San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

FEB 16 2012

Brooks Neighbors
Tesoro Logistics Operations LLC
19110 Ridgewood Parkway
San Antonio, TX 78259

Re: Notice of Preliminary Decision - Authorities to Construct
Project Number: N-1112963

Dear Mr. Neighbors:

Enclosed for your review and comment is the District's analysis of Tesoro Logistics Operations LLC's application for Authorities to Construct to modify the existing loading rack, replace the existing vapor recovery system (VRS), reroute the vapors path of tank #420 from the existing VRS to the new VRS, and install a new organic liquid storage tank, at 3003 Navy Drive, Stockton.

The notice of preliminary decision for this project will be published approximately three days from the date of this letter. Please submit your written comments on this project within the 30-day public comment period which begins on the date of publication of the public notice.

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please contact Mr. Wai-Man So of Permit Services at (209) 557-6449.

Sincerely,

David Warner
Director of Permit Services

DW:WMS/st

Enclosures

CC: Melissa Hillman
Trinity Consultants
1990 North California Blvd
8th Floor
Walnut Creek, CA 94596

Seyed Sadredin
Executive Director/Air Pollution Control Officer

Northern Region
4800 Enterprise Way
Modesto, CA 95356-8718
Tel: (209) 557-6400 FAX: (209) 557-6475

Central Region (Main Office)
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
Tel: (559) 230-6000 FAX: (559) 230-6061

Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: 661-392-5500 FAX: 661-392-5585

www.valleyair.org www.healthyairliving.com

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

FEB 16 2012

Mike Tollstrup, Chief
Project Assessment Branch
Stationary Source Division
California Air Resources Board
PO Box 2815
Sacramento, CA 95812-2815

Re: Notice of Preliminary Decision - Authorities to Construct
Project Number: N-1112963

Dear Mr. Tollstrup:

Enclosed for your review and comment is the District's analysis of Tesoro Logistics Operations LLC's application for Authorities to Construct to modify the existing loading rack, replace the existing vapor recovery system (VRS), reroute the vapors path of tank #420 from the existing VRS to the new VRS, and install a new organic liquid storage tank, at 3003 Navy Drive, Stockton.

The notice of preliminary decision for this project will be published approximately three days from the date of this letter. Please submit your written comments on this project within the 30-day public comment period which begins on the date of publication of the public notice.

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please contact Mr. Wai-Man So of Permit Services at (209) 557-6449.

Sincerely,

David Warner
Director of Permit Services

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AIR POLLUTION CONTROL DISTRICT

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FEB 16 2012

Gerardo C. Rios (AIR 3)
Chief, Permits Office
Air Division
U.S. E.P.A. - Region IX
75 Hawthorne Street
San Francisco, CA 94105

Re: Notice of Preliminary Decision - Authorities to Construct
Project Number: N-1112963

Dear Mr. Rios:

Enclosed for your review and comment is the District's analysis of Tesoro Logistics Operations LLC's application for Authorities to Construct to modify the existing loading rack, replace the existing vapor recovery system (VRS), reroute the vapors path of tank #420 from the existing VRS to the new VRS, and install a new organic liquid storage tank, at 3003 Navy Drive, Stockton.

The notice of preliminary decision for this project will be published approximately three days from the date of this letter. Please submit your written comments on this project within the 30-day public comment period which begins on the date of publication of the public notice.

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please contact Mr. Wai-Man So of Permit Services at (209) 557-6449.

Sincerely,

David Warner
Director of Permit Services

DW:WMS/st

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Stockton Record

NOTICE OF PRELIMINARY DECISION
FOR THE PROPOSED ISSUANCE OF
AUTHORITY TO CONSTRUCT

NOTICE IS HEREBY GIVEN that the San Joaquin Valley Unified Air Pollution Control District solicits public comment on the proposed issuance of Authorities to Construct to Tesoro Logistics Operations LLC to modify the existing loading rack, replace the existing vapor recovery system (VRS), reroute the vapors path of tank #420 from the existing VRS to the new VRS, and install a new organic liquid storage tank, at 3003 Navy Drive, Stockton.

The analysis of the regulatory basis for this proposed action, Project #N-1112963, is available for public inspection at http://www.valleyair.org/notices/public_notices_idx.htm and the District office at the address below. Written comments on this project must be submitted within 30 days of the publication date of this notice to **DAVID WARNER, DIRECTOR OF PERMIT SERVICES, SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT, 4800 ENTERPRISE WAY, MODESTO, CA 95356.**

San Joaquin Valley Air Pollution Control District
Authority to Construct

Modification the Bulk Gasoline Terminal

Facility Name:	Tesoro Logistics Operations LLC	2nd Revised Date:	February 14, 2012
Mailing Address:	3003 Navy Drive	Engineer:	Wai-Man So
	Stockton, CA 95206	Lead Engineer:	Nick Peirce
Contact Person:	Brooks D. Neighbors	Melissa Hillman (Consultant)	
Telephone:	(210) 626 – 6327	(925) 930 – 3944	
Cell:	(210) 508 – 1156	(925) 932 – 7069	
Fax:	(210) 569 – 5125		
Email:	Brooks.D.Neighbors@tsocorp.com	MHillman@trinityConsultants.com	
Application #(s):	N-0845-6-3, -10-2, -22-3, and -24-0		
Project #:	N-1112963		
Deemed Complete:	September 20, 2011		

I. PROPOSAL

Tesoro Logistic Operations LLC (hereafter TLO) is requesting Authorities to Construct (ATC) to modify the existing loading rack (N-845-6), replace the existing vapor recovery system, (VRS) (N-845-22), reroute the vapors path of tank #420 (N-845-10) from the existing VRS to the new VRS, and install a new gasoline storage tank. Proposal is detailed below:

N-845-6-3 (Loading Rack):
Increase the loading capacity of this permit unit by the installation of additional loading arm assemblies. The applicant proposed to increase the daily organic liquids throughput from 450,000 gallons per day to 771,120 gallons per day, and also establish an annual organic liquids throughput limit of 240,350,000 gallons per year.

N-845-10-2 (Existing Vertical Fixed Roof Tank):
Reroute the vapors path of this tank from the existing VRS (N-845-22) to the new VRS.

N-845-22-3 (Vapor Recovery System):
Replace the existing Hydrotech carbon adsorption/absorption VRS that has VOC control efficiency of 95% with a new carbon adsorption VRS that has a minimum VOC control efficiency of 99%. Detail information of the manufacturer name and model number of the new VRS will be determined upon the implementation of the ATC.

N-845-24-0 (New Internal Floating Rood Tank):
Install a new 2,231,508 gallons aboveground internal floating roof gasoline storage tank.

II. APPLICABLE RULES

District Rule 1081	Source Sampling (12/17/92)
District Rule 1100	Equipment Breakdown (12/17/92)
District Rule 2201	New and Modified Stationary Source Review Rule (04/21/11)
District Rule 2520	Federally Mandated Operating Permits (6/21/01)
District Rule 4001	New Source Performance Standards (04/14/99): 40 CFR Part 60 Subpart Kb – Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage vessels) for Which Construction after July 23, 1984 40 CFR Part 60 Subpart XX – Standards of Performance for Bulk Gasoline Terminals
District Rule 4002	National Emission Standards for Hazardous Air Pollutants (5/20/04): 40 CFR Part 63 Subpart R – Gasoline Distribution Facilites (Bulk Gasoline Terminals and Pipeline Breakout Stations) 40 CFR Part 63 Subpart BBBBBB – Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities
District Rule 4101	Visible Emissions (2/17/05)
District Rule 4102	Nuisance (12/17/92)
District Rule 4623	Storage of Organic Liquids (05/19/05)
District Rule 4624	Transfer of Organic Liquids (12/20/07)
CH&SC 41700	Health Risk Assessment
CH&SC 42301.6	School Notice

Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387: CEQA Guidelines

III. PROJECT LOCATION

The facility is located at 3003 Navy Drive in Stockton, California. The District has verified that this facility is not located within 1,000 feet of the outer boundary of any K-12 school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

IV. PROCESS DESCRIPTION

TLO is a petroleum distribution terminal that consists of a truck loading rack with a VRS and multiple storage tanks that store gasoline, distillate fuel oil (diesel), and others organic liquid. TLO receives petroleum products, denatured ethanol, and additives via pipelines and/or tanker trucks. Products (except for denatured ethanol) will be stored in storage tanks and then be loaded into tanker trucks using the existing loading rack.

Gasoline and distillate fuel oil tanker truck loading is done by submerged fill with the displaced vapors being processed through the VRS. Specific additives are stored at the facility and blended with either gasoline or distillate fuel oil at the loading rack. Denatured ethanol is brought on-site via pipeline and is blended with gasoline at the loading rack prior to loading the tanker trucks. No denatured ethanol storage in this facility.

The operating schedule of this operation will be 24 hours per day and 365 days per year.

V. EQUIPMENT LISTING

Pre Project Equipment Description:

N-845-6-1

LOADING RACK SERVED BY CARB-CERTIFIED HYDROTECH CARBON ADSORPTION/ABSORPTION VAPOR RECOVERY SYSTEM (N-845-22)

N-845-10-0

ONE 20,000 GALLON TRANSMIX STORAGE TANK SERVED BY CARB-CERTIFIED HYDROTECH CARBON ADSORPTION/ABSORPTION VAPOR RECOVERY SYSTEM (N-845-22)

N-845-22-1

HYDROTECH CARBON ADSORPTION/ABSORPTION VAPOR RECOVERY SYSTEM

Post Project Equipment Description:

N-845-6-3

BULK LOADING RACK CONSISTING OF EIGHT GASOLINE/DENATURED ETHANOL LOADING ARMS AND EIGHT DIESEL LOADING ARMS SERVED BY A CARBON ADSORPTION VAPOR RECOVERY SYSTEM (N-845-22)

N-845-10-2

ONE 20,000 GALLON VERTICAL FIXED ROOF VOLATILE ORGANIC LIQUID STORAGE TANK (TK-420) SERVED BY A CARBON ADSORPTION VAPOR RECOVERY SYSTEM (N-845-22)

N-845-22-3

CARBON ADSORPTION VAPOR RECOVERY SYSTEM

N-845-24-0

ONE 2,321,508 GALLON ABOVEGROUND WELDED INTERNAL FLOATING ROOF GASOLINE STORAGE TANK WITH A MECHANICAL SHOE TYPE PRIMARY SEAL AND A RIM-MOUNTED SECONDARY SEAL

VI. EMISSION CONTROL TECHNOLOGY EVALUATION

Volatile Organic Compound (VOC) is emitted from the organic liquids loading, unloading, transfer and stroage. VOC emissions from the loading rack will be vented to the new VRS that has a minimum control efficiency of 99% for VOC.

VOC emissions from the existing fixed roof organic liquid storage tank will be vented to the new VRS.

The new storage tank is equipped with a mechanical shoe primary seal and a rim-mounted secondary seal to reduce VOC emissions. These seals are expected to control at least 95% of VOC emissions over the uncontrolled storage tank.

Only fugitive VOC emissions from the components, such as flanges, valves, connectors, compressor seals, and other piping components are expected.

VII. GENERAL CALCULATIONS

A. Assumptions

- VOC is the only emitted criteria pollutant associated to this project.
- The loading rack's annual throughput of 358,800,000 gallons encompasses 240,350,000 gallons organic liquids and 118,450,000 gallons of distillate fule oil #2 (diesel) (per applicant).
- The loading rack processes the following organic liquids: gasoline, denatured ethanol, and additive 121 (per applicant).
- No denatured ethanol is stroed at this facility; denatured ethanol is brought on-site via pipeline and is blended with gasoline and or additive 121 prior to loading the tanker trucks (per applicant).
- The daily organic liquids throughput of the loading rack is 771,120 gallons (per applicant).
- Only fugitive VOC emissions from the components such as flanges, valves, connectors, seals, and others piping components (per applicant).
- The daily and annual fugitives emissions from the associated components are determined using Marketing Terminal Average Emissions Factors of Table IV-1b listed in CAPCOA doucment, "*California Implementation Guidelines for Estimating Mass Emission of Fugitive Hydrocarbon leaks at Petroleum Facilities*, 1999" *(February 1999)*.
- Other assumptions will be stated as each is made.

B. Emission Factors

Pre-Project Emissions Factor (EF1)

N-845-6-1

Emissions from the loading rack will vent to the VRS (N-845-22). Therefore, a separate emission factor is not necessary.

N-845-10-0

The VOC emission from this tank was calculated using EPA's Tanks 4.0.9d software program, plus 95% VOC control efficiency of the existing VRS. Therefore, a separate emissions factor is not necessary.

N-845-22-1

VOC emission factor of 0.08 pounds VOC per 1,000 gallons of organic liquid transferred is taken from District Rule 4624, Section 5.1. Thus,

EF1 = 0.08 lb-VOC/1,000 gallon organic liquid transferred

N-845-24-0

This is a new emissions unit. Therefore, EF1 is equal to zero.

Fugitive Emissions:

Fugitive VOC emission from the valves, flanges, compressor seals etc. will be determined using Marketing Terminal Average Emissions Factors of Table IV-1b listed in CAPCOA doucment, "*California Implementation Guidelines for Estimating Mass Emission of Fugitive Hydrocarbon leaks at Petroleum Facilities*, 1999" (*February 1999)*. The total hydrocarbons (THC) emission factors reported in this Table IV-1b are assumed to be VOC calculating the fugivite VOC emissions.

Component Type	Source Type	VOC EF (kg/hr/source)	VOC EF (lb/hr/source)
Valves	Gas	1.3E-05	2.87E-05
	Light Liquid	4.3E-05	9.48E-05
Pump Seals	Gas	6.5E-05	1.43E-04
	Light Liquid	5.4E-04	1.19E-03
Others (compressors and others)	Gas	1.2E-04	2.65E-04
	Light Liquid	1.3E-04	2.87E-04
Fittings (connectors and flanges)	Gas	4.2E-05	9.26E-05
	Light Liquid	8.0E-06	1.76E-05

Post-Project Emissions Factor (EF2)

N-845-6-3

Emission from the loading rack will vent to the new VRS (N-845-22). Therefore, a separate emission factor is not necessary.

N-845-10-2

The VOC emission from this tank is calculated using EPA's Tanks 4.0.9d software program, plus 99% VOC control efficiency of the new VRS. Therefore, a separate emissions factor is not necessary.

N-845-22-3

Installation of new equipment will not change the liquid transfer emissions rate. Therefore, EF2 = EF1 = 0.08 lb-VOC/1,000 gallon organic liquid transferred.

N-845-24-0

The VOC emissions from this tank will be calculated using EPA's Tanks 4.0.9d software program. Therefore, a separate emissions factor is not necessary.

Fugitive Emissions:

Fugitive emissions factors will not be changed. Therefore, EF2 = EF1 listed above.

C. Potential to Emit (PE) Calculations

1. Daily and Annual PE

Pre-Project Potential to Emit (PE1)

N-845-6-1:

Loading Rack Emissions:

Per current permit, the daily organic liquid loaded through this loading rack is limited to 450,000 gallons per day. Emissions from this loading rack is vented to the VRS under permit unit N-845-22. Therefore, no separate emissions from the loading rack will be listed.

Fugitive Emissions:

Per applicant, this permit unit has the following components that contribute fugitive emissions: 209 valves, 3 pumps and 866 fittings (connectors and flages).

The pre-project fugitive emissions from these components are calculated using the following equation and are summarized in the following table:

Daily PE = VOC (lb/hr/source) x Component Count x 24 hr/day

Component Type	Source Type	VOC EF (lb/hr/source)	Component Count[1]	Daily PE (lb-VOC/day)
Valves	Gas	2.87E-05	--	--
	Light Liquid	9.48E-05	166	0.38
	Heavy Liquid[2]	9.48E-05	43	0.10
Pump Seals	Gas	1.43E-04	--	--
	Light Liquid	1.19E-03	1	0.03
	Heavy Liquid[2]	1.19E-03	2	0.06
Others (compressors and others)	Gas	2.65E-04	--	--
	Light Liquid	2.87E-04	--	--
Fittings (connectors and flanges)	Gas	9.26E-05	--	--
	Light Liquid	1.76E-05	757	0.32
	Heavy Liquid[2]	1.76E-05	109	0.05
Total				0.94 (0.9)

Annual PE1 = Daily PE1 x 365 day/yr
= 0.9 lb-VOC/day x 365 day/yr = 329 lb-VOC/yr

N-845-10-0:

No emissions information listed. Therefore, emissions from this tank will be determined by using EPA's TANKS 4.09d program (see detail emissions report in Appendix III of this document). From the emissions report, the highest monthly VOCs was identified, as July, and is used in estimating the uncontrolled daily emissions from this tank.

Standing Loss:
The standing loss from July is 400 pounds. Given that the standing losses occur each day, the potential daily emission is calculated to:

Standing Loss = 400 lb-VOC/month ÷ 31 day/month of July
= 12.9 lb-VOC/day

[1] The applicant proposed these values through e-mail on Feb 13, 2012. These updated values include components serving the additive equipment that were missed count in the original proposal submitted through e-mail on Sept 9, 2011.
[2] There is no emission factor listed for valves, pmups, and fittings for heavy liquid service in Table IV-1b of CAPCOA doucment, *Marketing Terminal Average Emissions Factors*. Therefore, the light liquid EF for each type of valves, pumps, and fittings will be used for the associated component type for both light liquid and heavy liquid services.

Withdrawal Loss:
The withdrawal losses occur on the days the proposed tank is loaded or unloaded. Per applicant, the annual turnover rate of this tank is 10, with 12 months a year, the monthly turnover rate is calculated to:

Monthly Turnover Rate = 10 turnovers/yr ÷ 12 month/yr
= 0.83 turnovers/month

Therefore, the withdrawal loss during the highest emission month of July is calcualted to:

Withdrawal Loss = 238.8 lb-VOC/month ÷ 0.83 turnovers/month
= 287.7 lb-VOC/turnover

Per applicant, the maximum turnover rate of this tank is 0.04 per day (800 gallon/day ÷ 19,782 gallon), the maximum withdrawal loss is calculated to:

Withdrawal Loss = 287.7 lb-VOC/turnover x 0.04 turnovers/day
= 11.5 lb-VOC/day

The daily potential emission from the storage tank is calculated to:

Daily $PE_{Uncontrolled}$ = Standing Loss + Withdrawal Loss
= 12.9 lb-VOC/day + 11.5 lb-VOC/day
= 24.4 lb-VOC/day

The uncontrolled annual potential emission from this storage tank is determined by using EPA's TANKS 4.09d program, which is 4,813 lb-VOC/yr.

This tank is currently served by the existing VRS (N-845-22), which has a minimum VOC control efficiency of 95%. Therefore, the controlled pre-project daily and annual potential emissions are calculated to:

Daily $PE1_{Controlled}$	=	24.4 lb-VOC/day x (1 – 0.95)	=	1.2 lb-VOC/day
Annual $PE1_{Controlled}$	=	4,813 lb-VOC/year x (1 – 0.95)	=	241 lb-VOC/year

N-845-22-1:

VOC Emissions from this VRS is limited to 0.08 pounds per 1,000 gallons of organic liquid loaded. The daily throughput of the loading rack is limited to 450,000 gallons per day. Assume the worst case operating scheudle of 365 days per year. The daily and annual emissions from this VRS are calculated to:

Daily PE1	= 0.08 lb-VOC/1,000 gal x 450,000 gal/day	=	36.0 lb-VOC/day
Annual PE1	= 36.0 lb-VOC/day x 365 day/year	=	13,140 lb-VOC/yr

N-845-24-0:

This is a new permit unit. Therefore, PE1 = 0.

Post-Project Potential to Emit (PE2)

N-845-6-3:

The applicant proposed to increase the daily organic liquids throughput to 771,120 gallons per day. As discussed in PE1 above, emissions from the organic liquids loading process will vent to the VRS (N-845-22). Therefore, no separate emissions from the loading rack will be listed.

However, the applicant proposed to install additional equipment, such as fittings, values, and pumps that results increase of fugivite emissions. The increase of fugitive emissions from the additional components is calculated using the following equation and are summarized in the following table:

Daily PE = VOC (lb/hr/source) x Component Count x 24 hr/day

Component Type	Source Type	VOC EF (lb/hr/source)	Component Count	Daily PE (lb-VOC/day)
Valves	Gas	2.87E-05	--	--
	Light Liquid	9.48E-05	130	0.30
	Heavy Liquid[2]	9.48E-05	78	0.18
Pump Seals	Gas	1.43E-04	--	--
	Light Liquid	1.19E-03	4	0.11
	Heavy Liquid[2]	1.19E-03	2	0.06
Others (compressors and others)	Gas	2.65E-04	--	--
	Light Liquid	2.87E-04	--	--
Fittings (connectors and flanges)	Gas	9.26E-05	--	--
	Light Liquid	1.76E-05	289	0.12
	Heavy Liquid[2]	1.76E-05	145	0.06
Total				0.83 (0.8)

Annual PE = Daily PE x 365 day/yr
= 0.8 lb-VOC/day x 365 day/yr = 292 lb-VOC/yr

The post-project potential fugitive emissions from this permit unit is calculated as follow:

PE2 = $(PE_{Existing} + PE_{New})$

Daily PE2 = (0.9 + 0.8) lb-VOC/day = 1.7 lb-VOC/day
Annual PE2 = (329 + 292) lb-VOC/year = 621 lb-VOC/year

N-845-10-2:

No change to the daily throughput of 800 gallons per day and annual turnover rate of 10 are proposed. Therefore, the uncontrolled emissions will not be changed. As calculated in PE1 above, the uncontrolled daily and annual emissions are 24.4 lb-

VOC/day and 4,813 lb-VOC/year respectively. The VOC emissions from this tank will be rerouted from the existing VRS to the new VRS that has a minimum VOC control efficiency of 99%. Therefore, PE2 is calculated to:

Daily $PE2_{Controlled}$	=	24.4 lb-VOC/day x (1 – 0.99)	=	0.2 lb-VOC/day
Annual $PE2_{Controlled}$	=	4,813 lb-VOC/year x (1 – 0.99)	=	48 lb-VOC/year

N-845-22-3:

The applicant proposed to increase the daily organic liquids throughput of the loading rack to 771,120 gallons per day, and establish an annual organic liquids throughput limit of 240,350,000 gallons per year. The daily and annual emissions from this VRS are calculated to:

Daily PE2	= 0.08 lb-VOC/1,000 gal x 771,120 gal/day	=	61.7 lb-VOC/day
Annual PE2	= 0.08 lb-VOC/1,000 gal x 240,350,000 gal/yr	=	19,228 lb-VOC/yr

N-845-24-0:

This new tank will be used to store only gasoline. Emissions from this tank will be determined by using EPA's TANKS 4.09d program (see detail emissions report in Appendix IV of this document). From the emissions report, the highest monthly VOCs emission was identified, as March, and is used in estimating the daily emissions from this tank.

Standing Loss:
The standing loss includes the losses from the rim seal, deck fitting, and deck seam, which totaled as follow:

Standing Loss = Rim Seal Loss + Deck Fitting Loss + Deck Seam Loss
= 44 lb/month + 257.3 lb/month + 0 lb/month
= 301.3 lb/month

Given that the standing losses occur each day, the potential daily emission is calculated to:

Standing Loss = 301.3 lb-VOC/month ÷ 31 day/month of March
= 9.7 lb-VOC/day

Withdrawal Loss:
The withdrawal losses occur on the days the proposed tank is loaded or unloaded. Per applicant, the annual turnover rate of this tank is 93.13, with 12 months a year, the monthly turnover rate is calculated to:

Monthly Turnover Rate = 93.13 turnovers/yr ÷ 12 month/yr
= 7.76 turnovers/month

Therefore, the withdrawal loss during the highest emission month of March is calculated to:

Withdrawal Loss = 41 lb-VOC/month ÷ 7.76 turnovers/month
= 5.3 lb-VOC/turnover

Per applicant, the maximum turnover rate of this new tank is 0.33 per day, the maximum withdrawal loss is calculated to:

Withdrawal Loss = 5.3 lb-VOC/turnover x 0.33 turnovers/day
= 1.7 lb-VOC/day

The daily potential emission from the storage tank is calculated to:

Daily PE2 = Standing Loss + Withdrawal Loss
= 9.7 lb-VOC/day + 1.7 lb-VOC/day
= 11.4 lb-VOC/day

The annual potential emission from this storage tank is determined by using EPA's TANKS 4.09d program, which is 3,135 lb-VOC/yr.

Fugitive Emissions:

Fugitive emissions from the components are calculated using the following equation and are summarized in the following table:

Daily PE = VOC (lb/hr/source) x Component Count x 24 hr/day

Component Type	Source Type	VOC EF (lb/hr/source)	Component Count	Daily PE (lb-VOC/day)
Valves	Gas	2.87E-05	--	--
	Light Liquid	9.48E-05	14	0.03
Pump Seals	Gas	1.43E-04	--	--
	Light Liquid	1.19E-03	--	--
Others (compressors and others)	Gas	2.65E-04	--	--
	Light Liquid	2.87E-04	--	--
Fittings (connectors and flanges)	Gas	9.26E-05	--	--
	Light Liquid	1.76E-05	30	0.01
Total				0.04 (0.0)

Annual PE2 = Daily PE x 365 day/yr
= 0.04 lb-VOC/day x 365 day/yr
= 15 lb-VOC/year

The total daily and annual emissions from this permit unit are summarized in the following table:

Pollutant	Potential to Emit (PE2)					
	Tank		Component		Total	
	Daily (lb/day)	Annual (lb/yr)	Daily (lb/day)	Annual (lb/yr)	Daily (lb/day)	Annual (lb/yr)
VOC	11.4	3,135	0.0	15	**11.4**	**3,150**

2. Quarterly Net Emissions Change

The Quarterly Net Emissions Changes (QNEC) is calculated for each pollutant, for each unit, as the difference between the quarterly PE2 and the quarterly baseline emissions (BE). The annual emissions are evenly distributed throughout each quarter using the following equation:

QNEC (lb/quarter) = [Annual PE2 – Annual PE1] (lb/year) / 4 (quarter/year)

VOC is the only pollutant emitted from this project, and the QEC for these units are listed in the following table:

Permit Unit	Quarterly Net Emission Changes (QNEC)			
	1st Quarter (lb-VOC /quarter)	2nd Quarter (lb-VOC /quarter)	3rd Quarter (lb-VOC /quarter)	4th Quarter (lb-VOC /quarter)
N-845-6-3	73	73	73	73
N-845-10-2	-48	-48	-48	-49
N-845-22-3	1,522	1,522	1,522	1,522
N-845-24-0	787	787	788	788

3. Adjusted Increase in Permitted Emissions (AIPE)

AIPE is used to determine if Best Available Control Technology (BACT) is required for emission units that are being modified. Per Sections 4.3 and 4.4 of this Rule, AIPE is calculated as follow:

AIPE = PE2 – HAPE

Where,
AIPE = Adjusted Increase in Permitted Emissions, lb/day
PE2 = the emissions units post project Potential to Emit, lb/day
HAPE = the emissions unit's Historically Adjusted Potential to Emit, lb/day

HAPE = PE1 x (EF2/EF1)

Where,
PE1 = the emissions unit's Potential to Emit prior to modification or relocation
EF2 = the emissions unit's permitted emission factor for the pollutant after modification or relocation. If EF2 is greater than EF1 then EF2/EF1 shall be set to 1.
EF1 = the emissions unit's permitted emission factor for the pollutant before the modification or relocation.

Then, AIPE = PE2 – [PE1 x (EF2/EF1)]

N-845-6-3 & N-845-22-3:

Loading Rack:
As discussed in section VII.B of this document, emissions from the loading rack will vent to the VRS under permit unit N-845-22.

VRS:
$AIPE_{VOC}$ = 61.7 – [36.0[3] x (1)] = 25.7 lb-VOC/day

Fugitive Emissions:
As shown in section VII.C.1 of this document, PE2 fugitive emissions is less than 2.0 lb/day. Therefore, AIPE will not exceed 2.0 lb-VOC/day.

