Trenton Agri Products LLC

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ENVIRONMENTAL PROTECTION
AGENCY-REGION VII
REGIONAL HEARING CLERK

August 2, 2006

Attn: Mr. William A. Spratlin
U.S. Environmental Protection Agency
901 North 5th St.
Kansas City, KS 66101

Subject: July 6, 2006 Complaint, EPA Docket No. CAA-07-2006-0222

Dear Mr. Spratlin:

This letter constitutes Trenton Agri Products LLC, (TAP) response to EPA's Administrative Complaint and Notice of Opportunity for Hearing, EPA Docket No. CAA-07-2006-0222 and explanation of the factual allegations that TAP wishes EPA to consider in settling this Complaint.

TAP would like to first request an informal conference in an effort to settle this Complaint at a date and time that is mutually acceptable to EPA and TAP. If the outcome of the requested informal settlement conference is unacceptable to TAP, this letter shall constitute TAP's request for a Hearing at a date and time that is mutually acceptable to both parties, as offered in your letter.

As required by paragraph 27 of the Complaint, and in order to preserve TAP's right to a Hearing, the following is offered in response to material facts surrounding the Complaint:

Under the Complaint and paragraphs 10, 11 and 12, TAP's position is that NSPS Subpart Kb allows the determination of the monthly maximum True Vapor Pressure (TVP) for applicability as obtained from "standard reference texts." TAP maintains that EPA's Tanks 4.0 software, which contains maximum monthly True Vapor Pressures of various organic liquids and petroleum products, qualifies as a "standard reference text." The EPA Tanks 4.0 Users Manual (see attached excerpts) lists the standard reference texts upon which the Tanks 4.0 equations are based, to include Lang's Handbook of Chemistry and the CRC Handbook of Chemistry. The sources of meteorological data in Tanks 4.0 include the National Climatic Center, National Oceanic and Atmospheric Administration, and National Renewable Energy Laboratory. The equations in Tanks 4.0 are actually API's copyrighted equations. The database utilities within Tanks 4.0 calculate vapor pressures at any ambient temperature conditions. In summary, the Tanks 4.0 software is the EPA's tool for tank emission calculations, and it is in common use by all industry in the United States, not only for TVP determinations, but for emission inventories and emission compliance documentation. Using Tanks 4.0, the 190 and 200 proof tanks do not have a TVP of 0.75 psia (5.2 kPa) but a maximum monthly TVP of 0.718 psia (see attached Tanks 4.0 printouts), therefore TAP's 190 and 200 proof tanks are only required to have a single wiper seal. It is important to note that without the TANKS 4.0 program no other convenient means of estimating emissions and determining regulatory applicability for storage tanks would be available throughout all industry. TAP does not believe this interpretation is the intent of NSPS Subpart Kb. However, to be proactive in controlling tank emissions, TAP elected to install double wipers on all tanks, including the 190 and 200 proof tanks for which TAP believes a sound basis exists to exclude those tanks from requiring double wiper seals and from this Complaint. TAP fully agrees that the denatured ethanol storage tanks and the denaturant tank exceed 0.75 psia TVP and are therefore should have double vapor mounted seals.

Under paragraph 25, TAP believes the proposed penalty is excessive. When it was realized the internal floating roof seals were single seals, immediate notification was provided to EPA and action was taken to schedule the replacement of the seals (including, although in our opinion not required, the 190 and 200 proof tanks). It is important to note, that the installation of single wiper seals during construction by a subcontractor to TAP's general contractor, ICM, was not a knowing or willful action on TAP's part. The tanks were contracted to be constructed in compliance with NSPS Subpart Kb requirements per the NDEQ air permit, and until the tank manufacturer was contacted to provide as built drawings of the floating roof seal configuration, TAP had no knowledge that the internal floating roofs were constructed with single wiper seals.

