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700
Tank Diameter (ft):	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000	120.0000
Vapor Molecular Weight (lb/lb-mole):	62.0000	62.0000	62.0000	64.0000	64.0000	64.0000	64.0000	64.0000	64.0000	64.0000	64.0000	64.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total Losses (lb):	474.4780	508.0914	590.9423	634.2441	739.2992	833.0651	882.8944	836.4314	729.3189	616.6752	527.2370	454.8814

Roof Fitting/Status	Quantity	Roof Fitting Loss Factors KFa(lb-mole/yr)	KFb(lb-mole/(yr mph^n))	m	Losses(lb)
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1	6.20	1.20	0.94	49.1457
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1	1.60	0.00	0.00	12.6828
Automatic Gauge Float Well/Bolted Cover, Gasketed	1	2.80	0.00	0.00	22.1948
Column Well (24-in. Diam.)/Pipe Col.-Sliding Cover, Gask.	7	25.00	0.00	0.00	1,387.1779
Roof Leg or Hanger Well/Adjustable	41	7.90	0.00	0.00	2,567.4882
Sample Pipe or Well (24-in. Diam.)/Slotted Pipe-Sliding Cover, Gask.	1	43.00	0.00	0.00	340.8494
Ladder Well (36-in. Diam.)/Sliding Cover, Gasketed	1	56.00	0.00	0.00	443.8969

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: January, February, March, April, May, June, July, August, September, October, November, December

Tank 2 Gasoline - Internal Floating Roof Tank
Newington, New Hampshire

	Losses(lbs)				
Components	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	Total Emissions
Gasoline (RVP 13)	56.98	10.97	963.12	542.45	1,573.51
Gasoline (RVP 12)	227.99	1.88	3,853.69	2,170.48	6,254.04

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Tank 5 Gasoline
City:	Newington
State:	New Hampshire
Company:	Sprague
Type of Tank:	Internal Floating Roof Tank
Description:	Sprague Avery Lane

Tank Dimensions

Diameter (ft):		150.00
Volume (gallons):		6,080,843.00
Turnovers:		3.71
Self Supp. Roof? (y/n):	Y	
No. of Columns:		0.00
Eff. Col. Diam. (ft):		0.00

Paint Characteristics

Internal Shell Condition:	Light Rust
Shell Color/Shade:	Aluminum/Diffuse
Shell Condition	Good
Roof Color/Shade:	Aluminum/Diffuse
Roof Condition:	Good

Rim-Seal System

Primary Seal:	Liquid-mounted
Secondary Seal	Rim-mounted

Deck Characteristics

Deck Fitting Category:	Detail	
Deck Type:	Bolted	
Construction:	Sheet	
Deck Seam:	Sheet: 6 Ft Wide	
Deck Seam Len. (ft):		3,004.15

Deck Fitting/Status	Quantity
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1
Automatic Gauge Float Well/Bolted Cover, Gasketed	1
Column Well (24-in. Diam.)/Pipe Col.-Sliding Cover, Gask.	7
Roof Leg or Hanger Well/Adjustable	41
Sample Pipe or Well (24-in. Diam.)/Slotted Pipe-Sliding Cover, Gask.	1
Ladder Well (36-in. Diam.)/Sliding Cover, Gasketed	1

Meterological Data used in Emissions Calculations: Concord, New Hampshire (Avg Atmospheric Pressure = 14.54 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Tank 5 Gasoline - Internal Floating Roof Tank
Newington, New Hampshire