N-845-10-2:
$AIPE_{VOC}$ = 0.2 – [1.2 x (1)] = -1.0 lb-VOC/day

N-845-24-0:
This is a new emissions unit. Therefore, AIPE calculations are not required.

D. Facility Emissions

1. Pre-Project Stationary Source Potential to Emit (SSPE1)

Pursuant to District Rule 2201, § 4.9, the Pre-Project Stationary Source Potential to Emit (SSPE1) is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of Emission Reduction Credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site.

See detail SSPE1 calculations in Appendix III of this document.

Permit Number	Pollutants (lb/yr)
	VOC
N-845-1-2	1,621
N-845-4-1	4,477
N-845-5-2	2,761
N-845-6-1	329
N-845-10-0	241
N-845-22-1	13,140
N-845-23-0	182
SSPE1	22,751
Major Source Threshold Level	20,000
Major Source?	Yes

[3] Daily PE1 = 0.08 lb-VOC/1,000 gal x 450,000 gal/day = 36.0 lb-VOC/day.

2. Post-Project Stationary Source Potential to Emit (SSPE2)

Pursuant to District Rule 2201, § 4.10, the Post-Project Stationary Source Potential to Emit (SSPE2) is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of Emission Reduction Credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site.

Permit Number	Pollutants (lb/yr)
	VOC
N-845-1-2	1,621
N-845-4-1	4,477
N-845-5-2	2,761
ATCN-845-6-3	*621*
ATCN-845-10-2	*48*
ATC N-845-22-3	*19,228*
N-845-23-0	182
ATC N-845-24-0	3,150
SSPE2	32,088
Major Source Threshold Level	20,000
Major Source?	Yes
Offset Threshold Level	20,000
Offset Triggered?	Yes

3. Stationary Source Increase in Permitted Emissions (SSIPE)

SSIPE calculations are used to determine if the project triggers public notice pursuant to District Rule 2201, § 5.4.5. If SSIPE results greater than 20,000 lb/yr for any one pollutant then project requires public notification. At this time, it is District Practice to define the SSIPE as the difference of SSPE2 to SSPE1, and calculated by the following equation:

SSIPE (lb/yr) = SSPE2 (lb/yr) – SSPE1 (lb/yr)

	Pollutants (lb/yr)
	VOC
SSPE2	32,088
SSPE1	22,751
SSIPE	9,337

As shown above, SSIPE is less than 20,000 pounds per year for VOC. Therefore, public notification and publication requirements for this purpose are not required.

4. Major Source Determination

Pursuant to District Rule 2201, § 3.24, a major source is a stationary source a Post-Project Stationary Source Potential to Emit (SSPE2), equal to or exceeding one or more of the Major Source threshold values (excluding ERCs banked on-site that have not been used on-site).

As shown in sections VII.D.1 & VII.D.2 of this document, the facility is an existing Major Source of VOC and no change to the Major Source status as a result of this project.

5. Baseline Emissions (BE)

The BE calculation (in lb/year) is performed on a pollutant-by-pollutant basis to determine the amount of offsets required, where necessary, when the SSPE1 is greater than the offset threshold. Pursuant to section 3.8, baseline emissions shall be equal to the sum of:

BE = Pre-Project Potential to Emit for:
- Any unit located at a non-Major Source,
- Any Highly-Utilized Emissions Unit, located at a Major Source,
- Any Fully-Offset Emissions Unit, located at a Major Source, or
- Any Clean Emissions Unit, Located at a Major Source.

Otherwise,
BE = Historic Actual Emissions (HAE), calculated pursuant to section 3.23.

As shown in section VII.D.1 of this document, SSPE1 of VOC exceeds the offset threshold. Therefore, BE calculations will be required for this project. Each existing emissions unit is determined as either a Clean Emissions Unit or a Highly Utilized Emissions Unit. Therefore, BE is equal to SSPE1 of 22,751 lb-VOC/year. See detail BE discussion in the Appendix VI of this document.

6. SB 288 Major Modification

SB 288 Major Modification calculation is to determine the following:

a. Pursuant to District Rule 2201, section 4.1.3, if Best Available Control Technology (BACT) is triggered for a new or modified emission unit that results in a Major Modification; and

b. Pursuant to District Rule 2201, section 5.4.1, if a public notification is triggered.

As shown in section VII.D.2 of this document, the facility is an existing Major Source of VOC. In order to determine whether a SB 288 Major Modification can be triggered, the post-project potential VOC emission is compared to the SB 288 Major Modification Threshold in the following table:

Pollutant	Project PE2 (lb/year)	SB 288 Major Modification Threshold (lb/year)	SB 288 Major Modification Calculation Required?
VOC	312,088	50,000	No

Since the SB 288 Major Modification Threshold for VOC is not surpassed with this project, the proposed project is not considered a SB 288 Major Modificaiton for VOC emissions.

7. Federal Major Modification

Federal Major Modification is to determine the following:

a. Pursuant to Rule 2201, section 4.2.3.5, if a Rule-compliance project qualifies for District Rule 2201's Best Available Control Technology (BACT) and offset exemptions and

b. Pursuant to Rule 2201, section 4.15.1, if an Alternate Siting analysis must be performed; and if the applicant must provide certification that all California stationary sources owned, operated, or controlled by the applicant that are subject to emission limits are in compliance with those limits or are on a schedule for compliance with all applicable emission limits and standards; and

c. Pursuant to Rule 2201, section 5.4.1, if a public notification is triggered.

This facility is an existing Major Source of VOC. In order to determine whether a Federal Major Modification can be triggered, the Net Emissions Increase (NEI) is calculated and is compared with the significant threshold limit of 0 lb-VOC/year listed on Table 3-1 of Rule 2201, section 3.18.1.4.

NEI can be calculated as the sum of the difference of the project actual emissions (PAE) and baseline actual emissions (BAE) for the emissions units involved in this project.

As discussed in section VII.D.5 of this document, BE is equal to the pre-project potential to emit for each emissions unit. Thereofre,

$$NEI = \sum [(PAE - BAE)_{Existing} + (PAE - BAE)_{New}]$$

Where, BAE_{New} is equal to zero, and $BAE_{Existing}$ is equal to SSPE1, so

NEI = [SSPE2 – SSPE1]
= (32,088 – 22,751)
= 9,337 lb-VOC/year

NEI is greater than 0 lb-VOC/yr. Therefore, this project constitutes a Federal Major Modification for VOC emissions.

VIII. COMPLIANCE

District Rule 1081 Source Sampling

This Rule requires adequate and safe sampling facilities such as sampling ports, sampling platforms, access to the sampling platforms for use in sampling to determine compliance with emissions limits, and specifies methods and procedures for source testing and sample collection. Therefore, the following conditions will be listed on the permit to ensure compliance:

N-845-22-3

- *{33} Sampling facilities for source testing shall be provided in accordance with the provisions of Rule 1081 (Source Sampling). [District Rule 1081]*

- *Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]*

- *Source testing shall be witnessed or authorized by District personnel and samples shall be collected by a California Air Resources Board (CARB) certified testing laboratory or a CARB certified source testing firm. [District Rule 1081]*

- *The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]*

Compliance with the requirements of this Rule is expected.

District Rule 1100 Equipment Breakdown

This Rule defines a breakdown condition and the procedures to follow if one occurs. The corrective action, the issuance of an emergency variance, and the reporting requirements are also specified. Therefore, the following conditions will be listed on the permit to ensure compliance:

N-845-22-3

- *The owner or operator shall notify the District of any breakdown condition as soon as reasonably possible, but no later than one hour after its detection, unless the owner or operator demonstrates to the District's satisfaction that the longer reporting period was necessary. [District Rule 1100]*

- *The District shall be notified in writing within ten days following the correction of any breakdown condition. The breakdown notification shall include a description of the equipment malfunction or failure (e.g. breakdown of vapor recovery system), the date and cause of the initial failure, the estimated emissions in excess of those allowed*

including the amount of gasoline loaded during the breakdown period, and the methods utilized to restore normal operations. [District Rule 1100]

Compliance with the requirements of this Rule is expected.

District Rule 2201 New and Modified Stationary Source Review Rule

1. Best Available Control Technology (BACT)

Pursuant to District Rule 2201, § 4.1.1 and 4.1.2, BACT requirements are triggered in a pollutant-by-pollutant basis for any new emissions unit with a Potential to Emit (PE) exceeding 2.0 lb/day, or for modification to an existing emissions unit resulting an Adjusted Increase in Permitted Emissions (AIPE) exceeds 2.0 lb/day, unless the unit is otherwise exempt per section 4.2. Section 4.2.1 provides an exemption from BACT requirements for CO emissions if the facility is located in a CO attainment area and the $SSPE2_{CO}$ is less than 200,000 lb/yr. As well, , BACT may be triggered if the modification is an SB 288 Major Modification or a Federal Major Modification per section 4.1.3.

N-845-6-3 (Loading Rack) & N-845-22-3 (Vapor Recovery System):

Loading Rack: As discussed in section VII.C.3 of this document, emissions from the loading rack will vent to the VRS under permit unit N-845-22.

VRS: As shown in section VII.C.3 of this document, AIPE is greater than 2.0 lb/day. Therefore, BACT is triggered.

BACT Guideline 7.1.10 lists emissions control requirements for Loading Rack/Switch Loading operations. The requirement is listed in the following table:

Pollutant	Achieved in Practice or contained in the SIP	Technologically Feasible
VOC	Bottom loading with dry break couplers and vapor collection vented to a thermal incinerator or flare with destruction efficiency equal to or greater than 99%	

The "Top-Down BACT Analysis" for VOC emissions is performed in Appendix IV of this document.

According to this analysis, the applicant's proposal meets District BACT requirements.

N-845-10-2 (Existing Vertical Fixed Roof Tank):

As shown in section VII.C.3 of this document, AIPE is not greater than 2.0 lb/day. However, this project constitutes a Federal Major Modification. Therefore, BACT is required for this permit unit.

BACT Guideline 7.3.1 lists emissions control requirements for Petroleum and Petrochemical Production – Fixed Roof Organic Liquid Storage or Processing Tank with tank capacity less than 5,000 bbl (equivalent to 210,000 gallons). The requirement is listed in the following table:

Pollutant	Achieved in Practice or contained in the SIP	Technologically Feasible
VOC	PV-vent set to within 10% of maximum allowable pressure	99% control (Waste gas incinerated in steam generator, heater treater, or other fired equipment and inspection and maintenance program; transfer of noncondensable vapors to gas pipeline; reinjection to formation (if appropriate wells are available); or equal)

The "Top-Down BACT Analysis" for VOC emissions is performed in Appendix IV of this document.

According to this analysis, the applicant's proposal meets District BACT requirements.

N-845-24-0 (New Internal Floating Roof Tank):

As shown in section VII.C.1 of this document, PE is geater than 2.0 lb/day. Therefore, BACT is required for this permit unit.

BACT Guideline 7.3.3 lists emissions control requirements for Petroleum and Petrochemical Production – Floating Roof Organic Liquid Storage or Processing Tank with tank capacity equal to or greater than 477 bbl (equivalent to 19,782 gallons), and true vapor pressure equal to or greater than 0.5 psia. The requirement is listed in the following table:

Pollutant	Achieved in Practice or contained in the SIP	Technologically Feasible
VOC	95% control (Primary metal shoe seal with secondary wiper seal, or equal)	95% control (Dual wiper seal with drip curtain or primary metal shoe seal with secondary wiper seal, or equal)

The "Top-Down BACT Analysis" for VOC emissions is performed in Appendix IV of this document.

According to this analysis, the applicant's proposal meets District BACT requirements.

2. Offsets

Offsets are examined on a pollutant-by-pollutant basis, and are triggered for any pollutant with a SSPE2 equal to or greater than the values listed in § 4.5.3, table 4-1.

As shown in section VII.D.2 of this document, SSPE2 of VOC exceeds the offset threshold. Therefore, offset calculations are required and pursuant to § 4.7.1 and 4.7.3, emission offset is calculated as the sum of differences between the PE2 and the BE of all the new and modified emissions units, plus all increases in Cargo Carrier emissions. The emissions offset are calculated as follow:

Emission offset = [Σ (PE2 – BE) + ICCE] x DOR

Where, PE2 is Post Project Potential to Emit
BE is baseline emissions
DOR is the distance offset ratio determined pursuant to Rule 2201, § 4.8
ICCE is Increase in Cargo Carrier emissions

There are no increases in Cargo Carrier emissions as a result of this project, ICCE = 0.

This proposed project constitutes a Federal Major Modification, which requires DOR of 1.5 pursuant to section 4.8.1 of this Rule. Thus,

Emission offset = Σ [(PE2 – BE) + 0] x 1.5

As discussed in section VII.D.5 of this document, BE from all emissions units are equal to the SSPE1 since each unit is determined as either a Clean Emissions Unit or a Highly Utilized Emissions Unit. Thus,

Emission offset = [SSPE2 – SSPE1] x 1.5

As shown in sections VII.D.1 and VII.D.2 of this document, the SSPE1 and SSPE2 are caluclated to 22,751 lb-VOC/yr and 32,088 lb-VOC/yr respectively.

Emission offset required = [32,088 – 22,751] x 1.5 lb-VOC/year
= 9,337 x 1.5 lb-VOC/year
= 14,006 lb-VOC/year

As shown above, offset are required for this project. The applicant has proposed to purchase and utilize ERC certificates N-811-1 and N-827-1 to offset the increase of VOC emissions in this project.

The available credit on these certificates are listed in the tables below:

ERC N-811-1	1st Quarter (lb)	2nd Quarter (lb)	3rd Quarter (lb)	4th Quarter (lb)
VOC	5,200	5,200	5,200	5,200

ERC N-827-1	1st Quarter (lb)	2nd Quarter (lb)	3rd Quarter (lb)	4th Quarter (lb)
VOC	4,800	4,800	4,800	4,800

The applicant proposed to purchase the following credits on each of these ERC certificates:

ERC N-811-1	1st Quarter (lb)	2nd Quarter (lb)	3rd Quarter (lb)	4th Quarter (lb)
VOC	2,625	2,625	2,625	2,625

ERC N-827-1	1st Quarter (lb)	2nd Quarter (lb)	3rd Quarter (lb)	4th Quarter (lb)
VOC	2,415	2,415	2,415	2,415

As shown in the offset emissions calculation above, the quarterly VOC emissions from this project are:

All Permit	1st Quarter (lb)	2nd Quarter (lb)	3rd Quarter (lb)	4th Quarter (lb)
VOC	2,334	2,334	2,334	2,335

As discussed above, this project requires DOR of 1.5, therefore, the required quarterly offset for this project are:

Total Offset	1st Quarter (lb)	2nd Quarter (lb)	3rd Quarter (lb)	4th Quarter (lb)
VOC	3,501	3,501	3,501	3,503

The amount of credit for the ERC certificate N-811-1 after offset is summarized in the table below:

ERC N-811-1:

VOC	1st Quarter (lb)	2nd Quarter (lb)	3rd Quarter (lb)	4th Quarter (lb)
Available Offset	5,200	5,200	5,200	5,200
Total Reserved	(0)	(0)	(0)	(0)
Proposed to purchase	(2,625)	(2,625)	(2,625)	(2,625)
Remaining Credits	2,575	2,575	2,575	2,575

ERC N-811-1 (Partial Credits):

VOC	1st Quarter (lb)	2nd Quarter (lb)	3rd Quarter (lb)	4th Quarter (lb)
Proposed to purchase	2,625	2,625	2,625	2,625
Minus Offset required for this project	(3,501)	(3,501)	(3,501)	(3,503)
Remaining Credits	(876)	(876)	(876)	(878)

The amount of credit for the ERC certificate N-827-1 after offset is summarized in the table below:

ERC N-827-1:

VOC	1st Quarter (lb)	2nd Quarter (lb)	3rd Quarter (lb)	4th Quarter (lb)
Available Offset	4,800	4,800	4,800	4,800
Total Reserved	(0)	(0)	(0)	(0)
Proposed to purchase	(2,415)	(2,415)	(2,415)	(2,415)
Remaining Credits	2,387	2,387	2,387	2,387

ERC N-827-1 (Partial Credits):

VOC	1st Quarter (lb)	2nd Quarter (lb)	3rd Quarter (lb)	4th Quarter (lb)
Proposed to purchase	2,415	2,415	2,415	2,415
Minus Offset required for this project after the use of partial credit of ERC N-811-1	(876)	(876)	(876)	(878)
Remaining Credits	1,539	1,539	1,539	1,537

Therefore, ERC certificates N-811-1 and N-827-1 combined have sufficient credits to fully offset the increase of VOC emissions in this project.

To ensure the emission credits from ERC Certificates N-811-1 and N-827-1 utilize for offset the increase of VOC emissions in this project, the following conditions will be listed on the ATC:

N-845-6-3

- *Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter – 73 lb, 2nd quarter – 73 lb, 3rd quarter – 73 lb, and 4th quarter – 73 lb. Offsets shall be provided at an offset ratio 1.5 to 1. [District Rule 2201]*

N-845-22-3

- *Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter – 1,522 lb, 2nd quarter – 1,522 lb, 3rd quarter – 1,522 lb, and 4th quarter – 1,522 lb. Offsets shall be provided at an offset ratio 1.5 to 1. [District Rule 2201]*

N-845-24-0

- *Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter – 787 lb, 2nd quarter – 787 lb, 3rd quarter – 788 lb, and 4th quarter – 788 lb. Offsets shall be provided at an offset ratio 1.5 to 1. [District Rule 2201]*

N-845-6-3, -22-3, & -24-0

- *ERC certificates N-811-1 (or a certificate split from this certificate) and N-827-1 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]*

3. Public Notification

District Rule 2201, § 5.4, requires a public notification for the affected pollutants from the following types of projects:

a. New Major Source

There is no new major source as a result of this project. Therefore, public noticing for this purpose is not required.

b. Federal Major Modification and SB 288 Major Modification

As discussed in section VII.D.7 of this document, this project triggers a Federal Major Modificaiton. Therefore, public noticing for this purpose is required.

c. New emission unit with PE > 100 lb/day for any one pollutant

There is no new emissions unit with PE > 100 lb/day, therefore public noticing for this purpose is not required.

d. Modifications with SSPE1 below an Offset threshold and SSPE2 above an Offset threshold on a pollutant-by-pollutant basis:

As shown in sections VII.D.1 and VII.D.2 of this document, both SSPE1 and SSPE2 of VOC are above the Offset threshold. Therefore, public noticing for this purpose is not required.

e. New stationary sources with SSPE2 exceeding Offset thresholds:

There is no new stationary source as a result of this project. Therefore, public noticing for this purpose is not required.

f. Any permitting action with an SSIPE exceeding 20,000 lb/yr for any one pollutant:

As discussed in section VII.D.3 of this document, SSIPE is not exceeding 20,000 lb/yr for VOC, the only pollutant associated to this project. Therefore public noticing for this purpose is not required.

As discussed above, public notice will be required for this project.

4. Daily Emission Limits (DELs)

Daily Emissions Limitations (DELs) and other enforceable conditions are required by Section 3.15 to restrict a unit's maximum daily emissions. Therefore, the following permit conditions will be listed on the permits to ensure compliance:

N-845-6-3 (Loading Rack) & N-845-22-3 (Vapor Recovery System):

- *The quantity of organic liquids (as defined in District Rule 4624) loaded through the loading rack shall not exceed 771,120 gallons in any one day and 240,350,000 gallons in any one calendar year. [District Rule 2201]*
- *The loading rack shall be equipped with bottom loading equipment and a vapor collection and control system such that the VOC emissions shall not exceed 0.08 pounds per 1,000 gallons of organic liquid loaded. [District Rules 2201 and 4624]*

N-845-10-2 (Existing Vertical Fixed Roof Tank):

- *The quantity of organic liquids (as defined in District Rule 4623) processed through this tank shall not exceed 800 gallons in any one day (on an annual average basis) and 197,820 gallons in any one calendar year. [District Rule 2201]*

N-845-24-0 (New Internal Floating Roof Tank):

- *VOC emissions from this tank shall not exceed 11.4 pounds in any one day. [District Rule 2201]*

5. Compliance Assurance

Source Testing

N-845-6-3:

Emissions from this loading rack will vent to the VRS under permit N-845-22. Therefore, no source testing is required to demonstrate compliance with Rule 2201 for this permit unit.

N-845-10-2 & N-845-24-0:

No source testing is required to demonstrate compliance with Rule 2201.

N-845-22-3:

An initial source testing to verify the proposed control efficiency will be required.

Monitoring

N-845-6-3 & N-845-22-3:

These permit units are subject to Rule 4624 requriement. Monitoring requirements for this unit will be discussed in the associated sections of this document.

N-845-10-2 & N-845-24-0:

These permit units are subject to Rule 4623 requriement. Monitoring requirements for this unit will be discussed in the associated sections of this document.

Recordkeeping

N-845-6-3, -10-2, -22-3, & -24-0:

Recordkeeping is required to demonstrate compliance with the offset, public notification and daily emission limit requirements of Rule 2201. All records are required to be maintained on-stie for a period of at least five years, and such records shall be make available for District, ARB, and EPA inspection upon request.

Reporting

No reporting is required to demonstrate compliance with Rule 2201.

District Rule 2520 Federally Mandated Operating Permit

This facility is subject to Title V provisions and has submitted an application for a TV operating permit. However, the initial TV permit has not been issued to this facility. Therefore, District Rule 2520 requirements will not be included on the permits issued in this project.

District Rule 4001 New Source Performance Standards (NSPS)

40 CFR Part 60 Subpart Kb – Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage vessels) for Which Construction after July 23, 1984

This subpart applies to each storage vessel with a capacity greater than or equal to 75 m^3 (equivalent 19,813 gallons) to that is used to store volatile organic liquids for which construction, reconstruction, or modification is commenced after July 23, 1984.

§60.112b Standard for Volatile Organic Compounds (VOC)

§60.112b(a) requires that the storage tank shall meet the requirement under §60.112b(a)(1) for a fixed roof tank in combination with an internal floating roof, and §60.112b(a)(3) for a closed vent system & control device.

N-845-24-0

This is a 2,231,508 gallon internal floating roof gasoline storage tank and the gasoline be stored has a maximum true vapor pressure greater than 76.6 kPa (equivalent to 11.11 psia). Therefore, this permit unit is subject to the requirement of this subpart.

§60.112b(a)(1)(i) requires that the internal floating roof shall rest or float on the liquid surface (but not necessarily in complete contact with it) inside a storage vessel that has a fixed roof. The internal floating roof shall be floating on the liquid surface at all times, except during initial fill and during those intervals when the storage vessel is completely emptied and refilled. When the roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as rapidly as possible. Therefore, the following condition will be listed on the permit to ensure compliance:

- *The floating roof shall be floating on the surface of the stored liquid at all times (i.e., off the roof leg supports) except during the initial fill until the roof is lifted off the leg supports and when the tank is completely emptied and subsequently refilled. When the roof is resting on the leg supports the processes of filling or emptying and refilling the tank shall be continuous and shall be accomplished as rapidly as possible. Whenever the owner or operator intends to land the roof on its legs, the owner or operator shall notify the APCO in writing at least five calendar days prior to performing the work. The tank must be in compliance with Rule 4623 before it may land the roof on its legs. [District Rule 4623 and 40 CFR Part 60.112b(a)(1)(i)]*

§60.112b(a)(1)(ii) requires that the internal floating roof shall be equipped with one of the closure devices provided in §60.112b(a)(1)(ii)(A), §60.112b(a)(1)(ii)(B), or §60.112b(a)(1)(ii)(C).

This tank is equipped with a mechanical shoe seal listed in §60.112b(a)(1)(ii)(C). The equipment description of permit includes mechanical shoe seal. Therefore, compliance with the requirement of this section is expected.

§60.112b(a)(1)(iii) requires that each opening in a non-contact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and the rim space vents is to provide a projection below the liquid surface. Therefore, the following condition will be listed on the permit to ensure compliance:

- *Each opening in a non-contact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and rim space vents shall provide a projection below the liquid surface. [District Rule 4623 and 40 CFR Part 60.112b(a)(1)(iii)]*

§60.112b(a)(1)(iv) requires that each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains shall be equipped with a cover, or a lid shall be maintained in a closed position at all times (i.e. no visible gaps) except when the device is in use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted in place except when they are in use. Therefore, the following condition will be listed on the permit to ensure compliance:

- *Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains shall be equipped with a cover, or a lid shall be maintained in a closed position at all times (i.e. no visible gaps) except when the device is in use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted in place except when they are in use. [District Rule 4623 and 40 CFR Part 60.112b(a)(1)(iv)]*

§60.112b(a)(1)(v) requires that automatic bleeder vents shall be equipped with a gasket and shall be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the leg roof supports. Therefore, the following condition will be listed on the permit to ensure compliance:

- *Automatic bleeder vents shall be equipped with a gasket and shall be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the leg roof supports. [District Rule 4623 and 40 CFR Part 60.112b(a)(1)(v)]*

§60.112b(a)(1)(vi) requires that rim vents shall be equipped with a gasket and shall be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting. Therefore, the following condition will be listed on the permit to ensure compliance:

- *Rim vents shall be equipped with a gasket and shall be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting. [District Rule 4623 and 40 CFR Part 60.112b(a)(1)(vi)]*

§60.112b(a)(1)(vii) requires that each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The well shall have a slit fabric cover that covers at least 90 percent of the opening. Therefore, the following condition will be listed on the permit to ensure compliance:

- *Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The well shall have a slit fabric cover that covers at least 90 percent of the opening. The fabric cover must be impermeable. [District Rule 4623 and 40 CFR Part 60.112b(a)(1)(vii)]*

§60.112b(a)(1)(viii) requires that each penetration of the internal floating roof that allows for the passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover. Therefore, the following condition will be listed on the permit to ensure compliance:

- *Each penetration of the internal floating roof that allows for the passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover. The fabric sleeve must be impermeable. [District Rule 4623 and 40 CFR Part 60.112b(a)(1)(viii)]*

§60.112b(a)(1)(ix) requires that each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover. Therefore, the following condition will be listed on the permit to ensure compliance:

- *Each penetration of the internal floating roof that allows for the passage of a ladder shall have a gasketed sliding cover. [40 CFR Part 60.112b(a)(1)(ix)]*

N-845-10-2:

Per provided information, this 20,000 gallons transmix storage tank was installed onsite prior to July 23, 1984 and has not been reconstructed or modified after July 23, 1984.

40 CFR Part 60, Subpart A §60.2 define ***Construction*** as, fabrication, erection, or installation of an affected facility.

40 CFR Part 60, Subpart A §60.2 define ***Modification*** as, any physical change in, or change in the method of operation of, an existing facility which increases the amount of any air pollutant (to which a standard applies) emitted into the atmosphere by that facility or which results in the emission of any air pollutant (to which a standard applies) into the atmosphere not previously emitted.

The applicant proposed to reroute the vapors path of this tank from the existing VRS with VOC control efficiency of 95% under PTO N-845-22 to the new VRS with VOC control efficiency of 99% under same permit unit.

The proposed modification to this storage tank result no increase of emissions of any air pollutant (see detail calculations in Section VII.C of this document), which action does not meet the definition of modification under the federal requirements.

Based on the provided information and the proposed modification to the storage tank under this ATC application. The District concludes that the federal requirements of 40 CFR Part 60 Subpart Kb do not apply to this permit unit. No further discussion will be required.

§60.113 Testing and procedures

This section requires the owner or operator of each storage vessel as specified in §60.112b(a) to meet the requirements of paragraph (a), (b), or (c) of this section. The applicable parpagraph for a particular storage vessel depends on the control equipment installed to meet the requirements of §60.112b.