MAIN OFFICE
P.O. Box 20380
Wichita, Kansas 67208
PHONE: (316) 265-3311

2020 N. Bramblewood
Wichita, Kansas 67206
FAX: (316) 265-7372

PLANT
P.O. Box 218
Trenton, Nebraska 69044
PHONE: (308) 334-5100

36638 US Highway 34
Trenton, Nebraska 69044
FAX: (308) 334-5101

As far as potential economic benefit is concerned, the resulting VOC emissions were a loss of product, e.g., denaturant, ethanol and denatured ethanol. As part of settling this matter, TAP requests the EPA take into account the total cost (labor and materials) of $50,260 incurred to retrofit all 5 tanks with double wiper seals, and that up to $200,000 revenue was as a result of the down time associated with taking the tanks out of service for the retrofitting. Due to the TVP determinations using Tanks 4.0 (the most common standard reference used in the United States for tank TVP) TAP requests that proposed penalties for the 190 and 200 proof tanks which were retrofitted with double vapor mounted wiper seals be removed from the penalty proposal. TAP firmly believes that the intent of NSPS Subpart Kb is to allow "standard reference texts" for TVP determinations and contrary to the Region's May 6, 2005 letter to Bill Roddy, EPA must allow for the use of Tanks 4.0 TVPs for applicability because Tanks 4.0 is based on "standard reference texts."

Lastly, TAP fully agrees that the initial installation of single wiper seals resulted in a minor loss of VOCs, and we sincerely regret any possible negative impact on air quality that may have occurred.

I certify under penalty of law that I have personally examined the information submitted herein and that I have made a diligent inquiry of those individuals immediately responsible for obtaining the information and that to the best of my knowledge and belief, the information submitted herewith is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Attached find EPA's May 6, 2005 letter to Bill Roddy (ICM Manager of Environmental Affairs), April 8, 2005 Tanks 4.0 calculations (with maximum monthly TVP results) and excerpts from EPA's Tanks 4.0 Users Manual as the basis of our request for an informal conference and Hearing (if needed).

Respectfully submitted,

Charles B. Wilson
President
Trenton Agri Products LLC

cc: Ralph Scott, TAP
Bill Roddy, ICM
✓Jennifer Trotter, EPA
Todd Ellis, NDEQ/Lincoln

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VII
901 NORTH 5TH STREET
KANSAS CITY, KANSAS 66101

06 MAY 2005

Mr. Bill Roddy
Company ICM
310 N. First Street
Colwich, Kansas 67030

Dear Mr. Roddy:

RE: Request by Trenton Agri Products, Trenton, Nebraska for an Alternative Method of defining "maximum true vapor pressure" in accordance with National Standards of Performance for Stationary Sources (NSPS) 40 C.F.R. 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.

The U.S. Environmental Protection Agency (EPA) is responding to your request to use the Tanks 4.0 Software to determine applicability of Subpart Kb at Trenton Agri Products in Trenton, Nebraska. Based on the information provided by you and discussions with EPA Headquarters, the use of Tanks 4.0 Software to determine applicability of an ethanol tank to the requirements of 40 C.F.R. Part 60 Subpart Kb, Section 60.110b is disapproved.

The Trenton Agri Products facility has tanks which were permitted by the Nebraska Department of Environmental Quality (NDEQ) as subject to the Subpart Kb requirements. The facility has the following five tanks:

Tank T61 - 500,000 gallon capacity for denatured ethanol
Tank T62 - 500,000 gallon capacity for denatured ethanol
Tank T63 - 100,000 gallon capacity for 200-proof ethanol
Tank T64 - 100,000 gallon capacity for denaturant (natural gasoline)
Tank T65 - 100,000 gallon capacity for 190-proof ethanol

Section 60.111b defines "Maximum true vapor pressure" as, in part, "the equilibrium partial pressure exerted by the stored VOL at the temperature equal to the highest calendar-month average of the Volatile Organic Liquid (VOL) storage temperature for VOL's stored above or below the ambient temperature or at the local maximum monthly average temperature, as reported by the National Weather Service for VOL's stored at ambient temperatures."

Section 60.112b(a) applies Kb requirements to "each storage vessel either with a design capacity greater than or equal to 151 m^3 containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 5.2 kPa, but less than 76.6 kPa or with a design capacity greater than or equal to 75 m^3 containing a VOL that, as stored, has a maximum true vapor pressure equal to or greater than 27.6 kPa, but less than 76.6 kPa."

The VOLs stored at Trenton Agri Products are stored at ambient temperatures. Therefore, the vapor pressures should be calculated using the local maximum monthly average temperature as reported by the National Weather Service. The average monthly temperature for July, reported by the National Weather Service for Trenton, Nebraska, (using data reported for North Platte, Nebraska) is 74.3 degrees Fahrenheit.