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Gasoline (RVP 13)	Jan	37.74	31.17	44.31	47.66	4.4994	N/A	N/A	62.0000			92.00	Option 4: RVP=13, ASTM Slope=3
Gasoline (RVP 13)	Feb	40.49	32.65	48.33	47.66	4.7576	N/A	N/A	62.0000			92.00	Option 4: RVP=13, ASTM Slope=3
Gasoline (RVP 13)	Mar	46.79	37.90	55.68	47.66	5.3937	N/A	N/A	62.0000			92.00	Option 4: RVP=13, ASTM Slope=3
Gasoline (RVP 12)	Apr	53.11	42.35	63.87	47.66	5.5689	N/A	N/A	64.0000			92.00	Option 4: RVP=12, ASTM Slope=3
Gasoline (RVP 12)	May	59.39	46.97	71.81	47.66	6.2808	N/A	N/A	64.0000			92.00	Option 4: RVP=12, ASTM Slope=3
Gasoline (RVP 12)	Jun	64.10	51.30	76.89	47.66	6.8614	N/A	N/A	64.0000			92.00	Option 4: RVP=12, ASTM Slope=3
Gasoline (RVP 12)	Jul	66.35	53.62	79.09	47.66	7.1544	N/A	N/A	64.0000			92.00	Option 4: RVP=12, ASTM Slope=3
Gasoline (RVP 12)	Aug	64.25	52.67	75.84	47.66	6.8815	N/A	N/A	64.0000			92.00	Option 4: RVP=12, ASTM Slope=3
Gasoline (RVP 12)	Sep	58.84	48.67	69.02	47.66	6.2166	N/A	N/A	64.0000			92.00	Option 4: RVP=12, ASTM Slope=3
Gasoline (RVP 12)	Oct	52.09	43.57	60.61	47.66	5.4597	N/A	N/A	64.0000			92.00	Option 4: RVP=12, ASTM Slope=3
Gasoline (RVP 12)	Nov	45.70	39.68	51.73	47.66	4.8131	N/A	N/A	64.0000			92.00	Option 4: RVP=12, ASTM Slope=3
Gasoline (RVP 12)	Dec	39.65	34.07	45.22	47.66	4.2583	N/A	N/A	64.0000			92.00	Option 4: RVP=12, ASTM Slope=3

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

Tank 5 Gasoline - Internal Floating Roof Tank
Newington, New Hampshire

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Rim Seal Losses (lb):	21.4544	22.9542	26.8162	28.8248	33.8992	37.9732	40.2446	38.1267	33.2441	28.1096	24.0328	20.7347
Seal Factor A (lb-mole/ft-yr):	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000
Seal Factor B (lb-mole/ft-yr (mph)^n):	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000
Value of Vapor Pressure Function:	0.0923	0.0987	0.1153	0.1201	0.1404	0.1582	0.1677	0.1589	0.1385	0.1171	0.1001	0.0864
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	4.4994	4.7576	5.3937	5.5689	6.2808	6.8614	7.1544	6.8815	6.2166	5.4597	4.8131	4.2583
Tank Diameter (ft):	150.0000	150.0000	150.0000	150.0000	150.0000	150.0000	150.0000	150.0000	150.0000	150.0000	150.0000	150.0000
Vapor Molecular Weight (lb/lb-mole):	62.0000	62.0000	62.0000	64.0000	64.0000	64.0000	64.0000	64.0000	64.0000	64.0000	64.0000	64.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Withdrawal Losses (lb):	7.8324	7.6787	8.6124	4.2481	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Number of Columns:	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Effective Column Diameter (ft):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Net Throughput (gal/mo.):	6,229,388.0000	6,107,109.0000	6,849,721.0000	3,378,645.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Shell Clingage Factor (bbl/1000 sqft):	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015
Average Organic Liquid Density (lb/gal):	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000
Tank Diameter (ft):	150.0000	150.0000	150.0000	150.0000	150.0000	150.0000	150.0000	150.0000	150.0000	150.0000	150.0000	150.0000
Deck Fitting Losses (lb):	290.1114	310.3914	362.6149	389.7749	455.6875	513.4827	544.1964	515.5576	449.5346	380.1046	324.9771	280.3787
Value of Vapor Pressure Function:	0.0923	0.0987	0.1153	0.1201	0.1404	0.1582	0.1677	0.1589	0.1385	0.1171	0.1001	0.0864
Vapor Molecular Weight (lb/lb-mole):	62.0000	62.0000	62.0000	64.0000	64.0000	64.0000	64.0000	64.0000	64.0000	64.0000	64.0000	64.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Tot. Roof Fitting Loss Fact.(lb-mole/yr):	608.5000	608.5000	608.5000	608.5000	608.5000	608.5000	608.5000	608.5000	608.5000	608.5000	608.5000	608.5000
Deck Seam Losses (lb):	255.3076	273.1546	319.1130	343.0147	401.0200	451.8817	478.9107	453.7076	395.6052	334.5047	285.9905	246.7425
Deck Seam Length (ft):	3,004.1454	3,004.1454	3,004.1454	3,004.1454	3,004.1454	3,004.1454	3,004.1454	3,004.1454	3,004.1454	3,004.1454	3,004.1454	3,004.1454
Deck Seam Loss per Unit Length Factor (lb-mole/ft-yr):	0.1400	0.1400	0.1400	0.1400	0.1400	0.1400	0.1400	0.1400	0.1400	0.1400	0.1400	0.1400
Deck Seam Length Factor(ft/sqft):	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700	0.1700
Tank Diameter (ft):	150.0000	150.0000	150.0000	150.0000	150.0000	150.0000	150.0000	150.0000	150.0000	150.0000	150.0000	150.0000
Vapor Molecular Weight (lb/lb-mole):	62.0000	62.0000	62.0000	64.0000	64.0000	64.0000	64.0000	64.0000	64.0000	64.0000	64.0000	64.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total Losses (lb):	574.7059	614.1789	717.1565	765.8625	890.4067	1,003.3376	1,063.3517	1,007.3919	878.3840	742.7192	635.0005	547.8559