N-845-24-0

§60.113b(a)(1) requires that the owner or operator shall visually inspect the internal floating roof, the primary seal, and the secondary seal (if one is in service), prior to filling the storage vessel with volatile organic liquid. If there are holes, tears or other openings in the primary seal, the secondary seal, or the seal fabric or defects in the internal floating roof, or both, the owner or operator shall repair the items before filling the storage vessel. Therefore, the following condition will be listed on the permit to ensure compliance:

- *The owner or operator shall visually inspect the internal floating roof, and its appurtenant parts, fittings, etc. and measure the gaps of the primary seal and/or secondary seal prior to filling the tank for newly constructed, repair, or rebuilt internal floating roof tanks. If holes, tears, or openings in the primary seal, the secondary seal, the seal fabric or defects in the internal floating roof or its appurtenant parts, components, fittings, etc., are found, they shall be repaired prior to filling the tank. [District Rule 4623 and 40 CFR Part 60.113b(a)(1)]*

§60.113b(a)(2) requires that the owner or operator shall visually inspect the internal floating roof and the primary seal, or the secondary seal (if one is in service) through manholes and roof hatches on the fixed roof at least once every 12 months after initial fill. If the internal floating roof is not resting on the surface of the volatile organic liquid inside the storage vessel, or there is liquid accumulated on the roof, or the seal is detached, or there are holes or tears in the seal fabric, the owner or operator shall repair the items or empty and remove the storage vessel from service within 45 days. If a failure that is detected during inspections cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the Administrator in the inspection report required in §60.115b(a)(3). Such a request for an extension must document that alternate storage capacity is unavailable and specify a schedule of actions the company will take that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible. Therefore, the following conditions will be listed on the permit to ensure compliance:

- *The owner or operator shall visually inspect, through the manholes, roof hatches, or other opening on the fixed roof, the internal floating roof and its appurtenant parts, fittings, etc., and the primary seal and/or secondary seal at least once every 12 months after the tank is initially filled with an organic liquid. There should be no visible organic liquid on the roof, tank walls, or anywhere. Other than the gap criteria specified by this rule, no holes, tears, or other openings are allowed that would permit the escape of vapors. Any defects found are violations of this rule. [District Rule 4623 and 40 CFR Part 60.113b(a)(2)]*

- *If any failure (i.e. visible organic liquid on the internal floating roof, tank walls or anywhere, holes or tears in the seal fabric) is detected during 12 months visual inspection, the owner or operator shall repair the items or empty and remove the storage vessel from service within 45 days. If the detected failure cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the APCO in the inspection report. Such a request must document that alternate storage capacity is unavailable and specify a schedule of actions the company will take that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible. [40 CFR Part 60.113b(a)(2)]*

§60.113b(a)(5) requires that the owner or operator to notify the Administrator in writing at least 30 days prior to the filling or refilling of each storage vessel for which an inspection is required by §60.113b(a)(1) of this section to afford the Administrator the opportunity to have an observer present. Therefore, the following condition will be listed on the permit to ensure compliance:

- *The owner or operator shall notify the District in writing at least 30 days prior to conduct the visual inspection of the storage vessel, so the District can arrange an observer. [40 CFR Part 60.113b(a)(5)]*

§60.115b: Reporting and recordkeeping requirements

This section requires the owner or operator of each storage vessel as specified in §60.112b(a) shall keep records and furnish reports as required by paragraphs (a), (b), or (c) of this section depending upon the control equipment installed to meet the requirements of §60.112b(a). The owner or operator shall keep copies of all reports and records required by this section, except for the record required by (c)(1), for at least two years. The records required by (c)(1) will be kept for the life of the control equipment.

N-845-24-0

§60.115b(a)(1) requires that the owner or operator shall furnish the Administrator with a report that describes the control equipment and certifies that the control equipment meets the specifications of §60.112b(a)(1) and §60.113b(a)(1). This report shall be an attachment to the notification required by §60.7(a)(3) (i.e. initial startup notification). Therefore, the following condition will be listed on the permit to ensure compliance:

- *The owner or operator shall furnish the Administrator with a report that describes the control equipment and certifies that the control equipment meets the specification of §60.112b(a)(1) and §60.113b(a)(1) within 15 days after the initial startup of the equipment. [40 CFR Part 60.115b(a)(1)]*

§60.115b(a)(2) requires that the owner or operator shall keep a record of each inspection performed as required by §60.113b(a)(1) and (a)(2). Each record shall identify the storage vessel on which the inspection was performed and shall contain the date the vessel was inspected and the observed condition of each component of the control equipment (seals, internal floating roof, and fittings).

§60.115b(a)(3) requires that the owner or operator shall furnish a report to the Administrator within 30 days if any of the condition described in §60.113b(a)(2) are detected during annual visual inspection required by §60.113 b(a)(2). The report shall identify the storage vessel, the nature of the defects, and the date the storage vessel was emptied or the nature of the defect and date the repair was made.

The following condition will be listed on the permit to ensure compliance with the requirements of §60.115b(a)(2) and (a)(3):

- *The owner or operator shall submit the reports of the floating roof tank inspections to the APCO within five calendar days after the completion of the inspection only for those tanks that failed to meet the applicable requirements of Rule 4623, Sections 5.2 through 5.5. The inspection report for tanks that that have been determined to be in compliance with the requirements of Sections 5.2 through 5.5 need not be submitted to the APCO, but the inspection report shall be kept on-site and made available upon request by the APCO. The inspection report shall contain all necessary information to demonstrate compliance with the provisions of this rule, including the following: 1) Date the storage vessel was emptied, date of inspection and names and titles of company personnel doing the inspection. 2) Tank identification number and Permit to Operate number. 3) Observed condition of each component of the control equipment (seals, internal floating roof, and fittings). 4) Measurements of the gaps between the tank shell and primary and secondary seals. 5) Leak free status of the tank and floating roof deck fittings. Records of the leak-free status shall include the vapor concentration values measured in parts per million by volume (ppmv). 6) Data, supported by calculations, demonstrating compliance with the requirements specified in Sections 5.4 and 5.5.2.4.3 of Rule 4623. 7) Nature of defects and any corrective actions or repairs performed on the tank in order to comply with rule 4623 and 40 CFR Part 60 Subpart Kb and the date(s) such actions were taken. [District Rule 4623 and 40 CFR Part 60.115b(a)(2) and 40 CFR Part 60.115b(a)(3)]*

§60.116b: Monitoring of operations

N-845-24-0

§60.116b(a) requires the owner or operator to keep copies of all records for at least two years. However, Rule 4623, requires all records be kept for a period of at least five year. Therefore, the following condition will be listed on the permit to ensure compliance:

- *All records shall shall be maintained on site for a period of at least five years and shall be made available for District, ARB, and EPA inspection upon request. [District Rules 1070, 2201, 4623, 40 CFR Part 60.116b(a), and 40 CFR Part 63.11094(a)]*

§60.116b(b) requires the owner or operator to keep records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel, and these records shall be kept for the life of the source. Therefore, the following condition will be listed on the permit to ensure compliance:

- *The owner or operator shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel, and these records shall be kept for the life of the source. [40 CFR Part 60.116b(b)]*

§60.116b(c) requires the owner or operator to maintain records of the volatile organic liquid stored, the period of storage, and the maximum true vapor pressure of that volatile organic liquid during the respective storage period. Therefore, the following condition will be listed on the permit to ensure compliance:

- *The owner or operator shall maintain records of the volatile organic liquid stored, the period of storage, and TVP of that volatile organic liquid during the respective storage period. TVP shall be determined using the data on the Reid vapor pressure (highest receipt or highest tank sample results) and actual storage temperature. [District Rule 2201 and 40 CFR Part 60.116b(c)]*

40 CFR Part 60 Subpart XX – Standards of Performance for Bulk Gasoline Terminals

According to EPA[3], no Air Pollution Control Districts in California has obtained a delegation from EPA to enforce the requirements of this subpart. However, this facility is subject to TV requirments and is in the process of acquiring a TV operating permit. Therefore, the requirements of this subpart will be listed on the permit.

This subpart applies to all of the loading racks at a bulk gasoline terminal which deliver liquid product into gasoline tank trucks and that commenced construction or modification after December 17, 1980.

The loading rack is located at a bulk gasoline terminal which deliver liquid product into organic liquid (including gasoline) tank trucks. Therefore, the loading rack is subject to the requirement of this subpart.

§60.502 Standard for Volatile Organic Compounds (VOC) emissions from bulk gasoline terminals

N-845-6-3:

§60.502(a) requires that each affected facility must be equipped with a vapor collection system designed to collect the total organic compounds vapors displaced from tank trucks during product loading. Therefore, the following condition will be listed on the permit to ensure compliance:

[3] EPA website: http://yosemite.epa.gov/r9/r9nsps.nsf/0/3C212783AF52BD1988256DC000012983?OpenDocument

- *All vapors displaced from tank truck loading shall be vented to the vapor recovery system under Permit to Operate N-845-22. [District Rule 2201 and 40 CFR Part 60.502(a), (f), and (g)]*

§60.502(c) states that each affected facility equipped with an existing vapor processing system, the emissions to the atmosphere from the vapor collection system due to the loading of liquid product into gasoline tank trucks are not to exceed 80 milligrams of total organic compounds per liter of gasoline loaded.

The 80 milligrams/liter limit is converted to an equivalent lb/1000 gallons number as follows:

Limit (lb/1000 gal) = 80 mg/liter x 1g/1000mg x 1 lb/453.6g x 3.785 liters/gal x 1000
= 0.67 lb/1000 gal

This loading rack will serve by the new vapor recovery system (VRS) under permit unit N-845-22, and an emission limit of 0.08 lb/1000 gallon loaded will be listed on the VRS permit. Therefore, compliance with the requirement of this section is expected.

§60.502(d) states that each vapor collection system must be designed to prevent any total organic compounds vapors collected at one loading rack from passing to another loading rack.

This facility has only one loading rack which will served by the new vapor recovery system. Therefore, compliance with the requirement of this section is expected.

§60.502(e) states that loading of liquids into gasoline tank trucks shall be limited to vapor tight gasoline tank trucks. Therefore, the following conditions will be listed on the permit to ensure compliance:

- *Gasoline shall be loaded only into vapor-tight tank trucks. [40 CFR Part 60.502(e) and 40 CFR Part 63.11088(a)]*

- *The facility shall obtain the vapor tightness documentation specified in 40 CFR Part 60.505(b) for each gasoline tank truck that is to be loaded at the facility. [40 CFR Part 60.502(e)(1)]*

§60.502(f) states that the owner or operator shall act to assure that loading of gasoline tank trucks at the affected facility are made only into trucks equipped with vapor collection equipment that is compatible with the terminal's vapor collection system.

§60.502(g) states that the owner or operator must act to assure that the terminals and the tank truck's vapor collection systems are connected during each loading of a gasoline tank truck at the facility. Therefore, the following condition will be listed on the permit to ensure compliance:

- *All vapors displaced during truck loading shall be vented to the vapor recovery system under Permit to Operate N-845-22. [District Rule 2201 and 40 CFR Part 60.502(a), (f) and (g)]*

§60.502(h) states that the vapor collection and liquid loading equipment must be designed to prevent gauge pressure in the delivery tank from exceeding 4,500 pascals (450 mm of water) during product loading. This level is not to be exceeded when measured by the procedures specified in §60.503(d)

The 450 millimeter water limit is converted to an equivalent inch water number as follows:

Limit (inches water) = 450 mm-water x 1inch/24.5 mm = 18.4 inches water

District Rule 4624 section 5.4 requires that the vapor collection and control system shall operate such that the pressure in the delivery tank being loaded does not exceed 18 inches water column pressure and 6 inches water column vacuum. Therefore, the following condition will be listed on the permit to ensure compliance:

- *The vapor collection and control system shall operate such that the pressure in the delivery tank being loaded does not exceed 18 inches water column pressure and 6 inches water column vacuum. [District Rule 4624 and 40 CFR Part 60.502(h)]*

§60.502(j) states that the owner or operator must inspect the vapor collection system, vapor processing system, and each loading rack handling gasoline for leaks, each month. For the purposes of determining whether there is a leak, detection methods incorporating sight, sound, and smell are acceptable.

This subpart states that a leak must be repaired within 15 calendar days. However, District Rule 4624 requires leaks to be repaired within 3 calendar days. Therefore, the following condition will be listed on the permit to ensure compliance:

- *Each calendar month, the vapor collection system, the vapor processing system and each loading rack handling gasoline shall be inspected during the loading of gasoline tank trucks for organic liquid and organic vapor leaks. For the purpose of this condition, detection methods incorporating sight, sound and smell are acceptable. [40 CFR Part 60.502(j) and 40 CFR Part 63.11089(a)]*

§60.503 Test Methods and Procedures

This section lists testing methods and procedures for the vapor recovery system. These requirements do not apply directly to the loading rack. Therefore, the testing methods and procedures requirements will be listed on the vapor recovery system permit (N-845-22).

N-845-22

§60.503(d) requires that the owner or operator shall demonstrate compliance with the standard in §60.502(h) by using:

1. A pressure measurement device (liquid manometer, magnehelic gauge, or equivalent instrument), capable to measuring up to 500 mm of water gauge pressure with ± 2.5 mm of water precision, shall be calibrated and installed on the terminal's vapor recovery system at a pressure tap located as close as possible to the connection with the gasoline tank truck, and
2. During the performance test, the pressure shall be recorded every 5 minutes while a gasoline truck is being loaded; the highest instantaneous pressure that occurs during each loading shall also be recorded. Every loading position must be tested at least once during the performance test.

Therefore, the following condition will be listed on the permit to ensure compliance:

- *During source testing the loading rack's vapor collection and control system shall be tested at every loading position to demonstrate the pressure in the delivery tanks being loaded complies with the requirements specified in this permit. Compliance shall be determined by calibrating and installing a liquid manometer, magnehelic device, or other instrument demonstrated to be equivalent, capable of measuring up to 500 mm water gauge pressure with a precision of 2.5 mm water gauge, on the terminal's vapor collection and control system at a pressure tap located as close as possible to the connection with the product tank truck. The highest instantaneous pressure measurement as well as all pressure measurements at 5 minute intervals during delivery vessel loading must be recorded. [40 CFR Part 60.503(d)]*

§60.505 Reporting and Recordkeeping

N-845-6-3

§60.505(a) states that the tank truck vapor tightness documentation must be kept on file at the terminal in a permanent form available for inspection.

§60.505 (b) states that the documentation file for each gasoline tank truck must be updated at least once per year to reflect current test results as determined by Method 27. This documentation must include as a minimum, the following information:

1. Test title: Gasoline Delivery tank Pressure Test – EPA Method 27.
2. Tank owner and address.
3. Tank identification number.
4. Testing Location.
5. Date of test.
6. Tester name and signature.
7. Witnessing inspector, if any: Name, signature, affiliation.
8. Test Results: Actual pressure change in 5 minutes, mm of water (average over 2 runs).

Therefore, the following condition will be listed on the permit to ensure compliance:

- *Documentation attesting to the vapor tightness of each truck loaded with gasoline shall be kept. The documentation file for each tank truck shall be updated at least once per year to reflect the current test results as determined by EPA method 27. [40 CFR Part 60.505(a) and (b), and 40 CFR Part 63.11094(b)]*

§60.505 (b) states that a record of each monthly leak inspection shall be kept on file at the terminal at least 2 years, and the inspection records shall include the following information:

1. Date of inspection.
2. Findings (may indicate no leaks discovered; or location, nature, and severity of each leak).
3. Leak determination method.
4. Corrective action (date each leak is repaired; reasons for any repair interval in excess of 15 days).

However, District Rule 4624 requires leaks to be repaired within 3 calendar days. Therefore, The following condition will be listed on the permit to ensure compliance:

- *The owner or operator shall maintain a log book that contains the following information: 1.) dates of leak inspections, 2.) the nature of the leak and the method of detection; 3.) findings, 4.) corrective action (date each leak is repaired), 5.) repair methods applied in each attempt to repair the leak; 6.) the reason for the delay if the leak is not repaired within 3 calendar days after discovery of the leak; 6.) the date of successful repair of the leak; and 8.) inspector name and signature. [District Rule 4624, 40 CFR Part 60.505(c) and 40 CFR Part 63.11089(g)]*

District Rule 4002 National Emissions Standards for Hazardous Air Pollutants

40 CFR Part 63 Subpart R – Gasoline Distribution Facilities (Bulk Gasoline Terminals and Pipeline Breakout Stations)

This terminal is not subject to the requirement of this subpart, since this terminal is not a major source for Hazardous Air Pollutants (HAP), which is determined below:

§63.2 of Subpart A defines "major HAP source" as any stationary source or group of stationary sources that emits or has the potential to emit 10 tons per year or more of any HAP, or 25 tons per year or more of any combination of HAPs.

Per EPA's document, Gasoline Distribution Industry (Stage 1) – Background Information for Proposed Standards, EPA-453/R-94-002a, Table 3.1, Vapor Profile of Normal Gasoline (see copy of this Table 3.1 in Appendix VIII of this document), the total HAPs to VOC ratio is 11% by weight.

As shown in section VII.D.2 of this document, the total VOC emissions from this facility is calculated to 32,088 pounds per year. The total HAPs from this facility is then calculated to:

Total HAPs = 32,088 lb-VOC/yr x 0.11 lb-HAPs/lb-VOC
= 3,530 lb-HAPs/yr (equivalent to 1.77 tons/yr)

The total HAPs emissions, 1.77 tons per year from this facility is less than 25 tons per year threshold for combined HAPs. Since the combined HAPs emissions is less than 10 tons per year, the individual HAP emissions must be less than 10 tons per year. This terminal is not a major source of HAPs. Therefore, this facility is not subject to the requirements of this subpart.

40 CFR Part 63 Subpart BBBBBB – Gasoline Distribution Facilities (Bulk Gasoline Terminal and Pipeline Breakout Stations)

According to EPA[5], only twelve Air Pollution Control Districts in California have obtained a delegation from EPA to enforce the requirements of this subpart, and the District is not one of the delegated agencies.

However, this facility is subject to TV requirments and is in the process of acquiring a TV permit. Therefore, the requirements of this subpart will be listed on the permit.

§63.11080 The purpose of this subpart

§63.11080 states that this subpart established national emission limitations and management practices for Hazardous Air Pollutants (HAP) emitted from area source (not a major HAP source) gasoline distribution bulk terminals, bulk plants, and pipeline facilities.

§63.11081 Applicability of this subpart

§63.11081(a) states that the affected source to which this subpart applies is each area source bulk gasoline terminal, pipeline breakout station, pipeline pumping station, and bulk gasoline plant.

§63.11100 defines that a bulk gasoline terminal means any gasoline storage and distribution facility that receives gasoline by pipeline, ship or barge, or cargo tank and has a gasoline throughput of 20,000 gallons per day or greater.

The current daily gasoline throughput limit of this facility is 450,000 gallons, and the proposed daily organic liquids (including gasoline) throughput of this facility is 771,120 gallons. Therefore, this facility is subject to the requirements of this subpart.

[5] EPA website:
http://yosemite.epa.gov/r9/r9nsps.nsf/0/0F4F206347B0D30488257401006544C7?OpenDocument

§63.11082 Affected source covered by this subpart

§63.11082(a) states the emission sources to which this subpart applies are gasoline storage tanks, gasoline loading racks, vapor collection-equipped gasoline cargo tanks, and equipment components in vapor or liquid gasoline service that meet the criteria specified in Table 1 through 3 to this subpart.

This facility has the emissions units listed above. Therefore, these units , except permit unit N-845-10, are required to comply with the requirements of this subpart.

N-845-10-2:

Per provided information, this existing 20,000 gallon vertical fixed roof storage tank does not store gasoline as defined in §63.11100 of this subpart.

§63.11100 defines Gasoline as any petroleum distillate or petroleum distillate/alcohol blend having a Reid Vapor Pressure (RVP) of 27.6 kilopascals or greater, which is used as a fuel for internal combustion engines.

The proposed organic liquids be stored in this tank do not meet the definition of gasoline under the federal requirements of this subpart.

Therefore, the following condition will be listed on the permit to ensure this storage tank will not be used to store gasoline:

- *Gasoline (as defined in 40 CFR Part 63.11100) shall not be stored in this tank. [District Rule 2201]*

Based on the provided information and the proposed modification to the storage tank under this ATC application. The District concludes that the federal requirements of 40 CFR Part 63 Subpart 6B do not apply to this permit unit. No further discussion will be required.

§63.11083 Compliance Date of this subpart

§63.11083(b) states an existing affected source must comply with the standards in this subpart no later than January 10, 2011. The facility submitted the Notification of Compliance Status to the Adminsitrator and District on January 7, 2011. Therefore, compliance with the requirements of this section is expected.

§63.11087 Gasoline Storag Tanks Requirements

§63.11087(a) requires each gasoline storage tank to meet the emissions limit and management practices in Table 1 to this subpart.

N-845-24-0:

This is a 2,231,508 gallons internal floating roof gasoline storage tank. Therefore, this gasoline storage tank must meet the requirments listed under §63.11100, Table 1, item 2, as follows:

a. Reduce emissions of total organic HAP or TOC by 95% (by weight) with a closed vent system and control device; or
b. equip each internal floating roof gasoline tank according to the requirements in 40 CFR Part 60 Subpart Kb, specifically, §60.112b(a)(1) except for the secondary seal requirement under §60.112b(a)(1)(ii)(B) and the requirements in §60.112b(a)(1)(iv) through (ix); and
c. equip each external roof gasoline storage tank according to the requirements in §60.112b(a)(2), except that the requirements of §60.112b(a)(2)(ii) shall only be required if such storage tank does not currently meet the requirements of §60.112b(a)(2)(i); or
d. equip and operate each internal and external floating roof gasoline storage tank according to the applicable requirements in §63.1063(a)(1) and (b), and equip each external floating roof gasoline storage tank according to the requirements of §63.1063(a)(2) if such storage tank does not currently meet the requirements of §63.1063(a)(1).

As discussed in previous section of this document, this internal floating roof gasoline storage tank will comply with the requirements of 40 CFR Part 60 Subpart Kb. Therefore, compliance with the requirements of this section is expected.

§63.11087(c) requires the owner or operator to perform testing and monitoring specified in §63.11092(e).

§63.11092(e) requires the owner or operator to perform inspections of internal floating roof gasoline storage tank per §60.113(a). As discussed above, this tank will comply with the requirements of 40 CFR Part 60 Subpart Kb, which includes §60.113(a), therefore, compliance with the requirements of this section is expected.

§63.11087(d) requires the owner or operator to submit the applicable notifications as required under §63.11093.

§63.11093(a) requires the owner or operator to submit an Initial Notification as specified in §63.9(b). If the facility is in compliance with the requirements of this subpart at the time the Initial Notification is due, the Notification of Compliance Status required under paragraph (b) of this section may be submitted in lieu of the Initial Notification.

The facility submitted the Initial Notification to the Adminsitrator and District on May 09, 2008. Therefore, compliance with the requirements of this section is expected.

§63.11093(b) requires the owner or operator of an affected source under this subpart must submit a Notification of Compliance Status as specified in §63.9(b). The Notification of Compliance Status must specify which of the compliance options included in Table 1 of this subpart is used to comply with this subpart.

The facility submitted the Notification of Compliance Status to the Adminsitrator and District on January 7, 2011. Therefore, compliance with the requirements of this section is expected.

§63.11087(e) requires the owner or operator to keep records and submit reports as specified in §63.11094 and §63.11095.

§63.11094 and §63.11095 require to keep records and submit reports per §60.115b(a). As discussed above, this tank will comply with the requirements of 40 CFR Part 60 Subpart Kb, therefore, compliance with the requirements of this section is expected.

§63.11088 Gasoline Loading Rack Requirements

§63.11088(a) requires each loading rack to meet the emissions limit and management practices in Table 2 to this subpart.

N-845-6-3:

This is a bulk gasoline terminal loading rack with daily organic liquids throughput of 771,120 gallons. Therefore, the unit must meet the requirements listed in §63.11088(a), Table 2, item 1 as follows:

a. equip your loading rack with a vapor collection system designed to collect the TOC vapors displaced from cargo tanks during product loading; and
b. reduce emissions of TOC to less than or equal to 80 mg/l of gasoline loaded into gasoline cargo tanks at the loading rack; and
c. design and operate the vapor collection system to prevent any TOC vapors collected at one loading rack or land from passing through another loading rack or lane to the atmosphere; and
d. limit the loading of gasoline into gasoline cargo tanks that are vapor tight using the procedules specified in §60.502(e) through (j).

As discussed in previous section of this document, this bulk loading rack will comply with the requirments of 40 CFR Part 60 Subpart XX as follows:

- This loading rack is served by a vapor recovery system designed to collected the TOC to less than 80 mg/l of gasoline loaded into gasoline cargo tanks at the loading rack; and

- This facility has only one loading rack, and the vapor recovery system is designed and operated to prevent any TOC vapors collected at one loading rack from passing through to the atmosphere; and
- The facility is required to obtain and keep records of vapor tightness documentation for each truck loading at this site.

Therefore, compliance with the requirements of this section is expected.

§63.11089 Equipment Leak Inspections Requirements

§63.11089(a) requires the owner or operator to perform a monthly leak inspection of all equipment in gasoline service. For this inspection, detection methods incorporating sight, sound, and smell are acceptable. Therefore, the following conditions will be listed on the permits to ensure compliance:

N-845-6-3 & -22-3

- *Each calendar month, the vapor collection system, the vapor processing system and each loading rack handling gasoline shall be inspected during the loading of gasoline tank trucks for organic liquid and organic vapor leaks. For the purpose of this condition, detection methods incorporating sight, sound and smell are acceptable. [40 CFR Part 60.502(j) and 40 CFR Part 63.11089(a)]*

N-845-24-0

- *Each calendar month, the owner or operator shall perform leak inspection of all equipment in gasoline service. Equipment in gasoline service is defined as a piece of equipment used in a system that transfers gasoline or gasoline vapors. For this inspection, detection methods incorporating sight, sound, and smell are acceptable. [40 CFR Part 63.11089(a)]*

§63.11089(b) requires that a log book must be used and must be signed by the owner or operator at the completion of each inspection. A section of the log book must contain a list, summary description, or diagram(s) showing the location of all equipment in gasoline service at the facility. Therefore, the following condition will be listed on the permit to ensure compliance:

N-845-6-3, -22-3, & -24-0

- *For monthly leak inspection, a log book shall be used and shall be signed by the owner or operator at the completion of each inspection. A section of the log book shall contain a list, summary description, or diagram(s) showing the location of all equipment in gasoline service at the facility. [40 CFR Part 63.11089(b) and 40 CFR Part 63.11094(d)]*

§63.11089(c) requires that each detection of a liquid or vapor leak must be recorded in the log book. When a leak is detected, an initial attempt at repair must be made as soon as

practicable, but no later than 5 calendar days after the leak is detected. Repair or replacement of leaking equipment must be completed within 15 days after detection of the leak, except as provided in §63.11089(d).

§63.11089(d) states that delay of repair of leaking equipment will be allowed if the repair is not feasible within 15 days. The owner or operator must submit a semiannual report that includes the reason(s) why the repair was not feasible and the date each repair was completed.

N-845-6-3 & N-845-22-3

However, District Rule 4624 requires leaks to be repaired within 3 calendar days. Therefore, The following condition will be listed on the permit to ensure compliance:

- *The equipment that are found leaking shall be repaired or replaced within 72 hours after detecting the leakage. If the leaking component cannot be repaired or replaced within 72 hours, the component shall be taken out of service until such time the component is repaired or replaced. The repaired or replacement equipment shall be reinspected the first time the equipment is in operation after the repair or replacement. [District Rule 4624]*

N-845-24-0

The following condition will be listed on the permit to ensure compliance:

- *Each detection of a liquid or vapor leak shall be recorded in the log book. When a leak is detected, an initial attempt at repair shall be made as soon as practicable, but no later than 5 calendar days after the leak is detected. Repair or replacement of leaking equipment shall be completed within 15 calendar days after detection of each leak. Delay of repair of leaking equipment will be allowed if the repair is not feasible within 15 days. The owner or operator shall provide in the semiannual report the reason(s) why the repair was not feasible and the date each repair was completed. [40 CFR Part 63.11089(d)]*

§63.11089(e) requires the owner or operator must comply with the requirements of this subpart by the applicable dates specified in §63.11083. §63.11089(f) requires the owner or operator must submit the applicable notifications as required under §63.11093.

As discussed in §63.11083(c), the facility is currently comply with the requirements of these sections.

§63.11089(g) requires the owner or operator must keep records and submit reports as specified in §63.11094 and §63.11095.