With a maximum average monthly temperature of 74.3 degrees Fahrenheit in North Platte, Nebraska, Region 7 calculated the vapor pressures of the ethanol stored utilizing the methods described in the American Petroleum Institute Bulletin 2517 and by calculating vapor pressure using the Antoine Equation. As an example, using these methods, the vapor pressures of both 200 proof and 190 proof ethanol tanks exceeded 5.2 kPa with a vapor pressure of 7.2 kPa for 200 proof tank and about 6.7 Kpa for 190 proof tank. Therefore, all the tanks at Trenton Agri Products are subject to the control requirements in Subpart Kb.

When calculating emissions using Tanks 4.0 Software, a value of 62 degrees Fahrenheit is displayed for the daily liquid surface temperature, during the month of July, for VOLs stored in tanks in North Platte, Nebraska. While the Tanks 4.0 Software is a valuable tool in determining emissions, it is not the correct tool in determining applicability to Subpart Kb.

Thank you for your cooperation during EPA's review. If you have questions regarding this letter, please contact Angela Catalano of my staff at (913) 551-7411.

Sincerely yours,

for JoAnn M. Hieman
Chief
Air Permits & Compliance Branch

cc: Ralph Scott, Trenton Agri Products
Todd Ellis, Nebraska Department of Environmental Quality

USER'S GUIDE
to
TANKS

Storage Tank Emissions Calculation Software
Version 4.0

September 30, 1999

Emission Factor and Inventory Group
Emissions, Monitoring, and Analysis Division
Office of Air Quality Planning and Standards
U.S. Environmental Protection Agency

Tank. The tank database contains information on the construction type, dimensions, and ambient conditions relating to each tank.

6.1 Edit Chemical Database

Use this option to review the physical properties of chemicals that appear in the chemical database or add a new chemical to the database. Through this option, you may view, edit, or delete data on user-defined chemicals. Data on chemicals provided with TANKS 4.0 may only be viewed or printed; it may not be edited. If errors are found in the original data, EPA will identify them in announcements on the CHIEF bulletin board and provide instructions for correcting your system data.

The sources of the chemical data used in TANKS 4.0 include the following:

1. Compilation of Air Pollutant Emission Factors, AP-42, Section 7.1: Organic Liquid Storage Tanks, U.S. Environmental Protection Agency, Research Triangle Park, NC, September 1997.

2. Henry C. Barnett, et al., Properties of Aircraft Fuels, NACA-TN 3276, Lewis Flight Propulsion Laboratory, Cleveland, OH, August 1956.

3. Manual of Petroleum Measurement Standards, Chapter 19, Section I - Evaporative Loss from Fixed Roof Tanks, API Publication 2518, Second Edition, American Petroleum Institute, Washington, DC, 1991.

4. Dean, John A., ed., Lange's Handbook of Chemistry, Fourteenth edition. McGraw-Hill, 1992.

5. Weast, Robert C., Ph.D, ed., CRC Handbook of Chemistry and Physics, CRC Press, Inc., Boca Raton, FL, 1998.

To add, edit, or delete information in the chemical database, select the **Data\Chemical\Edit Database** menu option. The Edit Chemical Database screen will appear (see Figure 6-1).

6.1.1 Add Chemical Data

To add new chemical data, click the "Add New" button from the Chemical Information Screen. Enter data in the fields on this screen. The chemical name, category, liquid molecular weight, vapor molecular weight, liquid density, and one of the four Vapor Pressure Information options must be filled in. Incomplete records will not be added to the chemical database. Delete incomplete records if you do wish to save them.

Chemical Name. Enter the name of the chemical in this field. The name may be up to 30 characters long and consist of letters, numbers, symbols and spaces in any combination. You may not have duplicate chemical names.

CAS Number. Enter the CAS number for the chemical. This is an optional field.

Category. There are three chemical categories: crude oils, petroleum distillates, and organic liquids.

Crude oils are unrefined petroleum stocks. Petroleum distillates include refined petroleum stocks, jet fuels, gasoline, and distillate fuels. Organic liquids include all other organic compounds.

6.1.3 Delete Chemical Data

To delete one or more chemicals navigate to the record using the pull down menus on the chemical name or CAS number fields and click "Delete." **Note: You cannot delete chemical data included with the program; only user-added chemicals may be modified or deleted.**

6.2 Edit Meteorological Database

The meteorological database contains weather data such as temperatures, wind speed, and solar insolation factors for a specific city or location. Through this option, you may view, edit, or delete data on user-defined locations. Meteorological data provided with TANKS 4.0 may only be viewed or printed; it may not be edited. If errors are found in the original data, EPA will identify them in announcements on the CHIEF bulletin board and provide instructions for correcting your system data.