Roof Fitting/Status	Quantity	Roof Fitting Loss Factors KFa(lb-mole/yr)	KFb(lb-mole/(yr mph^n))	m	Losses(lb)
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1	6.20	1.20	0.94	49.1457
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1	1.60	0.00	0.00	12.6828
Automatic Gauge Float Well/Bolted Cover, Gasketed	1	2.80	0.00	0.00	22.1948
Column Well (24-in. Diam.)/Pipe Col.-Sliding Cover, Gask.	7	25.00	0.00	0.00	1,387.1779
Roof Leg or Hanger Well/Adjustable	41	7.90	0.00	0.00	2,567.4682
Sample Pipe or Well (24-in. Diam.)/Slotted Pipe-Sliding Cover, Gask.	1	43.00	0.00	0.00	340.8494
Ladder Well (36-in. Diam.)/Sliding Cover, Gasketed	1	56.00	0.00	0.00	443.8969

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: January, February, March, April, May, June, July, August, September, October, November, December

Tank 5 Gasoline - Internal Floating Roof Tank
Newington, New Hampshire

	Losses(lbs)				
Components	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	Total Emissions
Gasoline (RVP 12)	284.99	4.25	3,853.69	3,391.38	7,534.31
Gasoline (RVP 13)	71.22	24.12	963.12	847.58	1,906.04

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Tank 11 Aviation Gasoline
City:	Newington
State:	New Hampshire
Company:	Sprague
Type of Tank:	Internal Floating Roof Tank
Description:	Sprague Avery Lane

Tank Dimensions

Diameter (ft):	54.00
Volume (gallons):	616,818.00
Turnovers:	2.64
Self Supp. Roof? (y/n):	Y
No. of Columns:	0.00
Eff. Col. Diam. (ft):	0.00

Paint Characteristics

Internal Shell Condition:	Gunite Lining
Shell Color/Shade:	White/White
Shell Condition	Good
Roof Color/Shade:	White/White
Roof Condition:	Good

Rim-Seal System

Primary Seal:	Mechanical Shoe
Secondary Seal	Rim-mounted

Deck Characteristics

Deck Fitting Category:	Detail
Deck Type:	Bolted
Construction:	Sheet
Deck Seam:	Sheet: 5 Ft Wide
Deck Seam Len. (ft):	458.04

Deck Fitting/Status	Quantity
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1
Automatic Gauge Float Well/Bolted Cover, Gasketed	1
Column Well (24-in. Diam.)/Pipe Col.-Sliding Cover, Gask.	7
Roof Leg or Hanger Well/Adjustable	41
Sample Pipe or Well (24-in. Diam.)/Slotted Pipe-Sliding Cover, Gask.	1
Ladder Well (36-in. Diam.)/Sliding Cover, Gasketed	1