The owner or operator is expected to comply with the requirements of these subparts. The following condition will be listed on the permit to ensure compliance:

N-845-6-3 & -22-3

- *The owner or operator shall maintain a log book that contains the following information: 1.) dates of leak inspections, 2.) the nature of the leak and the method of detection; 3.) findings, 4.) corrective action (date each leak is repaired), 5.) repair methods applied in each attempt to repair the leak; 6.) the reason for the delay if the leak is not repaired within 3 calendar days after discovery of the leak; 7.) the date of successful repair of the leak; and 8.) inspector name and signature. [District Rule 4624, 40 CFR Part 60.505(c), 40 CFR Part 63.11089(g), 40 CFR Part 11094(e), and 40 CFR Part 63.11095(a)(3)]*

N-845-24-0

- *The owner or operator shall maintain a log book that contains the following information: 1.) dates of leak inspections, 2.) the nature of the leak and the method of detection; 3.) findings, 4.) corrective action (date each leak is repaired), 5.) repair methods applied in each attempt to repair the leak; 6.) the reason for the delay if the leak is not repaired within 15 calendar days after discovery of the leak; 7.) the date of successful repair of the leak; and 8.) inspector name and signature. [40 CFR Part 63.11089(g), 40 CFR Part 11094(e), and 40 CFR Part 63.11095(a)(3)]*

§63.11092 Testing and Monitoring Requirements

§63.11092(a) states that the owner or operator must comply with the requirements in paragraphs (a) through (d) of this section.

N-845-22-3

§63.11092(a)(1) requires the owner or operator conduct a performance test on the vapor processing and collection systems according to either (1) use the test methods and procedures in §60.503 of this chapter, except a reading of 500 parts per million shall be used to determine the level of leaks to be repaired under §60.503(b) of this chapert, or (2) use alternative test methods and procedures in accordance with the alternative test method requirements in §63.7(f).

The applicant proposed to replace the existing VRS with a new VRS. Therefore, source testing will be required, and the following condition will be listed on the permit to ensure compliance:

- *VOC emissions for source test purpose shall be determined using 40 CFR Part 60.503 "Test Methods and Procedures" and EPA Methods 2A, 2B, 25A and 25B, and ARB Method 422, or ARB Test Procedure TP-203.1. [District Rule 4624 and 40 CFR Part 63.11092(a)(1)]*

N-845-22-3

§63.11092(b) requires the owner or operator shall install, calibrate, certify, operate, and maintain, according to the manufacturer's specifications, a Continuous Monitoring System

(CMS) while gasoline vapors are displaced to the vapor processor systems, and the CMS must be installed by January 10, 2011. Therefore, the following condition will be listed on the permit to ensure compliance:

- *The owner or operator shall install, calibrate, certify, and maintain, and quality-assure a Continuous Monitoring System (CMS) which continuously measures and records the VOCs (and other parameters, if any, to determine compliance with 0.08 lb-VOC/1,000 gallon of organic liquid) while organic liquid vapors are displaced to this vapor recovery system. The CEMS shall be installed in the exhaust air stream. [40 CFR Part 63.11092(b)]*

§63.11092(c) requires the owner or operator shall document the reasons for any change to the operating parameter established during initial performance testing. Therefore, the following conditions will be listed on the permit to ensure compliance:

- *The owner or operator shall document the reasons for any change to the operating parameter established during initial performance testing. [40 CFR Part 63.11092(c)]*

N-845-24-0

§63.11092(e)(1) requires the owner or operator operates an internal floating roof gasoline storage tank must perform inspections according to the requirement of §60.113b(a).

As discussed in the previous section, this internal floating roof gasoline storage tank will comply with the requirements of §60.113b(a). Therefore, compliance with the requriements of this section is expected.

§63.11093 Notifications, Records, and Reports

As discussed above, the facility submitted the Notification of Compliance Status to the Adminsitrator and District on January 7, 2011. Therefore, compliance with the requirements of this section is expected.

§63.11094 Recordkeeping Requirements

N-845-6-3 & 22-3

§63.11094(a) requires that all records must be kept for at least five year. Therefore, the following condition will be listed on the permit to ensure compliance:

- *All records shall be maintained on site for a period of at least five years and shall be made available for District, ARB, and EPA inspection upon request. [District Rules 1070, 2201, 4624, and 40 CFR Part 60.505, and 40 CFR Part 63.11094(a)]*

N-845-24-0

§63.11094(a) requires that all records must be kept for at least five year. Therefore, the following condition will be listed on the permit to ensure compliance:

- *All records shall be maintained on site for a period of at least five years and shall be made available for District, ARB, and EPA inspection upon request. [District Rules 1070, 2201, 4623, and 40 CFR Part 60.505, and 40 CFR Part 63.11094(a)]*

N-845-6-3

§63.11094(b) lists recordkeeping requirements for vapor tightness of trucks. Therefore, the following condition will be listed on the permit to ensure compliance:

- *Documentation attesting to the vapor tightness of each truck loaded with gasoline shall be kept. The documentation file for each tank truck shall be updated at least once per year to reflect the current test results as determined by EPA method 27. [40 CFR Part 60.505(a) and (b), and 40 CFR Part 63.11094(b)]*

N-845-6-3, -22-3, & -24-0

§63.11094(d) requires owners or operators, that are subject to leak provisions, to keep a record describing the types, identification numbers, and locations of all equipment in gasoline service. Therefore, the following condition will be listed on the permit to ensure compliance:

- *For monthly leak inspection, a log book shall be used and shall be signed by the owner or operator at the completion of each inspection. A section of the log book shall contain a list, summary description, or diagram(s) showing the location of all equipment in gasoline service at the facility. [40 CFR Part 63.11089(b) and 40 CFR Part 63.11094(d)]*

§63.11094(e) requires the owner or operator to keep records of equipment leak inspections. Therefore, the following condition will be listed on the permit to ensure compliance:

N-845-6-3 & -22-3

- *The owner or operator shall maintain a log book that contains the following information: 1.) dates of leak inspections, 2.) the nature of the leak and the method of detection; 3.) findings, 4.) corrective action (date each leak is repaired), 5.) repair methods applied in each attempt to repair the leak; 6.) the reason for the delay if the leak is not repaired within 3 calendar days after discovery of the leak; 7.) the date of successful repair of the leak; and 8.) inspector name and signature. [40 CFR Part 60.505(c), 40 CFR Part 63.11089(g), 40 CFR Part 63.11094(e), and 40 CFR Part 63.11095(a)(3)]*

N-845-24-0

- *The owner or operator shall maintain a log book that contains the following information: 1.) dates of leak inspections, 2.) the nature of the leak and the method of detection; 3.) findings, 4.) corrective action (date each leak is repaired), 5.) repair methods applied in each attempt to repair the leak; 6.) the reason for the delay if the leak is not repaired within 3 calendar days after discovery of the leak; 7.) the date of successful repair of the leak; and 8.) inspector name and signature. [40 CFR Part 63.11089(g), 40 CFR Part 63.11094(e), and 40 CFR Part 63.11095(a)(3)]*

§63.11095 Reporting Requirements

N-845-24-0

§63.11095(a)(1) requires the owner or operator to submit a semi-annual compliance report that includes information specified in §60.115(b)(a) for internal floating roof storage tank.

The tank will comply with the requirements under §60.115(b)(a). Therefore, compliance with the requirements of this section is expected.

N-845-6-3

§63.11095(a)(2) requires the owner or operator shall report each loading of a gasoline cargo tank for which vapor tightness document had not been previously obtained by the facility.

This facility uses an automated system which only allows loading of gasoline cargo tanks for which vapor tightness documentation had previously been obtained. Therefore, the following condition will be listed on the permit to ensure compliance:

- *The owner or operator shall submit a semi-annual compliance report that includes each loading of a gasoline cargo tank for which vapor tightness documentation had not been previously obtained by the facility. [40 CFR Part 63.11088(f) and 40 CFR Part 63.11095(a)(2)]*

§63.11095(a)(3) requires the owner or operator shall report the number of equipment leaks not repaired within 15 days after detection.

However, District Rule 4624 requires leaks to be repaired with 72 hours. Therefore, the following condition will be listed on the permit to ensure compliance:

- *The owner or operator shall maintain a log book that contains the following information: 1.) dates of leak inspections, 2.) the nature of the leak and the method of detection; 3.) findings, 4.) corrective action (date each leak is repaired), 5.) repair methods applied in each attempt to repair the leak; 6.) the reason for the delay if the leak is not repaired within 3 calendar days after discovery of the leak; 7.) the date of successful repair of the*

leak; and 8.) inspector name and signature. [District Rule 4624, 40 CFR Part 60.505(c), 40 CFR Part 63.11089(g), 40 CFR Part 63.11094(e), and 40 CFR Part 63.11095(a)(3)]

§63.11095(a)(4) states the storage vessels complying with §63.11087(b) after January 10, 2011, the storage vessel's Notification of Compliance Status information can be included in the next semi-annual compliance report in lieu of filing a separate Notification of Compliance Status report under §63.11093.

The new internal flooting roof storage tank (N-845-24) Notification of Compliance Status information will be included in the new semi-annual compliance report. Therefore, compliance with the requirement of this section is expected.

§63.11095(b) states the owner or operator of an affected source subject to the control requirements of this subpart shall submit an excess emissions report to the Administrator at the time the semi-annual compliance report is submitted.

§63.11095(d) states the owner or operator of an affected source under this subpart shall submit a semi-annual report including the number, duration, and a brief description of each type of malfuncation which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with §63.11085(a), including actions taken to correct a malfunction.

The facility submitted the most recent semi-annual compliance report to the Administrator and District on July 29, 2011, which included discussion of all requirements under these sections. Therefore, continuous compliance with the requirements of these sections is expected.

District Rule 4101 Visible Emissions

District Rule 4101, Section 5.0, indicates that as long as the equipment is properly maintained and operated, the emission units shall not discharge, into the atmosphere, any air contaminant, other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour, which is as dark, or darker, in shade as that designated as No. 1 on the Ringelmann Chart or equivalent to 20% opacity. Therefore, the following condition will be listed on the permit to ensure compliance:

- *{15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann* 1 or 20% opacity. [District Rule 4101]

District Rule 4102 Nuisance

Section 4.0 prohibits discharge of air contaminants, which could cause injury, detriment, nuisance or annoyance to the public. Public nuisance conditions are not expected as a

result of these operations provided the equipment is well maintained. Therefore, the following condition should be listed on the permit to ensure compliance:

- *{98} No air contaminant shall be released into the atmosphere, which causes a public nuisance. [District Rule 4102]*

California Health & Safety Code 41700 (Health Risk Assessment)

District Policy APR 1905-1 (March 2, 2001) - Risk Management Policy for Permitting New and Modified Sources specifies that for an increase in emissions associated with a proposed new source or modification, the District perform an analysis to determine the possible impact to the nearest resident or worksite. The health risk assessment results are as follows (see detail RMR analysis in the Appendix IV of this document):

RMR Summary						
Categories	Loading Rack (6-3)	Tank (10-2)	VRS (22-3)	Tank (24-0)	Project Totals	Facility Totals
Prioritization Score	0.101	N/A[6]	2.1	1.08	3.28	3.91
Acute Hazard Index	2.75E-4	N/A[6]	1.47E-3	2.01E-4	1.94E-3	1.94E-3
Chronic Hazard Index	3.10E-4	N/A[6]	1.64E-3	1.02E-5	1.99E-3	1.99E-3
Maximum Individual Cancer Risk	4.99E-7	N/A[6]	2.67E-6	1.63E-8	3.19E-6	3.19E-6
T-BACT Required?	No	No	Yes	No		
Special Permit Conditions?	No	No	No	No		

The acute and chronic hazard indices were less than one and the cancer risk was greater than one but less than 10 in a million. In accordance with the District's Risk Management Policy, permitting may proceed **with** Toxic Best Available Control Technology (T-BACT) for VOC. Therefore, T-BACT analysis is required for VOC emissions for permit unit N-845-22.

Per District practice, T-BACT requirement is equivalent to the BACT requirement if no specific T-BACT requirement listed. BACT Guideline 7.1.10 lists emissions control requirements for Loading Rack/Swith Loading operations as follows:

Pollutant	Achieved in Practice or contained in the SIP	Technologically Feasible
VOC	Bottom loading with dry break couplers and vapor collection vented to a thermal incinerator or flare with destruction efficiency equal to or greater than 99%	

The T-BACT (BACT) analysis for VOC emissions is performed in Appendix IV of this document. According to this analysis, the T-BACT requirement of VOC emissions is satisfied.

[6] The modification to this unit resulted in a decrease of emissions. No further analysis was required for this unit.

District Rule 4623 Storage of Organic Liquids

N-845-10-2

Section 5.1 of this rule requires Group B vessels (capacity > 19,800 to 39,600 gallons) storing liquids with a TVP of greater than and equal to 11.0 psia to served by a vapor recovery system.

This is a 20,000 gallons organic liquid (transmix) storage tank and the volatile organic liquid be stored with a maximum true vapor pressure greater than 76.6 kPa (equivalent to 11.11 psia). This tank is currently served by the existing vapor recovery system under N-845-22, and will be served by the new VRS as a result of this project. Therefore, continuous compliance with the requirements of this section is expected.

Section 5.1.3 requires all tanks to be leak-free, as defined by Section 3.17 of the rule. The following condition will be listed on the permit to ensure compliance:

- *A leak-free condition is defined as a condition without a gas or liquid leak. A gas leak is defined as a reading in excess of 10,000 ppmv as methane, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. A liquid leak is defined as a dripping rate of more than three drops per minute. A reading in excess of 10,000 ppmv as methane above background or a liquid leak of greater than three drops per minute is a violation of this permit and Rule 4623 and shall be reported as a deviation. [District Rule 4623]*

Section 5.6.1 requires that fixed roof tanks shall be fully enclosed and shall be maintained in a leak-free condition. An APCO-approved vapor recovery system shall consist of a closed vent system that collects all VOCs from the storage tank and a VOC control device. The vapor recovery system shall be maintained in a leak-free condition. The VOC control device shall be one of the following: (1) A condensation or vapor return system that connects to one of the following: a gas processing plant, a field gas pipeline, a pipeline distributing Public Utility Commission quality gas for sale, an injection well for disposal of vapors as approved by the California Department of Conservation, Division of Oil Gas, and Geothermal Resources, or (2) A VOC control device that reduces the inlet VOC emissions by at least 95% by weight as determined by the test method specified in Section 6.4.6

This fixed roof tank is fully enclosed and will be served by the new vapor recovery system with a minimum of 99% control efficiency of VOC. Therefore, the following condition will be listed on the permit to ensure compliance:

- *The tank shall be equipped with a vapor recovery system consisting of a closed vent system that collects all VOCs from the storage tank, and a VOC control device. This tank shall be served by the vapor recovery system under Permit to Operate N-845-22. The vapor recovery system shall be maintained in gas-tight condition. The VOC control device shall be an approved VOC destruction device that reduces the inlet VOC emissions by at least 99% by weight as determined by the test method specified in Section 6.4.6 of District Rule 4623. [District Rule 4623] N*

Section 5.6.2 requires that any tank gauging or sampling device on a tank vented to the vapor recovery system shall be equipped with a leak-free cover which shall be closed at all times except during gauging or sampling. Therefore, the following condition will be listed on the permit to ensure compliance:

- *Any tank gauging or sampling device on a tank vented to the vapor recovery system shall be equipped with a leak-free cover which shall be closed at all times except during gauging or sampling. [District Rule 4623]*

Section 5.6.3 requires that all piping, valves, and fittings shall be constructed and maintained in a leak-free condition. Therefore, the following condition will be listed on the permit to ensure compliance:

- *All piping, valves, and fittings shall be constructed and maintained in a leak-free condition. [District Rule 4623]*

Section 5.7, lists the requriements of the Voluntary Tank Preventive Inspection and Maintenance, and Tank Interior Cleaning Program.

The facility elected to include this storage tank in the Voluntary Tank Preventive Inspection & Maintenance, and Tank Interior Cleaning Program on February 15, 2011. Therefore, the following conditions will be listed on the permit to ensure compliance:

- *The owner or operator shall visually inspect tank shell, hatches, seals, seams, cable seals, valves, flanges, connectors, and any other piping components directly affixed to the tank and within five feet of the tank at least once per year for liquid leaks, and with a portable hydrocarbon detection instrument conducted in accordance with EPA Method 21 for gas leaks. Operator shall also visually or ultrasonically inspect as appropriate, the external shells and roofs of uninsulated tanks for structural integrity annually. [District Rule 4623] N*

- *Upon detection of a liquid leak, defined as a leak rate of greater than or equal to 30 drops per minute, operator shall repair the leak within 8 hours. For leaks with a liquid leak rate of between 3 and 30 drops per minute, the leaking component shall be repaired within 24 hours after detection. [District Rule 4623] N*

- *Upon detection of a gas leak, defined as a VOC concentration of greater than 10,000 ppmv measured in accordance with EPA Method 21 by a portable hydrocarbon detection instrument that is calibrated with methane, operator shall take one of the following actions: 1) eliminate the leak within 8 hours after detection; or 2) if the leak cannot be eliminated, then minimize the leak to the lowest possible level within 8 hours after detection by using best maintenance practices, and eliminate the leak within 48 hours after minimization. In no event shall the total time to minimize and eliminate a leak exceed 56 hours after detection. [District Rule 4623] N*

- *Components found to be leaking either liquids or gases shall be immediately affixed with a tag showing the component to be leaking. Operator shall maintain records of the liquid or gas leak detection readings, date/time the leak was discovered, and date/time the component was repaired to a leak-free condition. [District Rule 4623] N*

- *Leaking components that have been discovered by the operator that have been immediately tagged and repaired within the timeframes specified in District Rule 4623, Table 3 shall not constitute a violation of this rule. Leaking components as defined by District Rule 4623 discovered by District staff that were not previously identified and/or tagged by the operator, and/or any leaks that were not repaired within the timeframes specified in District Rule 4623, Table 3 shall constitute a violation of this rule. [District Rule 4623] N*

- *If a component type for a given tank is found to leak during an annual inspection, operator shall conduct quarterly inspections of that component type on the tank or tank system for four consecutive quarters. If no components are found to leak after four consecutive quarters, the operator may revert to annual inspections. [District Rule 4623] N*

- *Any component found to be leaking on two consecutive annual inspections is in violation of this rule, even if covered under the voluntary inspection and maintenance program. [District Rule 4623] N*

- *The owner or operator shall notify the APCO in writing at least three (3) days prior to performing tank degassing and interior tank cleaning activities. Written notification shall include the following: 1) the Permit to Operate number and physical location of the tank being degassed, 2) the date and time that tank degassing and cleaning activities will begin, 3) the degassing method, as allowed in this permit, to be used, 4) the method to be used to clean the tank, including any solvents to be used, and 5) the method to be used to dispose of any removed sludge, including methods that will be used to control emissions from the receiving vessel and emissions during transport. [District Rule 4623] N*

- *This tank shall be degassed before commencing interior cleaning by following one of the following options: 1) exhausting VOCs contained in the tank vapor space to the vapor recovery system under Permit to Operate N-845-22 until the organic vapor concentration is 5,000 ppmv or less, or is 10 percent or less of the lower explosion limit (LEL), whichever is less, or 2) by displacing VOCs contained in the tank vapor space to the vapor recovery system under Permit to Operate N-845-22 by filling the tank with a suitable liquid until 90 percent or more of the maximum operating level of the tank is filled. Suitable liquids are organic liquids having a TVP of less than 0.5 psia, water, clean produced water, or produced water derived from crude oil having a TVP less than 0.5 psia, or 3) by displacing VOCs contained in the tank vapor space to the vapor recovery system under Permit to Operate N-845-22 by filling the tank with a suitable gas. Degassing shall continue until the operator has achieved a vapor displacement equivalent to at least 2.3 times the tank capacity. Suitable gases are air, nitrogen,*

carbon dioxide, or natural gas containing less than 10 percent VOC by weight. [District Rules 2201 and 4623] N

- *During tank degassing, the operator shall discharge or displace organic vapors contained in the tank vapor space to an APCO-approved vapor recovery system. [District Rule 4623] N*

- *This tank shall be in compliance with the applicable requirements of District Rule 4623 at all times during draining, degassing, and refilling the tank with an organic liquid having a TVP of 0.5 psia or greater. [District Rule 4623] N*

- *After a tank has been degassed pursuant to the requirements of this permit, vapor control requirements are not applicable until an organic liquid having a TVP of 0.5 psia or greater is placed, held, or stored in this tank. [District Rule 4623] N*

- *While performing tank cleaning activities, the owner or operators may only use the following cleaning agents: water and clean (produced) water, diesel, solvents with an initial boiling point of greater than 302 degrees F, solvents with a vapor pressure of less than 0.5 psia, or solvents with 50 grams of VOC per liter or less. [District Rule 4623] N*

- *Steam cleaning shall only be allowed at locations where wastewater treatment facilities are limited, or during the months of December through March. [District Rule 4623] N*

- *During sludge removal from tanks containing organic liquids with a true vapor pressure of 1.5 psia or greater, the owner or operator shall vent emissions from the sludge receiving vessel to the vapor recovery system under Permit to Operate N-845-22. [District Rules 2201 and 4623] N*

- *The owner or operator shall only transport removed sludge from tanks containing organic liquids with a true vapor pressure of 1.5 psia or greater, in closed, liquid leak-free containers. [District Rule 4623] N*

- *The owner or operator shall store removed sludge from tanks containing organic liquids with a true vapor pressure of 1.5 psia or greater, until final disposal, in vapor leak-free containers, or in tanks complying with the vapor control requirements of District Rule 4623. Sludge that is to be used to manufacture roadmix, as defined in District Rule 2020, is not required to be stored in this manner. Roadmix manufacturing operations exempt pursuant to District Rule 2020 shall maintain documentation of their compliance with Rule 2020, and shall readily make said documentation available for District inspection upon request. [District Rule 4623] N*

Section 6.2 requires TVP and API gravity testing of stored organic liquid in uncontrolled fixed roof tank.

This is a controlled fixed roof tank. Therefore, this tank is not subject to the requirements of this section.

Section 6.4.6 requires that the control efficiency of any VOC destruction device shall be determined by EPA testing methods. Therefore, the following condition will be listed on the permit to ensure compliance:

- *The control efficiency of the vapor recovery system under Permit to Operate N-845-22, measured and calculated as carbon, shall be determined by US EPA Method 25, except when the outlet concentration must be below 50 ppm in order to meet the standard, in which case US EPA Method 25a may be used. US EPA Method 18 may be used in lieu of US EPA Method 25 or US EPA Method 25A provided the identity and approximate concentrations of the analyses/compounds in the sample gas stream are known before analysis with the gas chromatograph and the gas chromatograph is calibrated for each of the known analytes/compounds to ensure that the VOC concentrations are neither under- or over-reported. Analysis of halogenated exempt compounds shall be analyzed by ARB Method 422 "Exempt Halogenated VOCs in Gases September 12, 1990". [District Rule 4623] N*

Section 6.4.8 requires that the measurements of a gas-leak concentration shall be determined by EPA Method 21. Therefore, the following condition will be listed on the permit to ensure compliance:

- *A leak-free condition is defined as a condition without a gas or liquid leak. A gas leak is defined as a reading in excess of 10,000 ppmv as methane, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. A liquid leak is defined as a dripping rate of more than three drops per minute. A reading in excess of 10,000 ppmv as methane above background or a liquid leak of greater than three drops per minute is a violation of this permit and Rule 4623 and shall be reported as a deviation. [District Rule 4623]*

Compliance with the requirements of this Rule is expected.

N-845-24-0

Section 5.1 of this rule requires Group C vessels (capacity greater than 39,600 gallons) storing liquids with a TVP of greater than 1.5 psia but less than 11 psia to be equipped with a floating roof or have vapor control installed.

The applicant is proposing to install an internal floating roof storage tank, therefore, the requirements of this section are satisfied.

Section 5.1.3 requires all tanks to be leak-free, as defined by Section 3.17 of the rule. The following condition will be listed on the permit to ensure compliance:

- *A leak-free condition is defined as a condition without a gas or liquid leak. A gas leak is defined as a reading in excess of 10,000 ppmv as methane, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. A liquid leak is defined as a dripping rate of more than three drops per minute. A reading in excess of 10,000 ppmv as methane*

above background or a liquid leak of greater than three drops per minute is a violation of this permit and Rule 4623 and shall be reported as a deviation. [District Rule 4623]

Section 5.4.1, the internal floating roof tanks shall be equipped with seals that meet the criteria set forth in Section 5.3 except for complying with the requirement specified in Section 5.3.2.1.3.