The sources of the meteorological data used in TANKS 4.0 include the following:

1. Monthly and Annual North American Comparative Climatic Data, National Climatic Data Center, Asheville, NC, 1996

2. National Climatic Data Center Diskette Documentation, National Oceanic and Atmospheric Administration, Asheville, NC, December 1991.

3. National Solar Radiation Database, National Renewable Energy Laboratory, Golden, CO, 1990.

The meteorological database contains several cities where some data were unavailable. Any missing data for those cities was filled in using data from nearby locations. Appendix C contains a list of these cities and the data elements that have been filled in with alternative data.

Select **DATA\Meteorological\Edit Database** option from the main menu to add, edit, or delete meteorological data (see Figure 6-2).

6.2.1 Add Meteorological Data

To add new meteorological data, click the "Add New" button from the Edit Meteorological Data Screen. Enter data in every field on this screen; incomplete records will not be added to the meteorological database. Delete incomplete records if you do want to save them.

City. Enter the name of the city or site in this field. The name may be up to 50 characters long and consist of letters, numbers, symbols, and spaces in any combination.

State. Enter the name of the state where the city or site is located in this field. The state name may be up to 20 characters long and consist of letters, numbers, symbols, and spaces in any combination.

Annual Average Ambient Temperature. Enter the annual average ambient temperature in degrees Fahrenheit (°F) for this site in this field.

Atmospheric Pressure. Enter the annual average atmospheric pressure in pounds per square inch absolute (psia). The default setting is 14.7 psia.

TANKS 4.0
Emissions Report - Detail Format
Tank Identification and Physical Characteristics

Identification

User Identification:	Trenton 200 proof @ 190 proof
City:	Trenton
State:	Nebraska
Company:	Trenton Energy Partners
Type of Tank:	Internal Floating Roof Tank
Description:	Trenton Tank T-63

Tank Dimensions

Diameter (ft):	25.00
Volume (gallons):	100,000.00
Turnovers:	427.50
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:	White/White
Shell Condition:	Good
Roof Color/Shade:	White/White
Roof Condition:	Good

Rim-Seal System

Primary Seal:	Vapor-mounted
Secondary Seal:	None

Deck Characteristics

Deck Fitting Category:	Typical
Deck Type:	Bolted
Construction:	Sheet
Deck Seam:	Sheet: 5 Ft Wide
Deck Seam Len. (ft):	98.17

Deck Fitting/Status	Quantity
Access Hatch (24-in. Diam.)/Unbolted Cover, Ungasketed	1
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1
Roof Leg or Hanger Well/Adjustable	9
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1
Stub Drain (1-in. Diameter)/	5
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1

TANKS 4.0
Emissions Report - Detail Format
Tank Identification and Physical Characteristics

Meteorological Data used in Emissions Calculations: North Platte, Nebraska (Avg Atmospheric Pressure = 13.3 psia)

TANKS 4.0
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Mixture/Component	Month	Daily Liquid Surf. Temperatures (deg F) Avg.	Min.	Max.	Liquid Bulk Temp. (deg F)	Vapor Pressures (psia) Avg.	Min.	Max.	Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Ethyl alcohol	Jan	37.36	31.84	42.88	48.05	0.2904	N/A	N/A	46.0700			46.07	Option 2: A=8.321, B=1718.21, C=237.52
Ethyl alcohol	Feb	40.35	34.41	46.29	48.05	0.3251	N/A	N/A	46.0700			46.07	Option 2: A=8.321, B=1718.21, C=237.52
Ethyl alcohol	Mar	44.71	38.30	51.12	48.05	0.3822	N/A	N/A	46.0700			46.07	Option 2: A=8.321, B=1718.21, C=237.52
Ethyl alcohol	Apr	50.38	43.22	57.54	48.05	0.4695	N/A	N/A	46.0700			46.07	Option 2: A=8.321, B=1718.21, C=237.52
Ethyl alcohol	May	55.08	47.91	62.24	48.05	0.5545	N/A	N/A	46.0700			46.07	Option 2: A=8.321, B=1718.21, C=237.52
Ethyl alcohol	Jun	59.70	52.15	67.25	48.05	0.6510	N/A	N/A	46.0700			46.07	Option 2: A=8.321, B=1718.21, C=237.52
Ethyl alcohol	Jul	62.35	54.79	69.92	48.05	0.7128	N/A	N/A	46.0700			46.07	Option 2: A=8.321, B=1718.21, C=237.52
Ethyl alcohol	Aug	61.04	53.68	68.41	48.05	0.6817	N/A	N/A	46.0700			46.07	Option 2: A=8.321, B=1718.21, C=237.52
Ethyl alcohol	Sep	55.95	48.68	63.23	48.05	0.5718	N/A	N/A	46.0700			46.07	Option 2: A=8.321, B=1718.21, C=237.52
Ethyl alcohol	Oct	50.25	43.11	57.40	48.05	0.4673	N/A	N/A	46.0700			46.07	Option 2: A=8.321, B=1718.21, C=237.52
Ethyl alcohol	Nov	43.49	37.52	49.47	48.05	0.3655	N/A	N/A	46.0700			46.07	Option 2: A=8.321, B=1718.21, C=237.52
Ethyl alcohol	Dec	38.38	32.97	43.79	48.05	0.3019	N/A	N/A	46.0700			46.07	Option 2: A=8.321, B=1718.21, C=237.52