Meterological Data used in Emissions Calculations: Concord, New Hampshire (Avg Atmospheric Pressure = 14.54 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Tank 11 Aviation Gasoline - Internal Floating Roof Tank
Newington, New Hampshire

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Gasoline (RVP 6)	Jan	34.24	29.49	38.99	45.08	1.6704	N/A	N/A	69.0000			92.00	Option 4: RVP=6, ASTM Slope=3
Gasoline (RVP 6)	Feb	36.00	30.86	41.13	45.08	1.7391	N/A	N/A	69.0000			92.00	Option 4: RVP=6, ASTM Slope=3
Gasoline (RVP 6)	Mar	41.17	35.98	46.36	45.08	1.9551	N/A	N/A	69.0000			92.00	Option 4: RVP=6, ASTM Slope=3
Gasoline (RVP 6)	Apr	46.57	40.33	52.82	45.08	2.2034	N/A	N/A	69.0000			92.00	Option 4: RVP=6, ASTM Slope=3
Gasoline (RVP 6)	May	51.90	44.83	58.97	45.08	2.4731	N/A	N/A	69.0000			92.00	Option 4: RVP=6, ASTM Slope=3
Gasoline (RVP 6)	Jun	56.10	49.11	63.09	45.08	2.7045	N/A	N/A	69.0000			92.00	Option 4: RVP=6, ASTM Slope=3
Gasoline (RVP 6)	Jul	58.38	51.43	65.33	45.08	2.8372	N/A	N/A	69.0000			92.00	Option 4: RVP=6, ASTM Slope=3
Gasoline (RVP 6)	Aug	57.09	50.57	63.61	45.08	2.7616	N/A	N/A	69.0000			92.00	Option 4: RVP=6, ASTM Slope=3
Gasoline (RVP 6)	Sep	52.90	46.71	59.08	45.08	2.5265	N/A	N/A	69.0000			92.00	Option 4: RVP=6, ASTM Slope=3
Gasoline (RVP 6)	Oct	47.51	41.77	53.26	45.08	2.2493	N/A	N/A	69.0000			92.00	Option 4: RVP=6, ASTM Slope=3
Gasoline (RVP 6)	Nov	42.31	38.02	46.61	45.08	2.0056	N/A	N/A	69.0000			92.00	Option 4: RVP=6, ASTM Slope=3
Gasoline (RVP 6)	Dec	36.58	32.45	40.71	45.08	1.7623	N/A	N/A	69.0000			92.00	Option 4: RVP=6, ASTM Slope=3