This tank is a welded type tank and is equipped with mechanical shoe-type design primary seal, so this tank must meet all the specifications listed in Section 5.3.2.1. Therefore, the following conditions will be listed on the permit to ensure compliance:

- *{2506} Gaps between the tank shell and the primary seal shall not exceed 1 1/2 inches. [District Rule 4623]*
- *{2507} The cumulative length of all gaps between the tank shell and the primary seal greater than 1/2 inch shall not exceed 10% of the circumference of the tank. [District Rule 4623]*
- *{2508} The cumulative length of all primary seal gaps greater than 1/8 inch shall not exceed 30% of the circumference of the tank. [District Rule 4623]*
- *{2509} No continuous gap in the primary seal greater than 1/8 inch wide shall exceed 10% of the tank circumference. [District Rule 4623]*
- *{2510} No gap between the tank shell and the secondary seal shall exceed 1/2 inch. [District Rule 4623]*
- *{2511} The cumulative length of all gaps between the tank shell and the secondary seal, greater than 1/8 inch shall not exceed 5% of the tank circumference. [District Rule 4623]*
- *{2555} The metallic shoe-type seal shall be installed so that one end of the shoe extends into the stored liquid and the other end extends a minimum vertical distance of 18 inches above the stored liquid surface. [District Rule 4623]*
- *{2513} The geometry of the metallic-shoe type seal shall be such that the maximum gap between the shoe and the tank shell shall be no greater than 3 inches for a length of at least 18 inches in the vertical plane above the liquid. [District Rule 4623]*
- *{2514} There shall be no holes, tears, or openings in the secondary seal or in the primary seal envelope that surrounds the annular vapor space enclosed by the roof edge, seal fabric, and secondary seal. [District Rule 4623]*
- *{2515} The secondary seal shall allow easy insertion of probes of up to 1 1/2 inches in width in order to measure gaps in the primary seal. [District Rule 4623]*
- *{2516} The secondary seal shall extend from the roof to the tank shell and shall not be attached to the primary seal. [District Rule 4623]*

Section 5.4.3 requires the owner or operator to comply with floating roof landing requirements specified in Section 5.3.1.3. Therefore, the following condition will be listed on the permit to ensure compliance:

- *The floating roof shall be floating on the surface of the stored liquid at all times (i.e., off the roof leg supports) except during the initial fill until the roof is lifted off the leg supports and when the tank is completely emptied and subsequently refilled. When the roof is resting on the leg supports the processes of filling or emptying and refilling the tank shall be continuous and shall be accomplished as rapidly as possible. Whenever the owner or operator intends to land the roof on its legs, the owner or operator shall notify the APCO in writing at least five calendar days prior to performing the work. The tank must be in compliance with this rule before it may land the roof on its legs. [District Rule 4623 and 40 CFR 60.112b(a)(1)(i)]*

Section 5.5.1 requires that all openings in the roof used for sampling and gauging, except pressure-vacuum valves complying with Section 5.2, shall provide a projection below the liquid surface to prevent belching of liquid and to prevent entrained organic vapor from escaping from the liquid contents of the tank. The tank shall be equipped with a cover, seal or lid. Therefore, the following condition will be listed on the permit to ensure compliance:

- *{2517} All openings in the roof used for sampling and gauging, except pressure-vacuum valves which shall be set to within 10% of the maximum allowable working pressure of the roof, shall provide a projection below the liquid surface to prevent belching of liquid and to prevent entrained or formed organic vapor from escaping from the liquid contents of the tank and shall be equipped with a cover, seal or lid that shall be in a closed position at all times, with no visible gaps and be gas tight, except when the device or appurtenance is in use. [District Rule 4623]*

Section 5.5.2.1 requires that internal floating roof deck fittings shall meet all the requirements specified in Section 5.5.2.1.1 through 5.5.2.1.6. Therefore, the following conditions will be listed on the permit to ensure compliance:

- *Each opening in a non-contact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and rim space vents shall provide a projection below the liquid surface. [District Rule 4623 and 40 CFR Part 60.112b(a)(1)(iii)]*

- *Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains shall be equipped with a cover, or a lid shall be maintained in a closed position at all times (i.e. no visible gaps) except when the device is in use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted in place except when they are in use. [District Rule 4623 and 40 CFR Part 60.112b(a)(1)(iv)]*

- *Automatic bleeder vents shall be equipped with a gasket and shall be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the leg roof supports. [District Rule 4623 and 40 CFR Part 60.112b(a)(1)(v)]*

- *Rim vents shall be equipped with a gasket and shall be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting. [District Rule 4623 and 40 CFR Part 60.112b(a)(1)(vi)]*

- *Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The well shall have a slit fabric cover that covers at least 90 percent of the opening. The fabric cover must be impermeable. [District Rule 4623 and 40 CFR Part 60.112b(a)(1)(vii)]*

- *Each penetration of the internal floating roof that allows for the passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover. The fabric sleeve must be impermeable. [District Rule 4623 and 40 CFR Part 60.112b(a)(1)(viii)]*

Sections 5.5.2.4 list requirements for slotted guidepole. Per applicant, this internal floating roof storage tank will equip with a slotted guidepole. Therefore, the following conditions will be listed on the permit to ensure compliance:

- *All slotted sampling or gauging wells shall provide a projection below the liquid surface. [District Rule 4623]*

- *The gap between the pole wiper and the slotted guidepole shall be added to the gaps measured to determine compliance with the secondary seal requirement, and in no case shall exceed one-eighth inch. [District Rule 4623]*

Section 6.1.4 requires the owner or operator shall perform a visually inspections, and conduct actual gap measurements according to the timelines specified in this section. Therefore, the following conditions will be listed on the permit to ensure compliance:

- *The owner or operator shall visually inspect the internal floating roof, and its appurtenant parts, fittings, etc. and measure the gaps of the primary seal and/or secondary seal prior to filling the tank for newly constructed, repair, or rebuilt internal floating roof tanks. If holes, tears, or openings in the primary seal, the secondary seal, the seal fabric or defects in the internal floating roof or its appurtenant parts, components, fittings, etc., are found, they shall be repaired prior to filling the tank. [District Rule 4623 and 40 CFR Part 60.113b(a)(1)]*

- *The owner or operator shall visually inspect, through the manholes, roof hatches, or other opening on the fixed roof, the internal floating roof and its appurtenant parts, fittings, etc., and the primary seal and/or secondary seal at least once every 12 months after the tank is initially filled with an organic liquid. There should be no visible organic liquid on the roof, tank walls, or anywhere. Other than the gap criteria specified by this rule, no holes, tears, or other openings are allowed that would permit the escape of*

vapors. Any defects found are violations of this rule. [District Rule 4623 and 40 CFR Part 60.113b(a)(2)]

- *The owner or operator shall conduct actual gap measurements of the primary seal and/or secondary seal at least once every 60 months. Other than the gap criteria specified by this permit, no holes, tears, or other openings are allowed that would permit the escape of hydrocarbon vapors. Any defects found shall constitute a violation of this rule. [District Rule 4623]*

Section 6.3 requires the owner or operator shall retain accurate records required by this rule for a period of five years. This tank is subject to the requirements of Section 6.3.5. Therefore, the following conditions will be listed on the permit to ensure compliance:

- *The owner or operator shall submit the reports of the floating roof tank inspections to the APCO within five calendar days after the completion of the inspection only for those tanks that failed to meet the applicable requirements of Rule 4623, Sections 5.2 through 5.5. The inspection report for tanks that that have been determined to be in compliance with the requirements of Sections 5.2 through 5.5 need not be submitted to the APCO, but the inspection report shall be kept on-site and made available upon request by the APCO. The inspection report shall contain all necessary information to demonstrate compliance with the provisions of this rule, including the following: 1) Date the storage vessel was emptied, date of inspection and names and titles of company personnel doing the inspection. 2) Tank identification number and Permit to Operate number. 3) Observed condition of each component of the control equipment (seals, internal floating roof, and fittings). 4) Measurements of the gaps between the tank shell and primary and secondary seals. 5) Leak free status of the tank and floating roof deck fittings. Records of the leak-free status shall include the vapor concentration values measured in parts per million by volume (ppmv). 6) Data, supported by calculations, demonstrating compliance with the requirements specified in Sections 5.4 and 5.5.2.4.3 of Rule 4623. 7) Nature of defects and any corrective actions or repairs performed on the tank in order to comply with rule 4623 and 40 CFR Part 60 Subpart Kb and the date(s) such actions were taken. [District Rule 4623, and 40 CFR Part 60.115b(a)(2) and (3)]*

- *All records shall shall be maintained on site for a period of at least five years and shall be made available for District, ARB, and EPA inspection upon request. [District Rules 1070, 2201, and 4623, and 40 CFR Part 63.11094(a)]*

Section 6.3.7 requires an operator to maintain records of the external floating roof or internal floating roof landing activities. Therefore, the following condition will be listed on the permit to ensure compliance:

- *The owner or operator shall maintain the records of the internal floating roof landing activities that are performed pursuant to Rule 4623, Section 5.3.1.3 and 5.4.3. The records shall include information on the TVP, API gravity, and type of organic liquid stored in the tank, the purpose of landing the roof on its legs, the date of roof landing, duration the roof was on its legs, the level or height at which the tank roof was set to land on its legs, and the lowest liquid level in the tank. [District Rule 4623]*

Compliance with the requirements of this Rule is expected.

District Rule 4624 Transfer of Organic Liquid

Section 3.8 classifis an organic liquids transfer facility with daily transfer throguhput more than 20,000 gallons of organic liquids as Class 1 organic liquid transfer facility.

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The daily organic liquids throughput limit of this loading rack is 771,120 gallons. Therefore, this facility is considered a Class 1 organic liquid transfer facility per Section 3.8.

Section 5.1 requires emissions of VOC from this transfer operation to not exceed 0.08 pounds per 1,000 gallons of organic liquid transferred and use one of the following systems: (1) bottom loaded organic liquid loading operation, (2) a system that routes emissions from the transfer operation to: (a) a vapor collection and control system, (b) a fixed roof container that meets the control requirements specified in Rule 4623 (Storage of Organic Liquids), (c) a floating roof container that meets the control requirements specified in District Rule 4623, (d) a pressure vessel equipped with an APCO-approved vapor recovery system that meets the control requirements of Rule 4623, or (e) a closed VOC emission control system.

This unit is a bottom loaded loading rack and will serve by a new vapor collection and control system (N-845-22). The 0.08 lb/1000 gallons emission limit will be listed on the vapor recovery system permit to enforce this requirement, and compliance with this requirement is expected.

Section 5.4 states that the vapor collection and control system must operate such that the pressure in the delivery tank being loaded does not exceed 18 inches water column pressure and 6 inches water column vacuum.

This requirement will be listed on the VRS permit to ensure compliance with this requirement.

Section 5.6 states that the transfer rack and vapor collection equipment must be designed, installed, maintained, and operated such that there are no leaks and no excess organic liquid drainage at disconnections. Therefore, the following condition will be listed on the permit to ensure compliance:

- *The transfer rack and vapor collection equipment shall be maintained and operated such that there are no leaks and is no excess organic liquid drainage during disconnections. A leak is defined as the dripping of organic compounds at a rate of more than three drops per minute or the detection of organic compounds, in excess of 10,000 ppm as methane measured at a distance of one centimeter from potential source in accordance with EPA Method 21. Excess organic liquid drainage is defined as*

an average of more than 10 milliliters liquid drainage per disconnect from three consecutive disconnects. [District Rule 4624]

Section 5.9.1 states that the operator of an organic liquid transfer facility must inspect the vapor collection system, the vapor disposal system, and each transfer rack handling organic liquids for leaks during transfer at least once every calendar quarter using the test method prescribed in Section 6.3.8. Therefore, the following condition will be listed on the permit to ensure compliance:

- *The vapor collection system, the vapor processing system, and each transfer rack handling organic liquids shall be tested for leaks, using EPA Method 21, at least once every calendar quarter. [District Rule 4624]*

Section 5.9.3 states that all equipment that is found leaking must be repaired or replaced within 72 hours. If the leaking component cannot be repaired or replaced within 72 hours, the component must be taken out of service until it is repaired or replaced. The repaired or replaced equipment must be re-inspected the first time the equipment is on operation after performing the repair or replacement. Therefore, the following condition will be listed on the permit to ensure compliance:

- *The equipment that are found leaking shall be repaired or replaced within 72 hours of discovery. If the leaking component cannot be repaired or replaced within 72 hours, the component shall be taken out of service until such time the component is repaired or replaced. The repaired or replaced equipment shall be re-inspected the first time the equipment is in operation after the repair or replacement. [District Rule 4624]*

Section 5.9.4 states that the operator may apply for a written approval from the APCO to change the inspection frequency from quarterly to annually provided no leaks were found during five consecutive quarterly inspections. Upon the identification of any leak during an annual inspection, the frequency will return to quarterly inspections and the operator must contact the APCO in writing within 14 days. Therefore, the following condition will be listed on the permit to ensure compliance:

- *An owner or operator may apply for a written approval from the APCO to change the EPA Method 21 leak inspection frequency from quarterly to annually provided no leaks were found during five consecutive quarterly inspections. Upon identification of any leak during an annual inspection, the inspection frequency shall revert back to quarterly, and the operator shall contact the APCO in writing within 14 days. [District Rule 4624]*

Section 6.1.3 states that an operator subject to any part of Section 5.0 must keep records of the daily liquid throughput and the results of any leak inspections. Therefore, the following conditions will be listed on the permit to ensure compliance:

- *The owner or operator shall keep records of the daily organic liquids throughput, the cumulative annual organic liquids throughput, in gallons. [District Rules 2201 and 4624]*

- *The owner or operator shall maintain a log book that contains the following information: 1.) dates of leak inspections, 2.) the nature of the leak and the method of detection; 3.) findings, 4.) corrective action (date each leak is repaired), 5.) repair methods applied in each attempt to repair the leak; 6.) the reason for the delay if the leak is not repaired within 3 calendar days after discovery of the leak; 7.) the date of successful repair of the leak; and 8.) inspector name and signature. [District Rule 4624, 40 CFR Part 60.505 (c) 40 CFR Part 63.11089(g), and 40 CFR Part 63.11094(d)]*

Section 6.1.4 states that records shall be retained for a minimum of five years and shall be made readily available to the APCO, ARB, or EPA during normal business hours and submitted upon request to the APCO, ARB, or EPA. Therefore, the following conditions will be listed on the permit to ensure compliance:

- *All records shall be maintained on site for a period of at least five years and shall be made available for District, ARB, EPA inspection upon request. [District Rules 1070, 2201, and 4624, and 40 CFR Part 63.11094(a)]*

Section 6.2.1 requires that this facility to perform an initial source test of the VOC emission control system in accordance with the method prescribed in Section 6.3.2, and

Section 6.2.2 requires the operator to perform source test specified in Section 6.3.2 once every 60 months, but no more than 30 days before or after initial source test anniversary date. However, District Policy APR 1705 requires annual testing.

Therefore, the following condition will be listed on the VRS permit (N-845-22) to ensure compliance:

- *Source testing to demonstrate compliance with the VOC emission rate from the vapor recovery system serving the loading rack under Permit to Operate N-845-6, and the VOC removal efficiency of the vapor recovery system shall be conducted once every 60 months, but no more than 30 days before or after initial source test anniversary date. [District Rule 4624]*

Section 6.3.2 states that demonstrate compliance with the VOC emission limit shall be determined using 40 CFR 60.503 "Test Methods and Procedures" and EPA Methods 2A, 2B, 25A and 25B and ABR method 422, or ARB Test Procedure TP-203.1.

Therefore, the following condition will be listed on the VRS permit (N-845-22) to ensure compliance:

- *VOC emissions for source test purpose shall be determined using 40 CFR Part 60.503 "Test Methods and Procedures" and EPA Methods 2A, 2B, 25A and 25B, and ARB Method 422, or ARB Test Procedure TP-203.1. [District Rule 4624 and 40 CFR Part 63.11092(a)(1)]*

Compliance with the requirements of this Rule is expected.

California Health & Safety Code 42301.6 (School Notice)

As discussed in section III of this document, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

California Environmental Quality Act (CEQA)

The California Environmental Quality Act (CEQA) requires each public agency to adopt objectives, criteria, and specific procedures consistent with CEQA Statutes and the CEQA Guidelines for administering its responsibilities under CEQA, including the orderly evaluation of projects and preparation of environmental documents. The San Joaquin Valley Unified Air Pollution Control District (District) adopted its *Environmental Review Guidelines* (ERG) in 2001. The basic purposes of CEQA are to:

- Inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities;
- Identify the ways that environmental damage can be avoided or significantly reduced;
- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible; and
- Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

Greenhouse Gas (GHG) Significance Determination

It is determined that no other agency has or will prepare an environmental review document for the project. Thus the District is the Lead Agency for this project. The District's engineering evaluation (this document) demonstrates that the project would not result in an increase in project specific greenhouse gas emissions. The District therefore concludes that the project would have a less than cumulatively significant impact on global climate change.

District CEQA Findings

The District is the Lead Agency for this project because there is no other agency with broader statutory authority over this project. The District performed an Engineering Evaluation (this document) for the proposed project and determined that the activity will occur at an existing facility and the project involves negligible expansion of the existing use. Furthermore, the District determined that the activity will not have a significant effect on the environment. The District finds that the activity is categorically exempt from the provisions of CEQA pursuant to CEQA Guideline § 15031 (Existing Facilities), and finds that the project is exempt per the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment (CEQA Guidelines §15061(b)(3)).

IX. RECOMMENDATION

Compliance with all applicable rules and regulations is expected. Pending a successful NSR Public Noticing period, issue Authorities to Construct N-845-6-3, N-845-10-2, N-845-22-3, and N-845-24-0 subject to the permits conditions listed on the attached draft Authorities to Construct in Appendix I of this document.

X. BILLING INFORMATION

Annual Permit Fees				
Permit Number	Previous Fee Schedule	Fee Schedule & Description	Description	Annual Fee
N-845-6-3	3020-06	Miscellaneous	Miscellaneous	$ 105
N-845-10-2	3020-05	3020-05C (20,000 or Greater but Less Than 50,000 gallon)	20,000 Gallon	$ 135
N-845-22-3	3020-01	3020-01B Greater than 25 but Less Than 50 hp	42 hp	$ 117
N-845-24-0	N/A	3020-05G 1,000,000 or Greater	2,231,508 Gallon	$382

APPENDICES

Appendix I: *Draft Authorities to Construct (ATC)*
Appendix II: *Existing Permits to Operate (PTO)*
Appendix III: *SSPE1 Calculations*
Appendix IV: *BACT Guideline and Top-Down BACT Analysis*
Appendix V: *Tanks 4.0.9d Emissions Reports*
Appendix VI: *Baseline Emissions Calculations*
Appendix VII: *RMR Summary*

APPENDIX I

Draft Authorities to Construct (ATC)

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: N-845-6-3

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: TESORO LOGISTICS OPERATIONS LLC
MAILING ADDRESS: ATTN: BROOKS NEIGHBORS
19100 RIDGEWAY PARKWAY
SAN ANTONIO, TX 78259

LOCATION: 3003 NAVY DR
STOCKTON, CA 95206

EQUIPMENT DESCRIPTION:
MODIFICATION OF LOADING RACK SERVED BY CARB-CERTIFIED HYDROTECH CARBON ADSORPTION/ABSORPTION VAPOR RECOVERY SYSTEM (N-845-22): INSTALL ADDITIONAL LOADING ARM ASSEMBLIES, INCREASE THE DAILY ORGANIC LIQUIDS (AS DEFINED IN DISTRICT RULE 4624) THROUGHPUT FROM 450,000 GALLONS TO 771,120 GALLONS, AND ESTABLISH AN ANNUAL ORGANIC LIQUIDS THROUGHPUT LIMIT OF 240,350,000 GALLONS. THE POST-PROJECT EQUIPMENT DESCRIPTION BECOME: BULK LOADING RACK CONSISTING OF EIGHT GASOLINE/DENATURED ETHANOL LOADING ARMS AND EIGHT DIESEL LOADING ARMS SERVED BY THE CARBON ADSORPTION VAPOR RECOVERY SYSTEM (N-845-22).

CONDITIONS

1. Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 73 lb, 2nd quarter - 73 lb, 3rd quarter - 73 lb, and 4th quarter - 73 lb. Offsets shall be provided at an offset ratio 1.5 to 1. [District Rule 2201]
2. ERC certificates N-811-1 (or a certificate split from this certificate) and N-827-1 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]
3. This Authority to Construct shall be implemented concurrently with Authority to Construct N-845-22-3. [District Rule 2201]
4. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (209) 557-6400 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

DRAFT

DAVID WARNER, Director of Permit Services
N-845-6-3 : Feb 14 2012 5:23PM – SOW : Joint Inspection NOT Required

5. {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
6. Fugitive VOC from components, such as valve, flange, connector, pump seal, etc, associated with this permit unit shall not exceed 621 pounds in any one calendar year. [District Rule 2201]
7. Fugitive VOC emissions from component leaks shall be calculated using component count and appropriate emission factors from "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities", Table IV-1b (Feb 1999) - Marketing Terminal Average Emission Factors. [District Rule 2201]
8. The quantity of organic liquids (as defined in District Rule 4624) loaded through this loading rack shall not exceed 771,120 gallons in any one day and 240,350,000 gallons in any one calendar year. [District Rule 2201]
9. This loading rack shall be equipped with bottom loading equipment and a vapor collection and control system such that VOC emissions shall not exceed 0.08 pounds per 1,000 gallons of organic liquid loaded. [District Rule 4624]
10. The owner or operator shall notify the District of any breakdown condition as soon as reasonably possible, but no later than one hour after its detection, unless the owner or operator demonstrates to the District's satisfaction that the longer reporting period was necessary. [District Rule 1100]
11. The District shall be notified in writing within ten days following the correction of any breakdown condition. The breakdown notification shall include a description of the equipment malfunction or failure (e.g. breakdown of vapor recovery system), the date and cause of the initial failure, the estimated emissions in excess of those allowed including the amount of gasoline loaded during the breakdown period, and the methods utilized to restore normal operations. [District Rule 1100]
12. All vapors displaced from tank truck loading shall be vented to the vapor recovery system under Permit to Operate N-845-22. [District Rule 2201 and 40 CFR Part 60.502(a), (f), and (g)]
13. Gasoline shall be loaded only into vapor-tight tank trucks. [40 CFR Part 60.502(e) and 40 CFR Part 63.11088(a)]
14. The facility shall obtain the vapor tightness documentation specified in 40 CFR Part 60.505(b) for each gasoline tank truck that is to be loaded at the facility. [40 CFR Part 60.502(e)(1)]
15. The vapor collection and control system shall operate such that the pressure in the delivery tank being loaded does not exceed 18 inches water column pressure and 6 inches water column vacuum. [District Rule 4624 and 40 CFR Part 60.502(h)]
16. All delivery tanks which previously contained organic liquids, including gasoline, with a TVP greater than 1.5 psia at loading conditions shall be filled only at Class 1 loading facilities using bottom loading equipment with a vapor collection and control system operating such that VOC emissions do not exceed 0.08 pounds per 1,000 gallons of organic liquid loaded and which operate so the delivery tank does not exceed 18 inches water column pressure nor 6 inches water column vacuum. [District Rule 4624]
17. The vapor collection system, the vapor processing system, and each transfer rack handling organic liquids shall be tested for leaks, using EPA Method 21, at least once every calendar quarter. [District Rule 4624]
18. The transfer rack and vapor collection equipment shall be installed, maintained, and operated such that there are no leaks and no excess organic liquid drainage at disconnections. A leak is defined as the dripping of organic compounds at a rate of more than three drops per minute or the detection of organic compounds, in excess of 10,000 ppm as methane measured at a distance of one centimeter from potential source in accordance with EPA Method 21. Excess organic liquid drainage is defined as an average of more than 10 milliliters liquid drainage per disconnect from three consecutive disconnects. [District Rule 4624]
19. The equipment that are found leaking shall be repaired or replaced within 72 hours after detecting the leakage. If the leaking component cannot be repaired or replaced within 72 hours, the component shall be taken out of service until such time the component is repaired or replaced. The repaired or replacement equipment shall be reinspected the first time the equipment is in operation after the repair or replacement. [District Rule 4624]
20. Each calendar month, the vapor collection system, the vapor processing system and each loading rack handling gasoline shall be inspected during the loading of gasoline tank trucks for organic liquid and organic vapor leaks. For the purpose of this condition, detection methods incorporating sight, sound and smell are acceptable. [40 CFR Part 60.502(j) and 40 CFR Part 63.11089(a)]

CONDITIONS CONTINUE ON NEXT PAGE

21. An owner or operator may apply for a written approval from the APCO to change the inspection frequency from quarterly to annually provided no leaks were found during five consecutive quarterly inspections. Upon identification of any leak during an annual inspection, the inspection frequency shall revert back to quarterly, and the operator shall contact the APCO in writing within 14 days. [District Rule 4624]

22. For monthly leak inspection, a log book shall be used and shall be signed by the owner or operator at the completion of each inspection. A section of the log book shall contain a list, summary description, or diagram(s) showing the location of all equipment in gasoline service at the facility. [40 CFR Part 63.11089(b) and 40 CFR Part 63.11094(d)]

23. Documentation attesting to the vapor tightness of each truck loaded with gasoline shall be kept. The documentation file for each tank truck shall be updated at least once per year to reflect the current test results as determined by EPA Method 27. [40 CFR Part 60.505(a) and (b), and 40 CFR 63.11094(b)]

24. The owner or operator shall submit a semi-annual compliance report that includes each loading of a gasoline cargo tank for which vapor tightness documentation had not been previously obtained by the facility. [40 CFR Part 63.11088(f) and 40 CFR Part 63.11095(a)(2)]

25. The owner or operator shall maintain a log book that contains the following information: 1.) dates of leak inspections, 2.) the nature of the leak and the method of detection; 3.) findings, 4.) corrective action (date each leak is repaired), 5.) repair methods applied in each attempt to repair the leak; 6.) the reason for the delay if the leak is not repaired within 3 calendar days after discovery of the leak; 7.) the date of successful repair of the leak; and 8.) inspector name and signature. [District Rule 4624, 40 CFR Part 60.505(c), 40 CFR Part 63.11089(g), and 40 CFR Part 63.11094(e)]

26. The owner or operator shall keep records of the daily organic liquids throughput, and the cumulative annual organic liquids throughput, in gallons. [District Rules 2201 and 4624]

27. All records shall be maintained on site for a period of at least five years and shall be made available for District, ARB, and EPA inspection upon request. [District Rules 1070, 2201, 4624, and 40 CFR Part 63.11094(a)]

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: N-845-10-2

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: TESORO LOGISTICS OPERATIONS LLC
MAILING ADDRESS: ATTN: BROOKS NEIGHBORS
19100 RIDGEWAY PARKWAY
SAN ANTONIO, TX 78259

LOCATION: 3003 NAVY DR
STOCKTON, CA 95206

EQUIPMENT DESCRIPTION:
MODIFICATION OF ONE 20,000 GALLON TRANSMIX STORAGE TANK SERVED BY CARB-CERTIFIED HYDROTECH CARBON ADSORPTION/ABSORPTION VAPOR RECOVERY SYSTEM (N-845-22): DISCONNECT THE TANK'S VAPOR COLLECTION PATH FROM THE EXISTING VAPOR RECOVERY SYSTEM AND REROUTE TO THE NEW VAPOR RECOVERY SYSTEM (N-845-22) AND CHANGE THE LIQUID CONTENT OF THE TANK FROM TRANSMIX TO ORGANIC LIQUID: THE POST-PROJECT EQUIPMENT DESCRIPTION BECOME: ONE 20,000 GALLON VERTICAL FIXED ROOF VOLATILE ORGANIC LIQUID STORAGE TANK (TK-420) SERVED BY A CARBON ADSORPTION VAPOR RECOVERY SYSTEM (N-845-22)

CONDITIONS

1. This Authority to Construct shall be implemented concurrently with Authority to Construct N-845-22-3. [District Rule 2201]
2. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
3. {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
4. The quantity of organic liquids (as defined in District Rule 4623) processed through this tank shall not exceed 800 gallons in any one day (on an annual average basis) and 197,820 gallons in any one calendar year. [District Rule 2201]
5. Gasoline (as defined in 40 CFR Part 63.11100) shall not be stored in this tank. [District Rule 2201]
6. All piping, valves, and fittings shall be constructed and maintained in a leak-free condition. [District Rule 4623]
7. Any tank gauging or sampling device on a tank vented to the vapor recovery system shall be equipped with a leak-free cover which shall be closed at all times except during gauging or sampling. [District Rule 4623]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (209) 557-6400 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

DRAFT

DAVID WARNER, Director of Permit Services
N-845-10-2 : Feb 14 2012 5:23PM – SOW Joint Inspection NOT Required

8. The tank shall be equipped with a vapor recovery system consisting of a closed vent system that collects all VOCs from the storage tank, and a VOC control device. This tank shall be served by the vapor recovery system under Permit to Operate N-845-22. The vapor recovery system shall be maintained in gas-tight condition. The VOC control device shall be an approved VOC recovery device that reduces the inlet VOC emissions by at least 99% by weight as determined by the test method specified in Section 6.4.6 of District Rule 4623. [District Rules 2201 and 4623]

9. A leak-free condition is defined as a condition without a gas or liquid leak. A gas leak is defined as a reading in excess of 10,000 ppmv as methane, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. A liquid leak is defined as a dripping rate of more than three drops per minute. A reading in excess of 10,000 ppmv as methane above background or a liquid leak of greater than three drops per minute is a violation of this permit and Rule 4623 and shall be reported as a deviation. [District Rule 4623]

10. The owner or operator shall visually inspect tank shell, hatches, seals, seams, cable seals, valves, flanges, connectors, and any other piping components directly affixed to the tank and within five feet of the tank at least once per year for liquid leaks, and with a portable hydrocarbon detection instrument conducted in accordance with EPA Method 21 for gas leaks. Operator shall also visually or ultrasonically inspect as appropriate, the external shells and roofs of uninsulated tanks for structural integrity annually. [District Rule 4623]

11. Upon detection of a liquid leak, defined as a leak rate of greater than or equal to 30 drops per minute, operator shall repair the leak within 8 hours. For leaks with a liquid leak rate of between 3 and 30 drops per minute, the leaking component shall be repaired within 24 hours after detection. [District Rule 4623]

12. Upon detection of a gas leak, defined as a VOC concentration of greater than 10,000 ppmv measured in accordance with EPA Method 21 by a portable hydrocarbon detection instrument that is calibrated with methane, operator shall take one of the following actions: 1) eliminate the leak within 8 hours after detection; or 2) if the leak cannot be eliminated, then minimize the leak to the lowest possible level within 8 hours after detection by using best maintenance practices, and eliminate the leak within 48 hours after minimization. In no event shall the total time to minimize and eliminate a leak exceed 56 hours after detection. [District Rule 4623]

13. Components found to be leaking either liquids or gases shall be immediately affixed with a tag showing the component to be leaking. Operator shall maintain records of the liquid or gas leak detection readings, date/time the leak was discovered, and date/time the component was repaired to a leak-free condition. [District Rule 4623]

14. Leaking components that have been discovered by the operator that have been immediately tagged and repaired within the timeframes specified in District Rule 4623, Table 3 shall not constitute a violation of this rule. Leaking components as defined by District Rule 4623 discovered by District staff that were not previously identified and/or tagged by the operator, and/or any leaks that were not repaired within the timeframes specified in District Rule 4623, Table 3 shall constitute a violation of this rule. [District Rule 4623]