Highest Calendar month average temp

Vapor pressure @ highest month avg. temps.

Requirement: Double wires if Max VP ≥ 0.75 psia

TANKS 4.0

Emissions Report - Detail Format
Detail Calculations (AP-42)

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Rim Seal Losses (lb):	3.5502	3.9797	4.6891	5.7787	6.8476	8.0695	8.8572	8.4606	7.0658	5.7521	4.4804	3.6918
Seal Factor A (lb-mole/ft-yr):	6.7000	6.7000	6.7000	6.7000	6.7000	6.7000	6.7000	6.7000	6.7000	6.7000	6.7000	6.7000
Seal Factor B (lb-mole/ft-yr (mph)^n):	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000
Value of Vapor Pressure Function:	0.0055	0.0062	0.0073	0.0090	0.0106	0.0125	0.0138	0.0132	0.0110	0.0089	0.0070	0.0057
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.2904	0.3251	0.3822	0.4695	0.5545	0.6510	0.7128	0.6817	0.5718	0.4673	0.3655	0.3019
Tank Diameter (ft):	25.0000	25.0000	25.0000	25.0000	25.0000	25.0000	25.0000	25.0000	25.0000	25.0000	25.0000	25.0000
Vapor Molecular Weight (lb/lb-mole):	46.0700	46.0700	46.0700	46.0700	46.0700	46.0700	46.0700	46.0700	46.0700	46.0700	46.0700	46.0700
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):	31.7227	31.7227	31.7227	31.7227	31.7227	31.7227	31.7227	31.7227	31.7227	31.7227	31.7227	31.7227
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.):	3,562,500.000	3,562,500.000	3,562,500.000	3,562,500.000	3,562,500.000	3,562,500.000	3,562,500.000	3,562,500.000	3,562,500.000	3,562,500.000	3,562,500.000	3,562,500.000
	0	0	0	0	0	0	0	0	0	0	0	0
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):	6.6100	6.6100	6.6100	6.6100	6.6100	6.6100	6.6100	6.6100	6.6100	6.6100	6.6100	6.6100
Tank Diameter (ft):	25.0000	25.0000	25.0000	25.0000	25.0000	25.0000	25.0000	25.0000	25.0000	25.0000	25.0000	25.0000
Deck Fitting Losses (lb):	3.0796	3.4523	4.0676	5.0128	5.9400	7.0000	7.6833	7.3392	6.1293	4.9697	3.8866	3.2025
Value of Vapor Pressure Function:	0.0055	0.0062	0.0073	0.0090	0.0106	0.0125	0.0138	0.0132	0.0110	0.0089	0.0070	0.0057
Vapor Molecular Weight (lb/lb-mole):	46.0700	46.0700	46.0700	46.0700	46.0700	46.0700	46.0700	46.0700	46.0700	46.0700	46.0700	46.0700
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):	145.3000	145.3000	145.3000	145.3000	145.3000	145.3000	145.3000	145.3000	145.3000	145.3000	145.3000	145.3000
Deck Seam Losses (lb):	0.3709	0.4158	0.4899	0.6037	0.7154	0.8430	0.9253	0.8839	0.7382	0.6009	0.4681	0.3857
Deck Seam Length (ft):	98.1700	98.1700	98.1700	98.1700	98.1700	98.1700	98.1700	98.1700	98.1700	98.1700	98.1700	98.1700
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):	25.0000	25.0000	25.0000	25.0000	25.0000	25.0000	25.0000	25.0000	25.0000	25.0000	25.0000	25.0000
Vapor Molecular Weight (lb/lb-mole):	46.0700	46.0700	46.0700	46.0700	46.0700	46.0700	46.0700	46.0700	46.0700	46.0700	46.0700	46.0700
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