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

Tank 11 Aviation Gasoline - Internal Floating Roof Tank
Newington, New Hampshire

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Rim Seal Losses (lb):	5.6807	5.9296	6.7210	7.6477	8.6747	9.5743	10.0978	9.7985	8.8807	7.8208	6.9079	6.0141
Seal Factor A (lb-mole/ft-yr):	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000
Seal Factor B (lb-mole/ft-yr (mph)^n):	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000
Value of Vapor Pressure Function:	0.0305	0.0318	0.0361	0.0411	0.0466	0.0514	0.0542	0.0526	0.0477	0.0420	0.0371	0.0323
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	1.6704	1.7391	1.9551	2.2034	2.4731	2.7045	2.8372	2.7616	2.5265	2.2493	2.0056	1.7623
Tank Diameter (ft):	54.0000	54.0000	54.0000	54.0000	54.0000	54.0000	54.0000	54.0000	54.0000	54.0000	54.0000	54.0000
Vapor Molecular Weight (lb/lb-mole):	69.0000	69.0000	69.0000	69.0000	69.0000	69.0000	69.0000	69.0000	69.0000	69.0000	69.0000	69.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Withdrawal Losses (lb):	16.0802	12.1120	10.8937	16.3673	78.4653	47.1849	64.5798	85.2469	49.7911	63.3927	73.4258	52.1706
Number of Columns:	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Effective Column Diameter (ft):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Net Throughput (gal/mo.):	46,041.0000	34,679.0000	31,191.0000	46,863.0000	224,662.0000	135,100.0000	184,905.0000	244,079.0000	142,562.0000	181,506.0000	210,233.0000	149,375.0000
Shell Clingage Factor (bbl/1000 sqft):	0.1500	0.1500	0.1500	0.1500	0.1500	0.1500	0.1500	0.1500	0.1500	0.1500	0.1500	0.1500
Average Organic Liquid Density (lb/gal):	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000
Tank Diameter (ft):	54.0000	54.0000	54.0000	54.0000	54.0000	54.0000	54.0000	54.0000	54.0000	54.0000	54.0000	54.0000
Deck Fitting Losses (lb):	106.6861	111.3638	126.2256	143.6295	162.9184	179.8128	189.6445	184.0251	166.7875	146.8783	129.7370	112.9500
Value of Vapor Pressure Function:	0.0305	0.0318	0.0361	0.0411	0.0466	0.0514	0.0542	0.0526	0.0477	0.0420	0.0371	0.0323
Vapor Molecular Weight (lb/lb-mole):	69.0000	69.0000	69.0000	69.0000	69.0000	69.0000	69.0000	69.0000	69.0000	69.0000	69.0000	69.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Tot. Roof Fitting Loss Fact.(lb-mole/yr):	608.5000	608.5000	608.5000	608.5000	608.5000	608.5000	608.5000	608.5000	608.5000	608.5000	608.5000	608.5000
Deck Seam Losses (lb):	14.3152	14.9426	16.9367	19.2719	21.8601	24.1269	25.4461	24.6921	22.3792	19.7078	17.4078	15.1554
Deck Seam Length (ft):	458.0400	458.0400	458.0400	458.0400	458.0400	458.0400	458.0400	458.0400	458.0400	458.0400	458.0400	458.0400
Deck Seam Loss per Unit Length Factor (lb-mole/ft-yr):	0.1400	0.1400	0.1400	0.1400	0.1400	0.1400	0.1400	0.1400	0.1400	0.1400	0.1400	0.1400
Deck Seam Length Factor(ft/sqft):	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000
Tank Diameter (ft):	54.0000	54.0000	54.0000	54.0000	54.0000	54.0000	54.0000	54.0000	54.0000	54.0000	54.0000	54.0000
Vapor Molecular Weight (lb/lb-mole):	69.0000	69.0000	69.0000	69.0000	69.0000	69.0000	69.0000	69.0000	69.0000	69.0000	69.0000	69.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total Losses (lb):	142.7643	144.3479	160.7770	186.9164	271.9185	260.6989	289.7681	303.7627	247.8386	237.7994	227.4786	186.2901

Roof Fitting/Status	Quantity	Roof Fitting Loss Factors KFa(lb-mole/yr)	KFb(lb-mole/(yr mph^n))	m	Losses(lb)
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1	6.20	1.20	0.94	17.9638
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1	1.60	0.00	0.00	4.6368
Automatic Gauge Float Well/Bolted Cover, Gasketed	1	2.80	0.00	0.00	8.1127
Column Well (24-in. Diam.)/Pipe Col.-Sliding Cover, Gask.	7	25.00	0.00	0.00	507.0429
Roof Leg or Hanger Well/Adjustable	41	7.90	0.00	0.00	938.4639
Sample Pipe or Well (24-in. Diam.)/Slotted Pipe-Sliding Cover, Gask.	1	43.00	0.00	0.00	124.5877
Ladder Well (36-in. Diam.)/Sliding Cover, Gasketed	1	56.00	0.00	0.00	162.2537

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: January, February, March, April, May, June, July, August, September, October, November, December

Tank 11 Aviation Gasoline - Internal Floating Roof Tank
Newington, New Hampshire

	Losses(lbs)				
Components	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	Total Emissions
Gasoline (RVP 6)	93.75	569.71	1,760.66	236.24	2,660.36