15. If a component type for a given tank is found to leak during an annual inspection, operator shall conduct quarterly inspections of that component type on the tank or tank system for four consecutive quarters. If no components are found to leak after four consecutive quarters, the operator may revert to annual inspections. [District Rule 4623]

16. Any component found to be leaking on two consecutive annual inspections is in violation of this rule, even if covered under the voluntary inspection and maintenance program. [District Rule 4623]

17. The control efficiency of the vapor recovery system under Permit to Operate N-845-22, measured and calculated as carbon, shall be determined by US EPA Method 25, except when the outlet concentration must be below 50 ppm in order to meet the standard, in which case US EPA Method 25a may be used. US EPA Method 18 may be used in lieu of US EPA Method 25 or US EPA Method 25A provided the identity and approximate concentrations of the analyses/compounds in the sample gas stream are known before analysis with the gas chromatograph and the gas chromatograph is calibrated for each of the known analytes/compounds to ensure that the VOC concentrations are neither under- or over-reported. Analysis of halogenated exempt compounds shall be analyzed by ARB Method 422 "Exempt Halogenated VOCs in Gases September 12, 1990". [District Rule 4623]

CONDITIONS CONTINUE ON NEXT PAGE

18. The owner or operator shall notify the APCO in writing at least three (3) days prior to performing tank degassing and interior tank cleaning activities. Written notification shall include the following: 1) the Permit to Operate number and physical location of the tank being degassed, 2) the date and time that tank degassing and cleaning activities will begin, 3) the degassing method, as allowed in this permit, to be used, 4) the method to be used to clean the tank, including any solvents to be used, and 5) the method to be used to dispose of any removed sludge, including methods that will be used to control emissions from the receiving vessel and emissions during transport. [District Rule 4623]

19. This tank shall be degassed before commencing interior cleaning by following one of the following options: 1) exhausting VOCs contained in the tank vapor space to the vapor recovery system under Permit to Operate N-845-22 until the organic vapor concentration is 5,000 ppmv or less, or is 10 percent or less of the lower explosion limit (LEL), whichever is less, or 2) by displacing VOCs contained in the tank vapor space to the vapor recovery system under Permit to Operate N-845-22 by filling the tank with a suitable liquid until 90 percent or more of the maximum operating level of the tank is filled. Suitable liquids are organic liquids having a TVP of less than 0.5 psia, water, clean produced water, or produced water derived from crude oil having a TVP less than 0.5 psia, or 3) by displacing VOCs contained in the tank vapor space to the vapor recovery system under Permit to Operate N-845-22 by filling the tank with a suitable gas. Degassing shall continue until the operator has achieved a vapor displacement equivalent to at least 2.3 times the tank capacity. Suitable gases are air, nitrogen, carbon dioxide, or natural gas containing less than 10 percent VOC by weight. [District Rules 2201 and 4623]

20. During tank degassing, the operator shall discharge or displace organic vapors contained in the tank vapor space to an APCO-approved vapor recovery system. [District Rule 4623]

21. This tank shall be in compliance with the applicable requirements of District Rule 4623 at all times during draining, degassing, and refilling the tank with an organic liquid having a TVP of 0.5 psia or greater. [District Rule 4623]

22. After a tank has been degassed pursuant to the requirements of this permit, vapor control requirements are not applicable until an organic liquid having a TVP of 0.5 psia or greater is placed, held, or stored in this tank. [District Rule 4623]

23. While performing tank cleaning activities, the owner or operators may only use the following cleaning agents: water and clean (produced) water, diesel, solvents with an initial boiling point of greater than 302 degrees F, solvents with a vapor pressure of less than 0.5 psia, or solvents with 50 grams of VOC per liter or less. [District Rule 4623]

24. Steam cleaning shall only be allowed at locations where wastewater treatment facilities are limited, or during the months of December through March. [District Rule 4623]

25. During sludge removal from tanks containing organic liquids with a true vapor pressure of 1.5 psia or greater, the owner or operator shall vent emissions from the sludge receiving vessel to the vapor recovery system under Permit to Operate N-845-22. [District Rules 2201 and 4623]

26. The owner or operator shall only transport removed sludge from tanks containing organic liquids with a true vapor pressure of 1.5 psia or greater, in closed, liquid leak-free containers. [District Rule 4623]

27. The owner or operator shall store removed sludge from tanks containing organic liquids with a true vapor pressure of 1.5 psia or greater, until final disposal, in vapor leak-free containers, or in tanks complying with the vapor control requirements of District Rule 4623. Sludge that is to be used to manufacture roadmix, as defined in District Rule 2020, is not required to be stored in this manner. Roadmix manufacturing operations exempt pursuant to District Rule 2020 shall maintain documentation of their compliance with Rule 2020, and shall readily make said documentation available for District inspection upon request. [District Rule 4623]

28. The operator shall maintain an inspection log containing the following 1) type of component leaking; 2) date and time of leak detection, and method of detection; 3) date and time of leak repair, and emission level of recheck after leak is repaired; 4) method used to minimize the leak to lowest possible level within 8 hours after detection. [District Rule 4623]

29. The owner or operator shall keep records of the daily organic liquids throughput, and the cumulative annual organic liquids throughput, in gallons. [District Rules 2201 and 4623]

30. All records shall be maintained on site for a period of at least five years and shall be made available for District, ARB, and EPA inspection upon request. [District Rules 1070, 2201, and 4623]

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: N-845-22-3 **ISSUANCE DATE:** DRAFT

LEGAL OWNER OR OPERATOR: TESORO LOGISTICS OPERATIONS LLC
MAILING ADDRESS: ATTN: BROOKS NEIGHBORS
19100 RIDGEWAY PARKWAY
SAN ANTONIO, TX 78259

LOCATION: 3003 NAVY DR
STOCKTON, CA 95206

EQUIPMENT DESCRIPTION:
MODIFICATION OF HYDROTECH CARBON ADSORPTION/ABSORPTION VAPOR RECOVERY SYSTEM: REPLACE THIS VAPOR RECOVERY SYSTEM WITH A HIGHER CAPACITY VAPOR RECOVERY SYSTEM

CONDITIONS

1. Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 1,522 lb, 2nd quarter - 1,522 lb, 3rd quarter - 1,522 lb, and 4th quarter - 1,522 lb. Offsets shall be provided at an offset ratio 1.5 to 1. [District Rule 2201]
2. ERC certificates N-811-1 (or a certificate split from this certificate) and N-827-1 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]
3. This Authority to Construct shall be implemented concurrently with Authorities to Construct N-845-6-3 and N-845-10-2. [District Rule 2201]
4. Upon implementation of this Authority to Construct, the manufacturer name and model number of the vapor recovery system serving the loading rack under Permit to Operate N-845-6 and the storage tank under Permit to Operate N-845-10 shall be established. [District Rule 2201]
5. The height of the vapor recovery system's exhaust stack from the ground shall be at least 25 feet. Upon implementation of this Authority to Construct, this condition could be removed. [District Rule 4102]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (209) 557-6400 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

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DAVID WARNER, Director of Permit Services
N-845-22-3 : Feb 14 2012 5:23PM – SOW : Joint Inspection NOT Required

6. The airflow rate of the vapor recovery system's exhaust stack shall not be less than 167 cfm averaged over an hour while truck loading occurs. Upon implementation of this Authority to Construct, this condition could be removed. [District Rule 4102]
7. The inside diameter of the vapor recovery system's exhaust stack at the point of release shall not exceed 8 inches. Upon implementation of this Authority to Construct, this condition could be removed. [District Rule 4102]
8. The owner or operator shall notify the District of any breakdown condition as soon as reasonably possible, but no later than one hour after its detection, unless the owner or operator demonstrates to the District's satisfaction that the longer reporting period was necessary. [District Rule 1100]
9. The District shall be notified in writing within ten days following the correction of any breakdown condition. The breakdown notification shall include a description of the equipment malfunction or failure (e.g. breakdown of vapor recovery system), the date and cause of the initial failure, the estimated emissions in excess of those allowed including the amount of gasoline loaded during the breakdown period, and the methods utilized to restore normal operations. [District Rule 1100]
10. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
11. {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
12. The VOC removal efficiency shall be at least 99% and all organic liquids loading shall be conducted utilizing bottom loading and dry-break couplers. [District Rule 2201]
13. The vapor collection and control system shall operate such that the pressure in the delivery tank being loaded does not exceed 18 inches water column pressure and 6 inches water column vacuum. [District Rule 4624 and 40 CFR Part 60.502(h)]
14. The vapor collection system, the vapor processing system, and each transfer rack handling organic liquids shall be tested for leaks, using EPA Method 21, at least once every calendar quarter. [District Rule 4624]
15. The transfer rack and vapor collection equipment shall be installed, maintained, and operated such that there are no leaks and no excess organic liquid drainage at disconnections. A leak is defined as the dripping of organic compounds at a rate of more than three drops per minute or the detection of organic compounds, in excess of 10,000 ppm as methane measured at a distance of one centimeter from potential source in accordance with EPA Method 21. Excess organic liquid drainage is defined as an average of more than 10 milliliters liquid drainage per disconnect from three consecutive disconnects. [District Rule 4624]
16. The equipment that are found leaking shall be repair or replaced within 72 hours after detecting the leakage. If the leaking component cannot be repaired or replaced within 72 hours, the component shall be taken out of service until such time the component is repaired or replaced. The repaired or replacement equipment shall be reinspected the first time the equipment is in operation after the repair or replacement. [District Rule 4624]
17. Each calendar month, the vapor collection system, the vapor processing system and each loading rack handling gasoline shall be inspected during the loading of "product" tank trucks for organic liquid and organic vapor leaks. For the purpose of this condition, "product" means gasoline, denatured ethanol, additives, and/or product blended with any of the following: gasoline, denatured ethanol, and additives; and the detection methods incorporating sight, sound and smell are acceptable. [40 CFR Part 60.502(j) and 40 CFR Part 63.11089(a)]
18. An owner or operator may apply for a written approval from the APCO to change the inspection frequency from quarterly to annually provided no leaks were found during five consecutive quarterly inspections. Upon identification of any leak during an annual inspection, the inspection frequency shall revert back to quarterly, and the operator shall contact the APCO in writing within 14 days. [District Rule 4624]

CONDITIONS CONTINUE ON NEXT PAGE

19. During source testing, the loading rack's vapor collection and control system shall be tested at every loading position to demonstrate the pressure in the delivery tanks being loaded complies with the requirements specified in this permit. Compliance shall be determined by calibrating and installing a liquid manometer, magnehelic device, or other instrument demonstrated to be equivalent, capable of measuring up to 500 mm water gauge pressure with a precision of 2.5 mm water gauge, on the terminal's vapor collection and control system at a pressure tap as close as possible to the connection with the "product" tank truck. For the purpose of this condition, "product" means gasoline, denatured ethanol, additives, and/or product blended with any of the following: gasoline, denatured ethanol, and additives. The highest instantaneous pressure measurement as well as all pressure measurements at 5 minute intervals during delivery vessel loading must be recorded. [40 CFR Part 60.503(d)]
20. Source testing to demonstrate compliance with the VOC emission rate from the vapor recovery system serving the loading rack under Permit to Operate N-845-6, and the VOC removal efficiency of the vapor recovery system shall be conducted within 60 days of initial start-up. [District Rules 2201]
21. Source testing to demonstrate compliance with the VOC emission rate from the vapor recovery system serving the loading rack under Permit to Operate N-845-6, and the VOC removal efficiency of the vapor recovery system shall be conducted once every 60 months, but no more than 30 days before or after initial source test anniversary date. [District Rule 4624]
22. {33} Sampling facilities for source testing shall be provided in accordance with the provisions of Rule 1081 (Source Sampling). [District Rule 1081]
23. Source testing shall be conducted using methods and procedures approved by District. The District must be notified 30 days prior to any compliance source testing and a pretest plan outlining the test methods and procedures shall be submitted for the District approval no later than 15 days prior to each test. [District Rule 1081]
24. Source testing shall be witnessed or authorized by District Personnel and samples shall be collected and analyzed by a California Air Resources Board (CARB) certified testing laboratory or a CARB certified source testing company. [District Rule 1081]
25. VOC emissions for source test purpose shall be determined using 40 CFR Part 60.503 "Test Methods and Procedures" and EPA Methods 2A, 2B, 25A and 25B, and ARB Method 422, or ARB Test Procedure TP-203.1. [District Rule 4624 and 40 CFR Part 63.11092(a)(1)]
26. Source testing for VOC removal efficiency shall be conducted utilizing EPA Method 18, EPA Method 25A or CARB Method 100. Alternative methods may be utilized provided they are previously approved by the District, in writing. [District Rule 2201]
27. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]
28. The owner or operator shall install, calibrate, certify, maintain, and quality-assure a Continuous Emissions Monitoring System (CEMS) which continuously measures and records the VOCs (and other parameters, if any, to determine compliance with lb-VOC/1,000 gallon of organic liquid) while organic liquid vapors are displaced to this vapor recovery system. The CEMS shall be installed in the exhaust air stream. [40 CFR 63.11092(b)]
29. The owner or operator shall document the reasons for any change to the operating parameter established during initial performance testing. [40 CFR Part 63.11092(c)]
30. The CEMS for measuring emissions other than opacity shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period, or shall meet equivalent specifications established by mutual agreement of the District, the CARB and the EPA. [40 CFR Part 63.8(c)(4)(ii)]
31. The CEMS shall meet the requirements in 40 CFR 60 Appendix B Performance Specification 8 (PS 8) or 8A (PS 8A), as appropriate, or shall meet equivalent specifications established by mutual agreement of the District, the CARB, and the EPA. [40 CFR Part 63.8(a)(2)]
32. The CEMS must be audited at least once every six months by conducting cylinder gas audits (CGA) using the procedure in 40 CFR Part 60 Appendix F, 5.1.2. Audit reports shall be submitted along with semi-annual compliance reports to the District, the CARB, and the EPA. [40 CFR Part 63.8(e)]
33. The CEMS data shall be reduced to hourly averages as specified in 40 CFR 63.8(g), or by other methods deemed equivalent by mutual agreement with the District, the CARB, and the EPA. [40 CFR Part 63.8(g)]

CONDITIONS CONTINUE ON NEXT PAGE

34. The owner or operator shall maintain files of all information (including all reports and notification) required by this part recorded in a form suitable and readily available for expeditious inspection and review. The files shall be retained for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. [40 CFR Part 63.10]

35. The owner or operator shall submit an excess emissions report to the Administrator at the time the semiannual compliance report is submitted. The report shall include all applicable information specified in 40 CFR 63.11095 (b)(1) through (5). [40 CFR Part 63.11095(b)]

36. APCO or an authorized representative shall be allowed to inspect, as determined to be necessary, the required monitoring devices to ensure that such devices are functioning properly. [District Rule 1080]

37. For monthly leak inspection, a log book shall be used and shall be signed by the owner or operator at the completion of each inspection. A section of the log book shall contain a list, summary description, or diagram(s) showing the location of all equipment in gasoline service at the facility. [40 CFR Part 63.11089(b) and 40 CFR Part 63.11094(d)]

38. Documentation attesting to the vapor tightness of each truck loaded with gasoline shall be kept. The documentation file for each tank truck shall be updated at least once per year to reflect the current test results as determined by EPA method 27. [40 CFR Part 60.505(a) and (b), and 40 CFR 63.11094(b)]

39. The owner or operator shall submit a semi-annual compliance report that includes each loading of a gasoline cargo tank for which vapor tightness documentation had not been previously obtained by the facility. [40 CFR Part 63.11088(f) and 40 CFR Part 63.11095(a)(2)]

40. The owner or operator shall maintain a log book that contains the following information: 1.) dates of leak inspections, 2.) the nature of the leak and the method of detection; 3.) findings, 4.) corrective action (date each leak is repaired), 5.) repair methods applied in each attempt to repair the leak; 6.) the reason for the delay if the leak is not repaired within 3 calendar days after discovery of the leak; 6.) the date of successful repair of the leak; and 8.) inspector name and signature. [District Rule 4624, 40 CFR Part 60.505(c), 40 CFR Part 63.11089(g), and 40 CFR Part 63.11094(e)]

41. All records shall be maintained on site for a period of at least five years and shall be made available for District, ARB, and EPA inspection upon request. [District Rules 1070, 2201, 4624, and 40 CFR Part 60.505, and 40 CFR Part 63.11094(a)]

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: N-845-24-0

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: TESORO LOGISTICS OPERATIONS LLC
MAILING ADDRESS: ATTN: BROOKS NEIGHBORS
19100 RIDGEWAY PARKWAY
SAN ANTONIO, TX 78259

LOCATION: 3003 NAVY DR
STOCKTON, CA 95206

EQUIPMENT DESCRIPTION:
ONE 2,321,508 GALLON ABOVEGROUND WELDED INTERNAL FLOATING ROOF GASOLINE STORAGE TANK WITH A MECHANICAL SHOE TYPE PRIMARY SEAL AND A RIM-MOUNTED SECONDARY SEAL

CONDITIONS

1. Prior to operating equipment under this Authority to Construct, permittee shall surrender VOC emission reduction credits for the following quantity of emissions: 1st quarter - 787 lb, 2nd quarter - 787 lb, 3rd quarter - 788 lb, and 4th quarter - 788 lb. Offsets shall be provided at an offset ratio 1.5 to 1. [District Rule 2201]
2. ERC certificates N-811-1 (or a certificate split from this certificate) and N-827-1 (or a certificate split from this certificate) shall be used to supply the required offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]
3. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
4. VOC emissions from this tank shall not exceed 11.4 pounds in any one day. [District Rule 2201]
5. Fugitive VOC from components, such as valve, flange, connector, pump seal, etc, associated with this permit unit shall not exceed 15 pounds in any one calendar year. [District Rule 2201]
6. Fugitive VOC emissions from component leaks shall be calculated using component count and appropriate emission factors from "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities", Table IV-1b (Feb 1999) - Marketing Terminal Average Emission Factors. [District Rule 2201]
7. {2506} Gaps between the tank shell and the primary seal shall not exceed 1 1/2 inches. [District Rule 4623]

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (209) 557-6400 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director/APCO

DRAFT

DAVID WARNER, Director of Permit Services
N-845-24-0 : Feb 14 2012 5:23PM – SCW : Joint Inspection NOT Required

8. {2507} The cumulative length of all gaps between the tank shell and the primary seal greater than 1/2 inch shall not exceed 10% of the circumference of the tank. [District Rule 4623]

9. {2508} The cumulative length of all primary seal gaps greater than 1/8 inch shall not exceed 30% of the circumference of the tank. [District Rule 4623]

10. {2509} No continuous gap in the primary seal greater than 1/8 inch wide shall exceed 10% of the tank circumference. [District Rule 4623]

11. {2510} No gap between the tank shell and the secondary seal shall exceed 1/2 inch. [District Rule 4623]

12. {2555} The metallic shoe-type seal shall be installed so that one end of the shoe extends into the stored liquid and the other end extends a minimum vertical distance of 18 inches above the stored liquid surface. [District Rule 4623]

13. {2513} The geometry of the metallic-shoe type seal shall be such that the maximum gap between the shoe and the tank shell shall be no greater than 3 inches for a length of at least 18 inches in the vertical plane above the liquid. [District Rule 4623]

14. {2514} There shall be no holes, tears, or openings in the secondary seal or in the primary seal envelope that surrounds the annular vapor space enclosed by the roof edge, seal fabric, and secondary seal. [District Rule 4623]

15. {2515} The secondary seal shall allow easy insertion of probes of up to 1 1/2 inches in width in order to measure gaps in the primary seal. [District Rule 4623]

16. {2516} The secondary seal shall extend from the roof to the tank shell and shall not be attached to the primary seal. [District Rule 4623]

17. The floating roof shall be floating on the surface of the stored liquid at all times (i.e., off the roof leg supports) except during the initial fill until the roof is lifted off the leg supports and when the tank is completely emptied and subsequently refilled. When the roof is resting on the leg supports the processes of filling or emptying and refilling the tank shall be continuous and shall be accomplished as rapidly as possible. Whenever the owner or operator intends to land the roof on its legs, the owner or operator shall notify the APCO in writing at least five calendar days prior to performing the work. The tank must be in compliance with this rule before it may land the roof on its legs. [District Rule 4623 and 40 CFR 60.112b(a)(1)(i)]

18. {2517} All openings in the roof used for sampling and gauging, except pressure-vacuum valves which shall be set to within 10% of the maximum allowable working pressure of the roof, shall provide a projection below the liquid surface to prevent belching of liquid and to prevent entrained or formed organic vapor from escaping from the liquid contents of the tank and shall be equipped with a cover, seal or lid that shall be in a closed position at all times, with no visible gaps and be gas tight, except when the device or appurtenance is in use. [District Rule 4623]

19. A leak-free condition is defined as a condition without a gas or liquid leak. A gas leak is defined as a reading in excess of 10,000 ppmv as methane, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. A liquid leak is defined as a dripping rate of more than three drops per minute. A reading in excess of 10,000 ppmv as methane above background or a liquid leak of greater than three drops per minute is a violation of this permit and Rule 4623 and shall be reported as a deviation. [District Rule 4623]

20. Each opening in a non-contact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and rim space vents shall provide a projection below the liquid surface. [District Rule 4623 and 40 CFR Part 60.112b(a)(1)(iii)]

21. Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains shall be equipped with a cover, or a lid shall be maintained in a closed position at all times (i.e. no visible gaps) except when the device is in use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted in place except when they are in use. [District Rule 4623 and 40 CFR Part 60.112b(a)(1)(iv)]

22. Automatic bleeder vents shall be equipped with a gasket and shall be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the leg roof supports. [District Rule 4623 and 40 CFR Part 60.112b(a)(1)(v)]

CONDITIONS CONTINUE ON NEXT PAGE

23. Rim vents shall be equipped with a gasket and shall be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting. [District Rule 4623 and 40 CFR Part 60.112b(a)(1)(vi)]

24. Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The well shall have a slit fabric cover that covers at least 90 percent of the opening. The fabric cover must be impermeable. [District Rule 4623 and 40 CFR Part 60.112b(a)(1)(vii)]

25. Each penetration of the internal floating roof that allows for the passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover. The fabric sleeve must be impermeable. [District Rule 4623 and 40 CFR Part 60.112b(a)(1)(viii)]

26. Each penetration of the internal floating roof that allows for the passage of a ladder shall have a gasketed sliding cover. [40 CFR Part 60.112b(a)(1)(ix)]

27. All slotted sampling or gauging wells shall provide a projection below the liquid surface. [District Rule 4623]

28. The gap between the pole wiper and the slotted guidepole shall be added to the gaps measured to determine compliance with the secondary seal requirement, and in no case shall exceed one-eighth inch. [District Rule 4623]

29. The owner or operator shall visually inspect the internal floating roof, and its appurtenant parts, fittings, etc. and measure the gaps of the primary seal and/or secondary seal prior to filling the tank for newly constructed, repair, or rebuilt internal floating roof tanks. If holes, tears, or openings in the primary seal, the secondary seal, the seal fabric or defects in the internal floating roof or its appurtenant parts, components, fittings, etc., are found, they shall be repaired prior to filling the tank. [District Rule 4623 and 40 CFR Part 60.113b(a)(1)]

30. The owner or operator shall visually inspect, through the manholes, roof hatches, or other opening on the fixed roof, the internal floating roof and its appurtenant parts, fittings, etc., and the primary seal and/or secondary seal at least once every 12 months after the tank is initially filled with an organic liquid. There should be no visible organic liquid on the roof, tank walls, or anywhere. Other than the gap criteria specified by this rule, no holes, tears, or other openings are allowed that would permit the escape of vapors. Any defects found are violations of this rule. [District Rule 4623 and 40 CFR Part 60.113b(a)(2)]

31. The owner or operator shall conduct actual gap measurements of the primary seal and/or secondary seal at least once every 60 months. Other than the gap criteria specified by this permit, no holes, tears, or other openings are allowed that would permit the escape of hydrocarbon vapors. Any defects found shall constitute a violation of this rule. [District Rule 4623]

32. If any failure (i.e. visible organic liquid on the internal floating roof, tank walls or anywhere, holes or tears in the seal fabric) is detected during 12 month visual inspection, the owner or operator shall repair the items or empty and remove the storage vessel from service within 45 days. If the detected failure cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the APCO in the inspection report. Such a request must document that alternate storage capacity is unavailable and specify a schedule of actions the company will take that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible. [40 CFR Part 60.113b(a)(2)]

33. The owner or operator shall notify the District in writing at least 30 days prior to conduct the visual inspection of the storage vessel, so the District can arrange an observer. [40 CFR Part 60.113b(a)(5)]

34. The owner or operator shall furnish the Administrator with a report that describes the control equipment and certifies that the control equipment meets the specification of §60.112b(a)(1) and §60.113b(a)(1) within 15 days after the initial startup of the equipment. [40 CFR Part 60.115b(a)(1)]

CONDITIONS CONTINUE ON NEXT PAGE

35. The owner or operator shall submit the reports of the floating roof tank inspections to the APCO within five calendar days after the completion of the inspection only for those tanks that failed to meet the applicable requirements of Rule 4623, Sections 5.2 through 5.5. The inspection report for tanks that that have been determined to be in compliance with the requirements of Sections 5.2 through 5.5 need not be submitted to the APCO, but the inspection report shall be kept on-site and made available upon request by the APCO. The inspection report shall contain all necessary information to demonstrate compliance with the provisions of this rule, including the following: 1) Date the storage vessel was emptied, date of inspection and names and titles of company personnel doing the inspection. 2) Tank identification number and Permit to Operate number. 3) Observed condition of each component of the control equipment (seals, internal floating roof, and fittings). 4) Measurements of the gaps between the tank shell and primary and secondary seals. 5) Leak free status of the tank and floating roof deck fittings. Records of the leak-free status shall include the vapor concentration values measured in parts per million by volume (ppmv). 6) Data, supported by calculations, demonstrating compliance with the requirements specified in Sections 5.4 and 5.5.2.4.3 of Rule 4623. 7) Nature of defects and any corrective actions or repairs performed on the tank in order to comply with rule 4623 and 40 CFR Part 60 Subpart Kb and the date(s) such actions were taken. [District Rule 4623, and 40 CFR Part 60.115b(a)(2) and (3)]

36. Each calendar month, the owner or operator shall perform leak inspection of all equipment in gasoline service. Equipment in gasoline service is defined as a piece of equipment used in a system that transfers gasoline or gasoline vapors. For this inspection, detection methods incorporating sight, sound, and smell are acceptable. [40 CFR Part 63.11089(a)]

37. For monthly leak inspection, a log book shall be used and shall be signed by the owner or operator at the completion of each inspection. A section of the log book shall contain a list, summary description, or diagram(s) showing the location of all equipment in gasoline service at the facility. [40 CFR Part 63.11089(b) and 40 CFR Part 63.11094(d)]

38. The owner or operator shall visually inspect the internal floating roof, the primary seal and/or secondary seal, gaskets, slotted membrane and/or sleeve seals each time the storage tank is emptied and degassed. If holes, tears, or openings in the primary seal, the secondary seal, the seal fabric or defects in the internal floating roof or its appurtenant parts, components, fittings, etc., are found, they shall be repaired prior to refilling the tank. [40 CFR Part 60.113b(a)(4)]

39. Each detection of a liquid or vapor leak shall be recorded in the log book. When a leak is detected, an initial attempt at repair shall be made as soon as practicable, but no later than 5 calendar days after the leak is detected. Repair or replacement of leaking equipment shall be completed within 15 calendar days after detection of each leak. Delay of repair of leaking equipment will be allowed if the repair is not feasible within 15 days. The owner or operator shall provide in the semiannual report the reason(s) why the repair was not feasible and the date each repair was completed. [40 CFR Part 63.11089(d)]

40. The owner or operator shall submit a semi-annual compliance report that contains all required information stipulated under 40 CFR 63.11095(a) to the Administrator and the District. [40 CFR 63.11095(a)]