Deck Fitting/Status	Quantity	Deck Fitting Loss Factors KFa (lb-mole/yr)	KFb (lb-mole/(yr mph^n))	m	Losses (lb.)
Access Hatch (24-in. Diam.)/Unbolted Cover, Ungasketed	1	36.00	5.90	1.20	15.3373
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1	14.00	5.40	1.10	5.9645
Roof Leg or Hanger Well/Adjustable	9	7.90	0.00	0.00	30.2912
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1	12.00	0.00	0.00	5.1124
Stub Drain (1-in. Diameter)/	5	1.20	0.00	0.00	2.5562
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1	6.20	1.20	0.94	2.6414

Total Losses (lb):	38.7234	39.5704	40.9693	43.1179	45.2257	47.6353	49.1884	48.4064	45.6560	43.0654	40.5577	39.0026

TANKS 4.0
Emissions Report - Detail Format
Tank Identification and Physical Characteristics

Identification

User Identification:	Trenton Denatured Etoh
City:	Trenton
State:	Nebraska
Company:	Trenton Energy Partners
Type of Tank:	Internal Floating Roof Tank
Description:	Trenton Tank T-61

Tank Dimensions

Diameter (ft):	50.00
Volume (gallons):	750,000.00
Turnovers:	60.00
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:	White/White
Shell Condition:	Good
Roof Color/Shade:	White/White
Roof Condition:	Good

Rim-Seal System

Primary Seal:	Vapor-mounted
Secondary Seal:	None

Deck Characteristics

Deck Fitting Category:	Typical
Deck Type:	Bolted
Construction:	Sheet
Deck Seam:	Sheet: 5 Ft Wide
Deck Seam Len. (ft):	392.70

Deck Fitting/Status	Quantity
Access Hatch (24-in. Diam.)/Unbolted Cover, Ungasketed	1
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1
Roof Leg or Hanger Well/Adjustable	15
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1
Stub Drain (1-in. Diameter)/	20
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1

TANKS 4.0
Emissions Report - Detail Format
Tank Identification and Physical Characteristics

Meteorological Data used in Emissions Calculations: North Platte, Nebraska (Avg Atmospheric Pressure = 13.3 psia)