41. The owner or operator shall maintain a log book that contains the following information: 1.) dates of leak inspections, 2.) the nature of the leak and the method of detection; 3.) findings, 4.) corrective action (date each leak is repaired), 5.) repair methods applied in each attempt to repair the leak; 6.) the reason for the delay if the leak is not repaired within 15 calendar days after discovery of the leak; 7.) the date of successful repair of the leak; and 8.) inspector name and signature. [40 CFR Part 63.11089(g), 40 CFR Part 63.11094(e), and 40 CFR Part 63.11095(a)(3)]

42. The owner or operator shall submit an excess emissions report that contains all required information that stipulated under 40 CFR 63.11095(b)(5) to the Administrator and the District. The excess emissions report shall be submitted along with the semi-annual compliance report. [40 CFR 63.11095(b)(5)]

43. The owner or operator shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel, and these records shall be kept for the life of the source. [40 CFR Part 60.116b(b)]

44. The owner or operator shall maintain records of the volatile organic liquid stored, the period of storage, and TVP of that volatile organic liquid during the respective storage period. TVP shall be determined using the data on the Reid vapor pressure (highest receipt or highest tank sample results) and actual storage temperature. [District Rule 2201 and 40 CFR Part 60.116b(c)]

CONDITIONS CONTINUE ON NEXT PAGE

45. The owner or operator shall maintain the records of the internal floating roof landing activities that are performed pursuant to Rule 4623, Section 5.3.1.3 and 5.4.3. The records shall include information on the TVP, API gravity, and type of organic liquid stored in the tank, the purpose of landing the roof on its legs, the date of roof landing, duration the roof was on its legs, the level or height at which the tank roof was set to land on its legs, and the lowest liquid level in the tank. [District Rule 4623]

46. All records shall be maintained on site for a period of at least five years and shall be made available for District, ARB, and EPA inspection upon request. [District Rules 1070, 2201, and 4623, and 40 CFR Part 63.11094(a)]

APPENDIX II

Existing Permits to Operate (PTO)

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: N-845-6-1 **EXPIRATION DATE:** 07/31/2013

EQUIPMENT DESCRIPTION:
LOADING RACK SERVED BY CARB-CERTIFIED HYDROTECH CARBON ADSORPTION/ABSORPTION VAPOR RECOVERY SYSTEM (N-845-22)

PERMIT UNIT REQUIREMENTS

1. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. All vapors shall be vented to the vapor recovery system (N-845-22). [District Rule 4624]
3. The loading and vapor collection equipment shall be maintained and operated such that there are no leaks and no excess organic liquid drainage at disconnections [District Rule 4624]
4. The vapor collection and control system shall operate such that the pressure in the delivery tank being loaded does not exceed 18 inches water column pressure and 6 inches water column vacuum. [District Rule 4624]
5. The total gasoline throughput of the entire facility shall not exceed 450,000 gallons per day. [District Rule 2201]
6. The District shall be notified of any breakdown conditions in accordance with Rule 1100 (Equipment Breakdown). [District Rule 1100]
7. A log of breakdowns shall include the dates and hours during which vapor control equipment is down and the gallons of product received in each tank and loaded out during the breakdown periods. The log shall be made available for District inspection. [District Rule 1100]
8. Records of daily gasoline throughput shall be maintained. Such records shall be retained on-site for a period of at least five years, and shall be made available for District inspection upon request. [District Rule 1070]

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: N-845-10-0 **EXPIRATION DATE:** 07/31/2013

EQUIPMENT DESCRIPTION:
ONE 20,000 GALLON TRANSMIX STORAGE TANK SERVED BY CARB-CERTIFIED HYDROTECH CARBON ADSORPTION/ABSORPTION VAPOR RECOVERY SYSTEM (N-845-22)

PERMIT UNIT REQUIREMENTS

1. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. The tank shall be equipped with a vapor recovery system consisting of a closed vent system that collects all VOCs from the storage tank, and a VOC control device. The vapor recovery system shall be APCO-approved and maintained in gas-tight condition. The VOC control device shall be either of the following: a vapor return or condensation system that connects to a gas pipeline distribution system, or an approved VOC destruction device the reduces the inlet VOC emissions by at least 95% by weight as determined by the test method specified in Section 6.4.7. [District Rule 4623]
3. All piping, valves, and fittings shall be constructed and maintained in a gas-tight condition. [District Rule 4623]
4. A gas-tight condition is defined as a condition without a gas leak. A gas leak is defined as a reading in excess of 10,000 ppmv, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. A reading in excess of 10,000 ppmv above background is a violation of this permit and Rule 4623 and shall be reported as a deviation. [District Rule 4623]
5. Any tank gauging or sampling device on a tank vented to the vapor recovery system shall be equipped with a gas-tight cover which shall be closed at all times except during gauging or sampling. [District Rule 4623]

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: N-845-22-1 **EXPIRATION DATE:** 07/31/2013

EQUIPMENT DESCRIPTION:
HYDROTECH CARBON ADSORPTION/ABSORPTION VAPOR RECOVERY SYSTEM

PERMIT UNIT REQUIREMENTS

1. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. The District shall be notified of any breakdown conditions in accordance with Rule 1100 (Equipment Breakdown). [District Rule 1100]
3. The total volatile organic compound (VOC) emissions from the vapor recovery system shall not exceed 0.08 pounds per 1,000 gallon of liquid throughput. [District Rule 4624]

APPENDIX III

SSPE1 Calculations

SSPE1 Calculations:

The facility has three existing gasoline storage tanks under permits N-845-1 (TK# 20), N-845-4 (TK# 1700), and N-845-5 (TK# 40). No daily emissions limit or daily throughput limit is listed on each of these permits.

N-845-1-2

One 420,000 gallon gasoline storage tank (No. 20) with a steel pan internal floating roof with a metal shoe primary seal and a fabric wiper secondary seal

N-845-4-1

One 714,000 gallon welded external floating roof organic liquid storage tank (No. 1700) with a mechanical shoe primary seal and a secondary wiper seal

N-845-5-2

One 840,000 gallon gasoline storage tank (No. 40) with a steel pan internal floating roof with a metal shoe primary seal and a fabric wiper secondary seal

The facility-wide gasoline throughput is limited to 450,000 gallons per day (equivalent to 164,250,000 gallon/year) under the loading rack permit (N-845-6). In order to determine the maximum potential emissions from these gasoline tanks, the annual gasoline throughput limit will distribute between these tanks based on each tank's working capacity provided by the applicant. EPA's TANKS 4.09d program will be used to estimate the emissions from these tanks, and the emissions are summarized below:

Permit	Tank #	Working Capacity	Throughput Limit (gal/yr)	Estimated # of turnovers	Potential Emission (lb/yr)	Potential Emission (ton/yr)
N-845-1-2	20	346,668	33,257,764	95.94	1,621	0.81
N-845-4-1	1700	615,468	59,045,230	95.94	4,477	2.24
N-845-5-2	40	749,952	71,947,006	95.94	2,761	1.38
Total		1,712,088	164,250,000		8,862	4.43

N-845-6-1

Loading rack served by CARB-certified Hydrotech carbon adsorption/absorption vapor recovery system (N-845-22)

See detail calculations in section VII.C.1 of this document.
Annual PE1 = 329 lb-VOC/year (fugitive emissions)

N-845-10-0

One 20,000 gallon transmix storage tank served by CARB-certified Hydrotech carbon adsorption/absorption vapor recovery system (N-845-22)

See detail calculations in section VII.C.1 of this document.
Annual PE1 = 241 lb-VOC/year

N-845-22-1

Hydrotech carbon adsorption/absorption vapor recovery system

See detail calculations in section VII.C.1 of this document.
Annual PE1 = 13,140 lb-VOC/year

N-845-23-0

4,000 gallon diesel lubricity additive storage tank

Per engineering evaluation N-1051387, the annual PE1 was estimated by the use of EPA Tanks program, which based on the annual throughput limit of 11,857 gallons, the site meteorological data, and the content was jet fuel (jet naphtha, JP-4) as the conservatively assumption. Since this tank was permitted back in 2005, therefore, a new run of the EPA Tanks program was performed with using same assumptions and updated site meteorological data. See detail emissions report of this updated run at the end of this Appendix.

SSPE1

Permit Number	Pollutants (lb/yr)
	VOC
N-845-1-2	1,621
N-845-4-1	4,477
N-845-5-2	2,761
N-845-6-1	329
N-845-10-0	241
N-845-22-1	13,140
N-845-23-0	182
SSPE1	22,751
Major Source Threshold Level	20,000
Major Source?	Yes

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

Identification

User Identification:	N-845-10-1
City:	Stockton
State:	California
Company:	Tesoro Logistics Operations LLC
Type of Tank:	Vertical Fixed Roof Tank
Description:	Tesoro Tank #420

Tank Dimensions

Shell Height (ft):	29.00
Diameter (ft):	11.00
Liquid Height (ft) :	29.00
Avg. Liquid Height (ft):	14.50
Volume (gallons):	19,782.00
Turnovers:	10.00
Net Throughput(gal/yr):	197,820.00
Is Tank Heated (y/n):	N

Paint Characteristics

Shell Color/Shade:	White/White
Shell Condition	Good
Roof Color/Shade:	White/White
Roof Condition:	Good

Roof Characteristics

Type:	Cone
Height (ft)	0.00
Slope (ft/ft) (Cone Roof)	0.06

Breather Vent Settings

Vacuum Settings (psig):	-0.03
Pressure Settings (psig)	0.03

Meterological Data used in Emissions Calculations: Stockton, California (Avg Atmospheric Pressure = 14.72 psia)

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

N-845-10-1 - Vertical Fixed Roof Tank
Stockton, California

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 15)	All	63.76	57.19	70.34	61.57	8.7246	7.7382	9.8075	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3

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

N-845-10-1 - Vertical Fixed Roof Tank
Stockton, California

Annual Emission Calcaulations	
Standing Losses (lb):	2,347.8031
Vapor Space Volume (cu ft):	1,388.8703
Vapor Density (lb/cu ft):	0.0932
Vapor Space Expansion Factor:	0.3855
Vented Vapor Saturation Factor:	0.1289
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	1,388.8703
Tank Diameter (ft):	11.0000
Vapor Space Outage (ft):	14.6146
Tank Shell Height (ft):	29.0000
Average Liquid Height (ft):	14.5000
Roof Outage (ft):	0.1146
Roof Outage (Cone Roof)	
Roof Outage (ft):	0.1146
Roof Height (ft):	0.0000
Roof Slope (ft/ft):	0.0625
Shell Radius (ft):	5.5000
Vapor Density	
Vapor Density (lb/cu ft):	0.0932
Vapor Molecular Weight (lb/lb-mole):	60.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	8.7246
Daily Avg. Liquid Surface Temp. (deg. R):	523.4335
Daily Average Ambient Temp. (deg. F):	61.5458
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	521.2358
Tank Paint Solar Absorptance (Shell):	0.1700
Tank Paint Solar Absorptance (Roof):	0.1700
Daily Total Solar Insulation Factor (Btu/sqft day):	1,642.9167
Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.3855
Daily Vapor Temperature Range (deg. R):	26.2943
Daily Vapor Pressure Range (psia):	2.0694
Breather Vent Press. Setting Range(psia):	0.0600
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	8.7246
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	7.7382
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	9.8075
Daily Avg. Liquid Surface Temp. (deg R):	523.4335
Daily Min. Liquid Surface Temp. (deg R):	516.8599
Daily Max. Liquid Surface Temp. (deg R):	530.0070
Daily Ambient Temp. Range (deg. R):	25.6583
Vented Vapor Saturation Factor	
Vented Vapor Saturation Factor:	0.1289
Vapor Pressure at Daily Average Liquid: Surface Temperature (psia):	8.7246

Vapor Space Outage (ft):	14.6146
Working Losses (lb):	2,465.5725
Vapor Molecular Weight (lb/lb-mole):	60.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	8.7246
Annual Net Throughput (gal/yr.):	197,820.0000
Annual Turnovers:	10.0000
Turnover Factor:	1.0000
Maximum Liquid Volume (gal):	19,782.0000
Maximum Liquid Height (ft):	29.0000
Tank Diameter (ft):	11.0000
Working Loss Product Factor:	1.0000
Total Losses (lb):	4,813.3756

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

Emissions Report for: Annual

N-845-10-1 - Vertical Fixed Roof Tank
Stockton, California

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
Gasoline (RVP 15)	2,465.57	2,347.80	4,813.38

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

Identification

User Identification:	N-845-23-0
City:	Stockton
State:	California
Company:	Tesoro Logistics Operations LLC
Type of Tank:	Horizontal Tank
Description:	Tesoro Tank #11

Tank Dimensions

Shell Length (ft):		11.00
Diameter (ft):		8.00
Volume (gallons):		4,000.00
Turnovers:		2.96
Net Throughput(gal/yr):		11,857.00
Is Tank Heated (y/n):	N	
Is Tank Underground (y/n):	N	

Paint Characteristics

Shell Color/Shade:	White/White
Shell Condition	Good

Breather Vent Settings

Vacuum Settings (psig):	-0.03
Pressure Settings (psig)	0.03

Meterological Data used in Emissions Calculations: Stockton, California (Avg Atmospheric Pressure = 14.72 psia)

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

N-845-23-0 - Horizontal Tank
Stockton, California

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
Jet naphtha (JP-4)	All	63.76	57.19	70.34	61.57	1.4129	1.2157	1.6101	80.0000			120.00	Option 1: VP60 = 1.3 VP70 = 1.6

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

N-845-23-0 - Horizontal Tank
Stockton, California

Annual Emission Calcaulations

Standing Losses (lb):	150.0252
Vapor Space Volume (cu ft):	352.1785
Vapor Density (lb/cu ft):	0.0201
Vapor Space Expansion Factor:	0.0754
Vented Vapor Saturation Factor:	0.7695
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	352.1785
Tank Diameter (ft):	8.0000
Effective Diameter (ft):	10.5878
Vapor Space Outage (ft):	4.0000
Tank Shell Length (ft):	11.0000
Vapor Density	
Vapor Density (lb/cu ft):	0.0201
Vapor Molecular Weight (lb/lb-mole):	80.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	1.4129
Daily Avg. Liquid Surface Temp. (deg. R):	523.4335
Daily Average Ambient Temp. (deg. F):	61.5458
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	521.2358
Tank Paint Solar Absorptance (Shell):	0.1700
Daily Total Solar Insulation Factor (Btu/sqft day):	1,642.9167
Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.0754
Daily Vapor Temperature Range (deg. R):	26.2943
Daily Vapor Pressure Range (psia):	0.3944
Breather Vent Press. Setting Range(psia):	0.0600
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	1.4129
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	1.2157
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	1.6101
Daily Avg. Liquid Surface Temp. (deg R):	523.4335
Daily Min. Liquid Surface Temp. (deg R):	516.8599
Daily Max. Liquid Surface Temp. (deg R):	530.0070
Daily Ambient Temp. Range (deg. R):	25.6583
Vented Vapor Saturation Factor	
Vented Vapor Saturation Factor:	0.7695
Vapor Pressure at Daily Average Liquid: Surface Temperature (psia):	1.4129
Vapor Space Outage (ft):	4.0000
Working Losses (lb):	31.9101
Vapor Molecular Weight (lb/lb-mole):	80.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	1.4129
Annual Net Throughput (gal/yr.):	11,857.0000

Annual Turnovers:	2.9643
Turnover Factor:	1.0000
Tank Diameter (ft):	8.0000
Working Loss Product Factor:	1.0000
Total Losses (lb):	181.9353

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

Emissions Report for: Annual

N-845-23-0 - Horizontal Tank
Stockton, California

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
Jet naphtha (JP-4)	31.91	150.03	181.94

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

Identification

User Identification:	Stockton Tank #20 (N-848-1-2)
City:	Stockton
State:	California
Company:	Tesoro Refining & Marketing Co.
Type of Tank:	Internal Floating Roof Tank
Description:	Premium Gasoline

Tank Dimensions

Diameter (ft):	45.00
Volume (gallons):	346,668.00
Turnovers:	95.94
Self Supp. Roof? (y/n):	N
No. of Columns:	1.00
Eff. Col. Diam. (ft):	1.10

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:	Mechanical Shoe
Secondary Seal	Rim-mounted

Deck Characteristics

Deck Fitting Category:	Detail
Deck Type:	Welded

Deck Fitting/Status	Quantity
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	4
Automatic Gauge Float Well/Bolted Cover, Gasketed	1
Ladder Well (36-in. Diam.)/Sliding Cover, Gasketed	1
Roof Leg or Hanger Well/Adjustable	12
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1

Meterological Data used in Emissions Calculations: Stockton, California (Avg Atmospheric Pressure = 14.72 psia)

Emissions Report - Detail Format
Liquid Contents of Storage Tank

Stockton Tank #20 - Internal Floating Roof Tank
Stockton, California

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 15.0)	Jan	55.06	51.49	58.67	61.57	7.4408	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0167	N/A	N/A	120.1900	0.0250	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
Benzene						1.0172	N/A	N/A	78.1100	0.0180	0.0038	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.0586	N/A	N/A	84.1600	0.0024	0.0005	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.0913	N/A	N/A	106.1700	0.0140	0.0003	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.6810	N/A	N/A	86.1700	0.0100	0.0035	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isooctane							N/A	N/A	114.2200	0.0400	0.0000	114.22	
Isopropyl benzene						0.0389	N/A	N/A	120.2000	0.0050	0.0000	120.20	Option 2: A=6.93666, B=1460.793, C=207.78
Toluene						0.2827	N/A	N/A	92.1300	0.0700	0.0041	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						9.6044	N/A	N/A	59.7465	0.7456	0.9867	89.36	
Xylene (-m)						0.0759	N/A	N/A	106.1700	0.0700	0.0011	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Gasoline (RVP 13.5)	Feb	57.96	53.17	62.75	61.57	6.9749	N/A	N/A	62.0000			92.00	Option 4: RVP=13.5, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0188	N/A	N/A	120.1900	0.0250	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
Benzene						1.1033	N/A	N/A	78.1100	0.0180	0.0042	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.1459	N/A	N/A	84.1600	0.0024	0.0006	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1010	N/A	N/A	106.1700	0.0140	0.0003	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.8140	N/A	N/A	86.1700	0.0100	0.0039	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isooctane							N/A	N/A	114.2200	0.0400	0.0000	114.22	
Isopropyl benzene						0.0446	N/A	N/A	120.2000	0.0050	0.0000	120.20	Option 2: A=6.93666, B=1460.793, C=207.78
Toluene						0.3097	N/A	N/A	92.1300	0.0700	0.0046	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						8.9896	N/A	N/A	61.7284	0.7456	0.9850	89.36	
Xylene (-m)						0.0841	N/A	N/A	106.1700	0.0700	0.0013	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Gasoline (RVP 13.5)	Mar	60.22	54.36	66.07	61.57	7.2749	N/A	N/A	62.0000			92.00	Option 4: RVP=13.5, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0206	N/A	N/A	120.1900	0.0250	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
Benzene						1.1749	N/A	N/A	78.1100	0.0180	0.0043	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.2186	N/A	N/A	84.1600	0.0024	0.0006	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1094	N/A	N/A	106.1700	0.0140	0.0003	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.9242	N/A	N/A	86.1700	0.0100	0.0039	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isooctane							N/A	N/A	114.2200	0.0400	0.0000	114.22	
Isopropyl benzene						0.0485	N/A	N/A	120.2000	0.0050	0.0000	120.20	Option 2: A=6.93666, B=1460.793, C=207.78
Toluene						0.3324	N/A	N/A	92.1300	0.0700	0.0047	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						9.3737	N/A	N/A	61.7213	0.7456	0.9847	89.36	
Xylene (-m)						0.0911	N/A	N/A	106.1700	0.0700	0.0013	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Gasoline (RVP 7.2)	Apr	63.26	55.88	70.54	61.57	3.8402	N/A	N/A	68.0000			92.00	Option 4: RVP=7.2, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0233	N/A	N/A	120.1900	0.0250	0.0002	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
Benzene						1.2775	N/A	N/A	78.1100	0.0180	0.0081	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.3224	N/A	N/A	84.1600	0.0024	0.0011	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1215	N/A	N/A	106.1700	0.0140	0.0008	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.0815	N/A	N/A	86.1700	0.0100	0.0073	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isooctane							N/A	N/A	114.2200	0.0400	0.0000	114.22	
Isopropyl benzene						0.0543	N/A	N/A	120.2000	0.0050	0.0001	120.20	Option 2: A=6.93666, B=1460.793, C=207.78
Toluene						0.3651	N/A	N/A	92.1300	0.0700	0.0090	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						4.8899	N/A	N/A	67.5639	0.7456	0.9710	89.36	

Xylene (-m)						0.1013	N/A	N/A	106.1700	0.0700	0.0025	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Gasoline (RVP 7.2)	May	67.10	58.83	75.36	61.57	4.1446	N/A	N/A	68.0000			92.00	Option 4: RVP=7.2, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0270	N/A	N/A	120.1900	0.0250	0.0002	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
Benzene						1.4173	N/A	N/A	78.1100	0.0180	0.0083	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.4535	N/A	N/A	84.1600	0.0024	0.0011	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1384	N/A	N/A	106.1700	0.0140	0.0006	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.2645	N/A	N/A	86.1700	0.0100	0.0075	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isooctane							N/A	N/A	114.2200	0.0400	0.0000	114.22	
Isopropyl benzene						0.0625	N/A	N/A	120.2000	0.0050	0.0001	120.20	Option 2: A=6.93666, B=1460.793, C=207.78
Toluene						0.4103	N/A	N/A	92.1300	0.0700	0.0094	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						5.2735	N/A	N/A	67.5371	0.7456	0.9701	89.36	
Xylene (-m)						0.1155	N/A	N/A	106.1700	0.0700	0.0026	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Gasoline (RVP 7.2)	Jun	70.33	61.45	79.22	61.57	4.4166	N/A	N/A	68.0000			92.00	Option 4: RVP=7.2, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0308	N/A	N/A	120.1900	0.0250	0.0002	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
Benzene						1.5449	N/A	N/A	78.1100	0.0180	0.0085	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.5822	N/A	N/A	84.1600	0.0024	0.0012	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1542	N/A	N/A	106.1700	0.0140	0.0007	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.4880	N/A	N/A	86.1700	0.0100	0.0076	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isooctane							N/A	N/A	114.2200	0.0400	0.0000	114.22	
Isopropyl benzene						0.0702	N/A	N/A	120.2000	0.0050	0.0001	120.20	Option 2: A=6.93666, B=1460.793, C=207.78
Toluene						0.4520	N/A	N/A	92.1300	0.0700	0.0097	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						5.6159	N/A	N/A	67.5226	0.7456	0.9692	89.36	
Xylene (-m)						0.1288	N/A	N/A	106.1700	0.0700	0.0028	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Gasoline (RVP 7.2)	Jul	72.25	63.02	81.48	61.57	4.5845	N/A	N/A	68.0000			92.00	Option 4: RVP=7.2, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0329	N/A	N/A	120.1900	0.0250	0.0002	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
Benzene						1.6250	N/A	N/A	78.1100	0.0180	0.0086	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.6728	N/A	N/A	84.1600	0.0024	0.0012	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1642	N/A	N/A	106.1700	0.0140	0.0007	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.6088	N/A	N/A	86.1700	0.0100	0.0077	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isooctane							N/A	N/A	114.2200	0.0400	0.0000	114.22	
Isopropyl benzene						0.0751	N/A	N/A	120.2000	0.0050	0.0001	120.20	Option 2: A=6.93666, B=1460.793, C=207.78
Toluene						0.4784	N/A	N/A	92.1300	0.0700	0.0099	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						5.8272	N/A	N/A	67.5140	0.7456	0.9687	89.36	
Xylene (-m)						0.1373	N/A	N/A	106.1700	0.0700	0.0028	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Gasoline (RVP 7.2)	Aug	71.45	62.84	80.06	61.57	4.5135	N/A	N/A	68.0000			92.00	Option 4: RVP=7.2, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0319	N/A	N/A	120.1900	0.0250	0.0002	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
Benzene						1.5910	N/A	N/A	78.1100	0.0180	0.0086	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.6386	N/A	N/A	84.1600	0.0024	0.0012	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1599	N/A	N/A	106.1700	0.0140	0.0007	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.5576	N/A	N/A	86.1700	0.0100	0.0077	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isooctane							N/A	N/A	114.2200	0.0400	0.0000	114.22	
Isopropyl benzene						0.0730	N/A	N/A	120.2000	0.0050	0.0001	120.20	Option 2: A=6.93666, B=1460.793, C=207.78
Toluene						0.4672	N/A	N/A	92.1300	0.0700	0.0098	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						5.7379	N/A	N/A	67.5176	0.7456	0.9689	89.36	
Xylene (-m)						0.1337	N/A	N/A	106.1700	0.0700	0.0028	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Gasoline (RVP 7.2)	Sep	69.03	61.28	76.77	61.57	4.3051	N/A	N/A	68.0000			92.00	Option 4: RVP=7.2, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0291	N/A	N/A	120.1900	0.0250	0.0002	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
Benzene						1.4923	N/A	N/A	78.1100	0.0180	0.0084	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.5392	N/A	N/A	84.1600	0.0024	0.0012	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1476	N/A	N/A	106.1700	0.0140	0.0006	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.4083	N/A	N/A	86.1700	0.0100	0.0076	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isooctane							N/A	N/A	114.2200	0.0400	0.0000	114.22	
Isopropyl benzene						0.0670	N/A	N/A	120.2000	0.0050	0.0001	120.20	Option 2: A=6.93666, B=1460.793, C=207.78
Toluene						0.4347	N/A	N/A	92.1300	0.0700	0.0096	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						5.4756	N/A	N/A	67.5285	0.7456	0.9696	89.36	
Xylene (-m)						0.1233	N/A	N/A	106.1700	0.0700	0.0027	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Gasoline (RVP 7.2)	Oct	64.64	58.13	71.16	61.57	3.9479	N/A	N/A	68.0000			92.00	Option 4: RVP=7.2, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0246	N/A	N/A	120.1900	0.0250	0.0002	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
Benzene						1.3266	N/A	N/A	78.1100	0.0180	0.0082	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.3720	N/A	N/A	84.1600	0.0024	0.0011	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1274	N/A	N/A	106.1700	0.0140	0.0006	106.17	Option 2: A=6.975, B=1424.255, C=213.21

Hexane (-n)						2.1564	N/A	N/A	86.1700	0.0100	0.0074	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isooctane							N/A	N/A	114.2200	0.0400	0.0000	114.22	
Isopropyl benzene						0.0571	N/A	N/A	120.2000	0.0050	0.0001	120.20	Option 2: A=6.93666, B=1460.793, C=207.78
Toluene						0.3809	N/A	N/A	92.1300	0.0700	0.0091	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						5.0257	N/A	N/A	67.5479	0.7456	0.9707	89.36	
Xylene (-m)						0.1052	N/A	N/A	106.1700	0.0700	0.0025	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Gasoline (RVP 13.5)	Nov	58.87	54.21	63.53	61.57	7.0947	N/A	N/A	62.0000			92.00	Option 4: RVP=13.5, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0195	N/A	N/A	120.1900	0.0250	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
Benzene						1.1317	N/A	N/A	78.1100	0.0180	0.0043	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.1748	N/A	N/A	84.1600	0.0024	0.0008	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1043	N/A	N/A	106.1700	0.0140	0.0003	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.8578	N/A	N/A	86.1700	0.0100	0.0039	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isooctane							N/A	N/A	114.2200	0.0400	0.0000	114.22	
Isopropyl benzene						0.0461	N/A	N/A	120.2000	0.0050	0.0000	120.20	Option 2: A=6.93666, B=1460.793, C=207.78
Toluene						0.3187	N/A	N/A	92.1300	0.0700	0.0047	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						9.1430	N/A	N/A	61.7256	0.7456	0.9849	89.36	
Xylene (-m)						0.0868	N/A	N/A	106.1700	0.0700	0.0013	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Gasoline (RVP 15.0)	Dec	54.98	51.51	58.44	61.57	7.4268	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0167	N/A	N/A	120.1900	0.0250	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
Benzene						1.0143	N/A	N/A	78.1100	0.0180	0.0038	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.0556	N/A	N/A	84.1600	0.0024	0.0005	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.0909	N/A	N/A	106.1700	0.0140	0.0003	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.6765	N/A	N/A	86.1700	0.0100	0.0035	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isooctane							N/A	N/A	114.2200	0.0400	0.0000	114.22	
Isopropyl benzene						0.0398	N/A	N/A	120.2000	0.0050	0.0000	120.20	Option 2: A=6.93666, B=1460.793, C=207.78
Toluene						0.2818	N/A	N/A	92.1300	0.0700	0.0041	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						8.5864	N/A	N/A	59.7488	0.7456	0.9867	89.36	
Xylene (-m)						0.0756	N/A	N/A	106.1700	0.0700	0.0011	106.17	Option 2: A=7.009, B=1462.266, C=215.11