TANKS 4.0
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Mixture/Component	Month	Daily Liquid Surf. Temperatures (deg F) Avg.	Min.	Max.	Liquid Bulk Temp. (deg F)	Vapor Pressures (psia) Avg.	Min.	Max.	Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Gasoline (RVP 10)	Jan	37.36	31.84	42.88	48.05	0.3671	N/A	N/A	50.6383			47.25	Option 4: RVP=10, ASTM Slope=3
Ethyl alcohol						0.2904	N/A	N/A	46.0700	0.9500	0.7012	46.07	Option 2: A=8.321, B=1718.21, C=237.52
Gasoline (RVP 10)						3.2768	N/A	N/A	66.0000	0.0500	0.2988	92.00	Option 4: RVP=10, ASTM Slope=3
Gasoline (RVP 10)	Feb	40.35	34.41	46.29	48.05	0.4084	N/A	N/A	50.4651			47.25	Option 4: RVP=10, ASTM Slope=3
Ethyl alcohol						0.3251	N/A	N/A	46.0700	0.9500	0.7116	46.07	Option 2: A=8.321, B=1718.21, C=237.52
Gasoline (RVP 10)						3.4900	N/A	N/A	66.0000	0.0500	0.2884	92.00	Option 4: RVP=10, ASTM Slope=3
Gasoline (RVP 10)	Mar	44.71	38.30	51.12	48.05	0.4705	N/A	N/A	50.2258			47.25	Option 4: RVP=10, ASTM Slope=3
Ethyl alcohol						0.3822	N/A	N/A	46.0700	0.9500	0.7260	46.07	Option 2: A=8.321, B=1718.21, C=237.52
Gasoline (RVP 10)						3.8208	N/A	N/A	66.0000	0.0500	0.2740	92.00	Option 4: RVP=10, ASTM Slope=3
Gasoline (RVP 10)	Apr	50.38	43.22	57.54	48.05	0.5675	N/A	N/A	49.9369			47.25	Option 4: RVP=10, ASTM Slope=3
Ethyl alcohol						0.4695	N/A	N/A	46.0700	0.9500	0.7436	46.07	Option 2: A=8.321, B=1718.21, C=237.52
Gasoline (RVP 10)						4.2881	N/A	N/A	66.0000	0.0500	0.2564	92.00	Option 4: RVP=10, ASTM Slope=3
Gasoline (RVP 10)	May	55.08	47.91	62.24	48.05	0.6612	N/A	N/A	49.7152			47.25	Option 4: RVP=10, ASTM Slope=3
Ethyl alcohol						0.5545	N/A	N/A	46.0700	0.9500	0.7572	46.07	Option 2: A=8.321, B=1718.21, C=237.52
Gasoline (RVP 10)						4.7092	N/A	N/A	66.0000	0.0500	0.2428	92.00	Option 4: RVP=10, ASTM Slope=3
Gasoline (RVP 10)	Jun	59.70	52.15	67.25	48.05	0.7666	N/A	N/A	49.5116			47.25	Option 4: RVP=10, ASTM Slope=3
Ethyl alcohol						0.6510	N/A	N/A	46.0700	0.9500	0.7698	46.07	Option 2: A=8.321, B=1718.21, C=237.52
Gasoline (RVP 10)						5.1554	N/A	N/A	66.0000	0.0500	0.2302	92.00	Option 4: RVP=10, ASTM Slope=3
Gasoline (RVP 10)	Jul	62.35	54.79	69.92	48.05	0.8338	N/A	N/A	49.4008			47.25	Option 4: RVP=10, ASTM Slope=3
Ethyl alcohol						0.7128	N/A	N/A	46.0700	0.9500	0.7767	46.07	Option 2: A=8.321, B=1718.21, C=237.52
Gasoline (RVP 10)						5.4267	N/A	N/A	66.0000	0.0500	0.2233	92.00	Option 4: RVP=10, ASTM Slope=3
Gasoline (RVP 10)	Aug	61.04	53.68	68.41	48.05	0.8001	N/A	N/A	49.4549			47.25	Option 4: RVP=10, ASTM Slope=3
Ethyl alcohol						0.6817	N/A	N/A	46.0700	0.9500	0.7733	46.07	Option 2: A=8.321, B=1718.21, C=237.52
Gasoline (RVP 10)						5.2916	N/A	N/A	66.0000	0.0500	0.2267	92.00	Option 4: RVP=10, ASTM Slope=3
Gasoline (RVP 10)	Sep	55.95	48.68	63.23	48.05	0.6801	N/A	N/A	49.6755			47.25	Option 4: RVP=10, ASTM Slope=3
Ethyl alcohol						0.5718	N/A	N/A	46.0700	0.9500	0.7596	46.07	Option 2: A=8.321, B=1718.21, C=237.52
Gasoline (RVP 10)						4.7914	N/A	N/A	66.0000	0.0500	0.2404	92.00	Option 4: RVP=10, ASTM Slope=3
Gasoline (RVP 10)	Oct	50.25	43.11	57.40	48.05	0.5652	N/A	N/A	49.9431			47.25	Option 4: RVP=10, ASTM Slope=3
Ethyl alcohol						0.4673	N/A	N/A	46.0700	0.9500	0.7432	46.07	Option 2: A=8.321, B=1718.21, C=237.52
Gasoline (RVP 10)						4.2771	N/A	N/A	66.0000	0.0500	0.2568	92.00	Option 4: RVP=10, ASTM Slope=3
Gasoline (RVP 10)	Nov	43.49	37.52	49.47	48.05	0.4517	N/A	N/A	50.2911			47.25	Option 4: RVP=10, ASTM Slope=3
Ethyl alcohol						0.3655	N/A	N/A	46.0700	0.9500	0.7220	46.07	Option 2: A=8.321, B=1718.21, C=237.52
Gasoline (RVP 10)						3.7260	N/A	N/A	66.0000	0.0500	0.2780	92.00	Option 4: RVP=10, ASTM Slope=3
Gasoline (RVP 10)	Dec	38.38	32.97	43.79	48.05	0.3801	N/A	N/A	50.5784			47.25	Option 4: RVP=10, ASTM Slope=3
Ethyl alcohol						0.3019	N/A	N/A	46.0700	0.9500	0.7048	46.07	Option 2: A=8.321, B=1718.21, C=237.52
Gasoline (RVP 10)						3.3483	N/A	N/A	66.0000	0.0500	0.2952	92.00	Option 4: RVP=10, ASTM Slope=3

TANKS 4.0
Emissions Report - Detail Format
Detail Calculations (AP-42)

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Rim Seal Losses (lb):	9.8943	10.9323	12.6290	15.2018	17.6957	20.5194	22.3269	21.4179	18.2020	15.1393	12.1318	10.2375
Seal Factor A (lb-mole/ft-yr):	6.7000	6.7000	6.7000	6.7000	6.7000	6.7000	6.7000	6.7000	6.7000	6.7000	6.7000	6.7000
Seal Factor B (lb-mole/ft-yr (mph)^n):	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000	0.2000
Value of Vapor Pressure Function:	0.0070	0.0078	0.0090	0.0109	0.0128	0.0148	0.0162	0.0155	0.0131	0.0109	0.0086	0.0073
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	0.3671	0.4064	0.4705	0.5675	0.6612	0.7666	0.8338	0.8001	0.6801	0.5652	0.4517	0.3801
Tank Diameter (ft):	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000
Vapor Molecular Weight (lb/lb-mole):	50.6383	50.4651	50.2258	49.9369	49.7152	49.5116	49.4008	49.4549	49.6755	49.9431	50.2911	50.5784
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):	16.5469	16.5469	16.5469	16.5469	16.5469	16.5469	16.5469	16.5469	16.5469	16.5469	16.5469	16.5469
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.):	3,750,000.000	3,750,000.000	3,750,000.000	3,750,000.000	3,750,000.000	3,750,000.000	3,750,000.000	3,750,000.000	3,750,000.000	3,750,000.000	3,750,000.000	3,750,000.000
	0	0	0	0	0	0	0	0	0	0	0	0
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):	6.5509	6.5509	6.5509	6.5509	6.5509	6.5509	6.5509	6.5509	6.5509	6.5509	6.5509	6.5509
Tank Diameter (ft):	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000
Deck Fitting Losses (lb):	6.2231	6.8759	7.9430	9.5612	11.1298	12.9058	14.0426	13.4709	11.4482	9.5219	7.6303	6.4389
Value of Vapor Pressure Function:	0.0070	0.0078	0.0090	0.0109	0.0128	0.0148	0.0162	0.0155	0.0131	0.0109	0.0086	0.0073
Vapor Molecular Weight (lb/lb-mole):	50.6383	50.4651	50.2258	49.9369	49.7152	49.5116	49.4008	49.4549	49.6755	49.9431	50.2911	50.5784
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):	210.7000	210.7000	210.7000	210.7000	210.7000	210.7000	210.7000	210.7000	210.7000	210.7000	210.7000	210.7000
Deck Seam Losses (lb):	2.0675	2.2844	2.6389	3.1765	3.6976	4.2877	4.6653	4.4754	3.8034	3.1634	2.5350	2.1392
Deck Seam Length (ft):	392.7000	392.7000	392.7000	392.7000	392.7000	392.7000	392.7000	392.7000	392.7000	392.7000	392.7000	392.7000
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):	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000
Vapor Molecular Weight (lb/lb-mole):	50.6383	50.4651	50.2258	49.9369	49.7152	49.5116	49.4008	49.4549	49.6755	49.9431	50.2911	50.5784
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

Deck Fitting/Status	Quantity	Deck Fitting Loss Factors KFa (lb-mole/yr)	KFb (lb-mole/(yr mph^n))	m	Losses (lb.)
Access Hatch (24-in. Diam.)/Unbolted Cover, Ungasketed	1	36.00	5.90	1.20	20.0581
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1	14.00	5.40	1.10	7.8004
Roof Leg or Hanger Well/Adjustable	15	7.90	0.00	0.00	66.0245
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1	12.00	0.00	0.00	6.6860
Stub Drain (1-in. Diameter)/	20	1.20	0.00	0.00	13.3720
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1	6.20	1.20	0.94	3.4544

Total Losses (lb):	34.7319	36.6396	39.7578	44.4864	49.0701	54.2598	57.5818	55.9112	50.0006	44.3716	38.8441	35.3625