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

Stockton Tank #20 - Internal Floating Roof Tank
Stockton, California

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Rim Seal Losses (lb):	23.5295	22.2097	23.5505	11.5431	12.6221	13.6116	14.2349	13.9704	13.2030	11.9217	22.7393	23.4685
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:	0.1743	0.1592	0.1688	0.0754	0.0825	0.0890	0.0930	0.0913	0.0863	0.0779	0.1630	0.1738
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	7.4408	6.9749	7.2749	3.8402	4.1446	4.4166	4.5845	4.5135	4.3051	3.9479	7.0947	7.4258
Tank Diameter (ft):	45.0000	45.0000	45.0000	45.0000	45.0000	45.0000	45.0000	45.0000	45.0000	45.0000	45.0000	45.0000
Vapor Molecular Weight (lb/lb-mole):	60.0000	62.0000	62.0000	68.0000	68.0000	68.0000	68.0000	68.0000	68.0000	68.0000	62.0000	60.0000
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):	11.8995	11.8995	11.8995	11.8995	11.8995	11.8995	11.8995	11.8995	11.8995	11.8995	11.8995	11.8995
Number of Columns:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Effective Column Diameter (ft):	1.1000	1.1000	1.1000	1.1000	1.1000	1.1000	1.1000	1.1000	1.1000	1.1000	1.1000	1.1000
Net Throughput (gal/mo.):	2,771,480.3330	2,771,480.3330	2,771,480.3330	2,771,480.3330	2,771,480.3330	2,771,480.3330	2,771,480.3330	2,771,480.3330	2,771,480.3330	2,771,480.3330	2,771,480.3330	2,771,480.3330
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):	45.0000	45.0000	45.0000	45.0000	45.0000	45.0000	45.0000	45.0000	45.0000	45.0000	45.0000	45.0000
Deck Fitting Losses (lb):	144.8374	136.7131	144.9866	71.0543	77.6959	83.7871	87.6240	85.9959	81.2717	73.3846	139.9731	144.4494
Value of Vapor Pressure Function:	0.1743	0.1592	0.1688	0.0754	0.0825	0.0890	0.0930	0.0913	0.0863	0.0779	0.1630	0.1738
Vapor Molecular Weight (lb/lb-mole):	60.0000	62.0000	62.0000	68.0000	68.0000	68.0000	68.0000	68.0000	68.0000	68.0000	62.0000	60.0000
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):	166.2000	166.2000	166.2000	166.2000	166.2000	166.2000	166.2000	166.2000	166.2000	166.2000	166.2000	166.2000
Deck Seam Losses (lb):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Length (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
Deck Seam Loss per Unit Length Factor (lb-mole/ft-yr):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Length Factor(ft/sqft):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Tank Diameter (ft):	45.0000	45.0000	45.0000	45.0000	45.0000	45.0000	45.0000	45.0000	45.0000	45.0000	45.0000	45.0000
Vapor Molecular Weight (lb/lb-mole):	60.0000	62.0000	62.0000	68.0000	68.0000	68.0000	68.0000	68.0000	68.0000	68.0000	62.0000	60.0000
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):	180.2864	170.8223	180.4186	94.4969	102.2175	109.2983	113.7585	111.8658	106.3742	97.2059	174.6119	179.8154

Roof Fitting/Status	Quantity	Roof Fitting Loss Factors KFa(lb-mole/yr)	KFb(lb-mole/(yr mph^n))	m	Losses(lb)
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	4	1.60	0.00	0.00	48.9163
Automatic Gauge Float Well/Bolted Cover, Gasketed	1	2.80	0.00	0.00	21.4009
Ladder Well (36-in. Diam.)/Sliding Cover, Gasketed	1	56.00	0.00	0.00	428.0174
Roof Leg or Hanger Well/Adjustable	12	7.90	0.00	0.00	724.5722
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1	6.20	1.20	0.94	47.3876

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

Emissions Report for: Annual

Stockton Tank #20 - Internal Floating Roof Tank
Stockton, California

	Losses(lbs)				
Components	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	Total Emissions
Gasoline (RVP 15.0)	47.00	23.80	289.28	0.00	360.08
1,2,4-Trimethylbenzene	0.00	0.59	0.02	0.00	0.62
Benzene	0.18	0.43	1.09	0.00	1.70
Cyclohexane	0.02	0.06	0.15	0.00	0.23
Ethylbenzene	0.01	0.33	0.08	0.00	0.42
Hexane (-n)	0.16	0.24	1.00	0.00	1.40
Isooctane	0.00	0.95	0.00	0.00	0.95
Isopropyl benzene	0.00	0.12	0.01	0.00	0.13
Toluene	0.19	1.67	1.18	0.00	3.04
Unidentified Components	46.37	17.74	285.43	0.00	349.55
Xylene (-m)	0.05	1.67	0.32	0.00	2.03
Gasoline (RVP 13.5)	68.50	35.70	421.65	0.00	525.85
1,2,4-Trimethylbenzene	0.01	0.89	0.04	0.00	0.94
Benzene	0.29	0.64	1.80	0.00	2.73
Cyclohexane	0.04	0.09	0.25	0.00	0.38
Ethylbenzene	0.02	0.50	0.13	0.00	0.65
Hexane (-n)	0.27	0.36	1.64	0.00	2.26
Isooctane	0.00	1.43	0.00	0.00	1.43
Isopropyl benzene	0.00	0.18	0.02	0.00	0.20
Toluene	0.32	2.50	1.97	0.00	4.79
Unidentified Components	67.46	26.62	415.26	0.00	509.34
Xylene (-m)	0.09	2.50	0.54	0.00	3.12
Gasoline (RVP 7.2)	91.11	83.30	560.81	0.00	735.22
1,2,4-Trimethylbenzene	0.02	2.08	0.13	0.00	2.23
Benzene	0.77	1.50	4.72	0.00	6.98

Cyclohexane	0.11	0.20	0.65	0.00	0.95
Ethylbenzene	0.06	1.17	0.36	0.00	1.59
Hexane (-n)	0.69	0.83	4.23	0.00	5.75
Isooctane	0.00	3.33	0.00	0.00	3.33
Isopropyl benzene	0.01	0.42	0.06	0.00	0.48
Toluene	0.87	5.83	5.34	0.00	12.03
Unidentified Components	88.35	62.11	543.82	0.00	694.27
Xylene (-m)	0.25	5.83	1.51	0.00	7.59

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

Identification

User Identification:	Stockton Tank #1700 (N-845-4-1)
City:	Stockton
State:	California
Company:	Tesoro Refining & Marketing Co.
Type of Tank:	External Floating Roof Tank
Description:	Regular Gasoline

Tank Dimensions

Diameter (ft):	50.00
Volume (gallons):	615,468.00
Turnovers:	95.94

Paint Characteristics

Internal Shell Condition:	Light Rust
Shell Color/Shade:	White/White
Shell Condition	Good

Roof Characteristics

Type:	Double Deck
Fitting Category	Detail

Tank Construction and Rim-Seal System

Construction:	Welded
Primary Seal:	Mechanical Shoe
Secondary Seal	Rim-mounted

Deck Fitting/Status	Quantity
Access Hatch (24-in. Diam.)/Unbolted Cover, Gasketed	4
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1
Roof Leg (3-in. Diameter)/Adjustable, Center Area, Ungasketed	11
Rim Vent (6-in. Diameter)/Weighted Mech. Actuation, Ungask.	2

Meterological Data used in Emissions Calculations: Stockton, California (Avg Atmospheric Pressure = 14.72 psia)

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

Stockton Tank #1700 - External Floating Roof Tank
Stockton, California

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 15.0)	Jan	55.08	51.49	58.67	61.57	7.4408	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0167	N/A	N/A	120.1900	0.0250	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
Benzene						1.0172	N/A	N/A	78.1100	0.0180	0.0038	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.0588	N/A	N/A	84.1600	0.0024	0.0005	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.0913	N/A	N/A	106.1700	0.0140	0.0003	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.6810	N/A	N/A	86.1700	0.0100	0.0035	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isooctane							N/A	N/A	114.2200	0.0400	0.0000	114.22	
Isopropyl benzene						0.0399	N/A	N/A	120.2000	0.0050	0.0000	120.20	Option 2: A=6.93666, B=1460.793, C=207.78
Toluene						0.2627	N/A	N/A	92.1300	0.0700	0.0041	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						9.6044	N/A	N/A	59.7485	0.7456	0.9867	89.36	
Xylene (-m)						0.0759	N/A	N/A	106.1700	0.0700	0.0011	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Gasoline (RVP 13.5)	Feb	57.96	53.17	62.75	61.57	6.9749	N/A	N/A	62.0000			92.00	Option 4: RVP=13.5, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0188	N/A	N/A	120.1900	0.0250	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
Benzene						1.1033	N/A	N/A	78.1100	0.0180	0.0042	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.1459	N/A	N/A	84.1600	0.0024	0.0006	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1010	N/A	N/A	106.1700	0.0140	0.0003	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.8140	N/A	N/A	86.1700	0.0100	0.0039	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isooctane							N/A	N/A	114.2200	0.0400	0.0000	114.22	
Isopropyl benzene						0.0446	N/A	N/A	120.2000	0.0050	0.0000	120.20	Option 2: A=6.93666, B=1460.793, C=207.78
Toluene						0.3097	N/A	N/A	92.1300	0.0700	0.0046	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						6.9696	N/A	N/A	61.7284	0.7456	0.9850	89.36	
Xylene (-m)						0.0841	N/A	N/A	106.1700	0.0700	0.0013	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Gasoline (RVP 13.5)	Mar	60.22	54.36	66.07	61.57	7.2749	N/A	N/A	62.0000			92.00	Option 4: RVP=13.5, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0206	N/A	N/A	120.1900	0.0250	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
Benzene						1.1749	N/A	N/A	78.1100	0.0180	0.0043	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.2186	N/A	N/A	84.1600	0.0024	0.0006	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1094	N/A	N/A	106.1700	0.0140	0.0003	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.9242	N/A	N/A	86.1700	0.0100	0.0039	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isooctane							N/A	N/A	114.2200	0.0400	0.0000	114.22	
Isopropyl benzene						0.0485	N/A	N/A	120.2000	0.0050	0.0000	120.20	Option 2: A=6.93666, B=1460.793, C=207.78
Toluene						0.3324	N/A	N/A	92.1300	0.0700	0.0047	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						9.3737	N/A	N/A	61.7213	0.7456	0.9847	89.36	
Xylene (-m)						0.0911	N/A	N/A	106.1700	0.0700	0.0013	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Gasoline (RVP 7.2)	Apr	63.26	55.98	70.54	61.57	3.8402	N/A	N/A	68.0000			92.00	Option 4: RVP=7.2, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0233	N/A	N/A	120.1900	0.0250	0.0002	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
Benzene						1.2775	N/A	N/A	78.1100	0.0180	0.0061	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.3224	N/A	N/A	84.1600	0.0024	0.0011	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1215	N/A	N/A	106.1700	0.0140	0.0006	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.0815	N/A	N/A	86.1700	0.0100	0.0073	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isooctane							N/A	N/A	114.2200	0.0400	0.0000	114.22	
Isopropyl benzene						0.0543	N/A	N/A	120.2000	0.0050	0.0001	120.20	Option 2: A=6.93666, B=1460.793, C=207.78

Toluene						0.3651	N/A	N/A	92.1300	0.0700	0.0090	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						4.6899	N/A	N/A	67.5539	0.7456	0.9710	89.36	
Xylene (-m)						0.1013	N/A	N/A	106.1700	0.0700	0.0025	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Gasoline (RVP 7.2)	May	67.10	58.83	75.36	61.57	4.1446	N/A	N/A	68.0000			92.00	Option 4: RVP=7.2, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0270	N/A	N/A	120.1900	0.0250	0.0002	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
Benzene						1.4173	N/A	N/A	78.1100	0.0180	0.0083	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.4635	N/A	N/A	84.1600	0.0024	0.0011	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1384	N/A	N/A	106.1700	0.0140	0.0006	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.2945	N/A	N/A	86.1700	0.0100	0.0075	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isooctane							N/A	N/A	114.2200	0.0400	0.0000	114.22	
Isopropyl benzene						0.0625	N/A	N/A	120.2000	0.0050	0.0001	120.20	Option 2: A=6.93666, B=1460.793, C=207.78
Toluene						0.4103	N/A	N/A	92.1300	0.0700	0.0094	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						5.2735	N/A	N/A	67.5371	0.7456	0.9701	89.36	
Xylene (-m)						0.1155	N/A	N/A	106.1700	0.0700	0.0026	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Gasoline (RVP 7.2)	Jun	70.33	61.45	79.22	61.57	4.4166	N/A	N/A	68.0000			92.00	Option 4: RVP=7.2, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0306	N/A	N/A	120.1900	0.0250	0.0002	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
Benzene						1.5449	N/A	N/A	78.1100	0.0180	0.0085	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.5922	N/A	N/A	84.1600	0.0024	0.0012	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1542	N/A	N/A	106.1700	0.0140	0.0007	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.4880	N/A	N/A	86.1700	0.0100	0.0076	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isooctane							N/A	N/A	114.2200	0.0400	0.0000	114.22	
Isopropyl benzene						0.0702	N/A	N/A	120.2000	0.0050	0.0001	120.20	Option 2: A=6.93666, B=1460.793, C=207.78
Toluene						0.4520	N/A	N/A	92.1300	0.0700	0.0097	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						5.6159	N/A	N/A	67.5226	0.7456	0.9692	89.36	
Xylene (-m)						0.1288	N/A	N/A	106.1700	0.0700	0.0028	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Gasoline (RVP 7.2)	Jul	72.25	63.02	81.48	61.57	4.5845	N/A	N/A	68.0000			92.00	Option 4: RVP=7.2, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0329	N/A	N/A	120.1900	0.0250	0.0002	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
Benzene						1.6250	N/A	N/A	78.1100	0.0180	0.0086	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.6726	N/A	N/A	84.1600	0.0024	0.0012	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1642	N/A	N/A	106.1700	0.0140	0.0007	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.6088	N/A	N/A	86.1700	0.0100	0.0077	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isooctane							N/A	N/A	114.2200	0.0400	0.0000	114.22	
Isopropyl benzene						0.0751	N/A	N/A	120.2000	0.0050	0.0001	120.20	Option 2: A=6.93666, B=1460.793, C=207.78
Toluene						0.4784	N/A	N/A	92.1300	0.0700	0.0099	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						5.8272	N/A	N/A	67.5140	0.7456	0.9687	89.36	
Xylene (-m)						0.1373	N/A	N/A	106.1700	0.0700	0.0028	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Gasoline (RVP 7.2)	Aug	71.45	62.84	80.06	61.57	4.5135	N/A	N/A	68.0000			92.00	Option 4: RVP=7.2, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0319	N/A	N/A	120.1900	0.0250	0.0002	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
Benzene						1.5910	N/A	N/A	78.1100	0.0180	0.0086	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.6388	N/A	N/A	84.1600	0.0024	0.0012	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1599	N/A	N/A	106.1700	0.0140	0.0007	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.5576	N/A	N/A	86.1700	0.0100	0.0077	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isooctane							N/A	N/A	114.2200	0.0400	0.0000	114.22	
Isopropyl benzene						0.0730	N/A	N/A	120.2000	0.0050	0.0001	120.20	Option 2: A=6.93666, B=1460.793, C=207.78
Toluene						0.4672	N/A	N/A	92.1300	0.0700	0.0098	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						5.7379	N/A	N/A	67.5176	0.7456	0.9689	89.36	
Xylene (-m)						0.1337	N/A	N/A	106.1700	0.0700	0.0028	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Gasoline (RVP 7.2)	Sep	69.03	61.26	76.77	61.57	4.3051	N/A	N/A	68.0000			92.00	Option 4: RVP=7.2, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0291	N/A	N/A	120.1900	0.0250	0.0002	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
Benzene						1.4923	N/A	N/A	78.1100	0.0180	0.0084	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.5382	N/A	N/A	84.1600	0.0024	0.0012	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1476	N/A	N/A	106.1700	0.0140	0.0006	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.4063	N/A	N/A	86.1700	0.0100	0.0076	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isooctane							N/A	N/A	114.2200	0.0400	0.0000	114.22	
Isopropyl benzene						0.0670	N/A	N/A	120.2000	0.0050	0.0001	120.20	Option 2: A=6.93666, B=1460.793, C=207.78
Toluene						0.4347	N/A	N/A	92.1300	0.0700	0.0096	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						5.4756	N/A	N/A	67.5285	0.7456	0.9696	89.36	
Xylene (-m)						0.1233	N/A	N/A	106.1700	0.0700	0.0027	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Gasoline (RVP 7.2)	Oct	64.64	58.13	71.16	61.57	3.9479	N/A	N/A	68.0000			92.00	Option 4: RVP=7.2, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0246	N/A	N/A	120.1900	0.0250	0.0002	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
Benzene						1.3266	N/A	N/A	78.1100	0.0180	0.0082	78.11	Option 2: A=6.905, B=1211.033, C=220.79

Cyclohexane						1.3720	N/A	N/A	84.1600	0.0024	0.0011	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1274	N/A	N/A	106.1700	0.0140	0.0006	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.1564	N/A	N/A	86.1700	0.0100	0.0074	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isooctane							N/A	N/A	114.2200	0.0400	0.0000	114.22	
Isopropyl benzene						0.0571	N/A	N/A	120.2000	0.0050	0.0001	120.20	Option 2: A=6.93666, B=1460.793, C=207.78
Toluene						0.3809	N/A	N/A	92.1300	0.0700	0.0091	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						5.0257	N/A	N/A	67.5479	0.7456	0.8707	89.36	
Xylene (-m)						0.1062	N/A	N/A	106.1700	0.0700	0.0025	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Gasoline (RVP 13.5)	Nov	58.87	54.21	63.53	61.57	7.0947	N/A	N/A	62.0000			92.00	Option 4: RVP=13.5, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0195	N/A	N/A	120.1900	0.0250	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
Benzene						1.1317	N/A	N/A	78.1100	0.0180	0.0043	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.1748	N/A	N/A	84.1600	0.0024	0.0008	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1043	N/A	N/A	106.1700	0.0140	0.0003	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.8578	N/A	N/A	86.1700	0.0100	0.0039	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isooctane							N/A	N/A	114.2200	0.0400	0.0000	114.22	
Isopropyl benzene						0.0461	N/A	N/A	120.2000	0.0050	0.0000	120.20	Option 2: A=6.93666, B=1460.793, C=207.78
Toluene						0.3187	N/A	N/A	92.1300	0.0700	0.0047	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						9.1430	N/A	N/A	61.7256	0.7456	0.9649	89.36	
Xylene (-m)						0.0868	N/A	N/A	106.1700	0.0700	0.0013	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Gasoline (RVP 15.0)	Dec	54.98	51.51	58.44	61.57	7.4268	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0167	N/A	N/A	120.1900	0.0250	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
Benzene						1.0143	N/A	N/A	78.1100	0.0180	0.0038	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.0558	N/A	N/A	84.1600	0.0024	0.0005	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.0909	N/A	N/A	106.1700	0.0140	0.0003	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.6765	N/A	N/A	86.1700	0.0100	0.0035	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isooctane							N/A	N/A	114.2200	0.0400	0.0000	114.22	
Isopropyl benzene						0.0388	N/A	N/A	120.2000	0.0050	0.0000	120.20	Option 2: A=6.93666, B=1460.793, C=207.78
Toluene						0.2818	N/A	N/A	92.1300	0.0700	0.0041	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						9.5864	N/A	N/A	59.7488	0.7456	0.9867	89.36	
Xylene (-m)						0.0756	N/A	N/A	106.1700	0.0700	0.0011	106.17	Option 2: A=7.009, B=1462.266, C=215.11

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

Stockton Tank #1700 - External Floating Roof Tank
Stockton, California

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Rim Seal Losses (lb):	142.9201	138.1837	160.4926	83.7945	100.0417	107.8847	102.2807	95.2060	84.1079	69.7840	122.9607	137.3225
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
Average Wind Speed (mph):	6.7000	6.9000	7.7000	8.3000	9.2000	9.2000	8.2000	7.7000	7.1000	6.4000	5.8000	6.4000
Seal-related Wind Speed Exponent:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Value of Vapor Pressure Function:	0.1743	0.1592	0.1688	0.0754	0.0825	0.0890	0.0930	0.0913	0.0863	0.0779	0.1630	0.1738
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	7.4408	6.9749	7.2749	3.8402	4.1446	4.4168	4.5645	4.5135	4.3051	3.9479	7.0947	7.4268
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):	60.0000	62.0000	62.0000	68.0000	68.0000	68.0000	68.0000	68.0000	68.0000	68.0000	62.0000	60.0000
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):	18.5599	18.5599	18.5599	18.5599	18.5599	18.5599	18.5599	18.5599	18.5599	18.5599	18.5599	18.5599
Net Throughput (gal/mo.):	4,920,435.3330	4,920,435.3330	4,920,435.3330	4,920,435.3330	4,920,435.3330	4,920,435.3330	4,920,435.3330	4,920,435.3330	4,920,435.3330	4,920,435.3330	4,920,435.3330	4,920,435.3330
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):	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000	50.0000
Roof Fitting Losses (lb):	311.2455	299.9984	344.9248	179.1496	212.8184	229.5029	218.6376	204.6134	182.0592	152.7439	272.7735	300.6580
Value of Vapor Pressure Function:	0.1743	0.1592	0.1688	0.0754	0.0825	0.0890	0.0930	0.0913	0.0863	0.0779	0.1630	0.1738
Vapor Molecular Weight (lb/lb-mole):	60.0000	62.0000	62.0000	68.0000	68.0000	68.0000	68.0000	68.0000	68.0000	68.0000	62.0000	60.0000
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):	357.1524	364.7035	395.4463	419.0411	455.2415	455.2415	415.0779	395.4463	372.3095	345.9311	323.8833	345.9311
Average Wind Speed (mph):	6.7000	6.9000	7.7000	8.3000	9.2000	9.2000	8.2000	7.7000	7.1000	6.4000	5.8000	6.4000
Total Losses (lb):	472.7256	456.7520	523.9772	281.5040	331.4200	355.9475	339.6781	318.3793	284.7270	241.0577	414.2940	456.5414

Roof Fitting/Status	Quantity	Roof Fitting Loss Factors KFa(lb-mole/yr)	KFb(lb-mole/(yr mph^n))	m	Losses(lb)
Access Hatch (24-in. Diam.)/Unbolted Cover, Gasketed	4	31.00	5.20	1.30	2,276.1783
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1	14.00	5.40	1.10	355.2556
Roof Leg (3-in. Diameter)/Adjustable, Center Area, Ungasketed	11	0.82	0.53	0.14	124.8595
Rim Vent (8-in. Diameter)/Weighted Mech. Actuation, Ungask.	2	0.58	1.80	1.00	150.8505

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

Emissions Report for: Annual

Stockton Tank #1700 - External Floating Roof Tank
Stockton, California

	Losses(lbs)				
Components	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	Total Emissions
Gasoline (RVP 13.5)	421.65	55.68	917.70	0.00	1,395.02
1,2,4-Trimethylbenzene	0.04	1.39	0.09	0.00	1.53
Benzene	1.80	1.00	3.92	0.00	6.72
Cyclohexane	0.25	0.13	0.54	0.00	0.92
Ethylbenzene	0.13	0.78	0.28	0.00	1.19
Hexane (-n)	1.64	0.56	3.57	0.00	5.77
Isooctane	0.00	2.23	0.00	0.00	2.23
Isopropyl benzene	0.02	0.28	0.04	0.00	0.34
Toluene	1.97	3.90	4.29	0.00	10.16
Unidentified Components	415.25	41.51	903.78	0.00	1,360.55
Xylene (-m)	0.54	3.90	1.17	0.00	5.61
Gasoline (RVP 15.0)	280.24	37.12	611.90	0.00	929.27
1,2,4-Trimethylbenzene	0.02	0.93	0.05	0.00	1.00
Benzene	1.06	0.67	2.31	0.00	4.03
Cyclohexane	0.15	0.09	0.32	0.00	0.56
Ethylbenzene	0.07	0.52	0.16	0.00	0.75
Hexane (-n)	0.97	0.37	2.12	0.00	3.46
Isooctane	0.00	1.48	0.00	0.00	1.48
Isopropyl benzene	0.01	0.19	0.03	0.00	0.22
Toluene	1.14	2.60	2.49	0.00	6.23
Unidentified Components	276.51	27.68	603.76	0.00	907.94
Xylene (-m)	0.31	2.60	0.67	0.00	3.57
Gasoline (RVP 7.2)	643.08	129.92	1,379.72	0.00	2,152.72
1,2,4-Trimethylbenzene	0.15	3.25	0.31	0.00	3.71
Benzene	5.41	2.34	11.61	0.00	19.36

Cyclohexane	0.74	0.31	1.60	0.00	2.65
Ethylbenzene	0.42	1.82	0.89	0.00	3.13
Hexane (-n)	4.86	1.30	10.42	0.00	16.57
Isooctane	0.00	5.20	0.00	0.00	5.20
Isopropyl benzene	0.07	0.65	0.14	0.00	0.86
Toluene	6.12	9.09	13.14	0.00	28.36
Unidentified Components	623.58	96.87	1,337.89	0.00	2,058.34
Xylene (-m)	1.73	9.09	3.72	0.00	14.55

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

Identification

User Identification:	Stockton Tank #40 (N-845 - 5-2)
City:	Stockton
State:	California
Company:	Tesoro Refining & Marketing Co.
Type of Tank:	Internal Floating Roof Tank
Description:	Regular Gasoline

Tank Dimensions

Diameter (ft):	55.00
Volume (gallons):	749,952.00
Turnovers:	95.94
Self Supp. Roof? (y/n):	N
No. of Columns:	1.00
Eff. Col. Diam. (ft):	1.10

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:	Mechanical Shoe
Secondary Seal	Rim-mounted

Deck Characteristics

Deck Fitting Category:	Detail
Deck Type:	Welded

Deck Fitting/Status	Quantity
Access Hatch (24-in. Diam.)/Unbolted Cover, Gasketed	4
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1
Ladder Well (36-in. Diam.)/Sliding Cover, Gasketed	1
Roof Leg or Hanger Well/Adjustable	12
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1

Meterological Data used in Emissions Calculations: Stockton, California (Avg Atmospheric Pressure = 14.72 psia)

TANKS 4.0.9d

Emissions Report - Detail Format
Liquid Contents of Storage Tank

Stockton Tank #40 - Internal Floating Roof Tank
Stockton, California

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 15.0)	Jan	55.08	51.49	58.67	61.57	7.4408	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0167	N/A	N/A	120.1900	0.0250	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
Benzene						1.0172	N/A	N/A	78.1100	0.0180	0.0038	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.0586	N/A	N/A	84.1600	0.0024	0.0005	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.0913	N/A	N/A	106.1700	0.0140	0.0003	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.6810	N/A	N/A	86.1700	0.0100	0.0035	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isooctane							N/A	N/A	114.2200	0.0400	0.0000	114.22	
Isopropyl benzene						0.0399	N/A	N/A	120.2000	0.0050	0.0000	120.20	Option 2: A=6.93666, B=1460.793, C=207.78
Toluene						0.2827	N/A	N/A	92.1300	0.0700	0.0041	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						9.6044	N/A	N/A	59.7485	0.7456	0.9867	89.36	
Xylene (-m)						0.0759	N/A	N/A	106.1700	0.0700	0.0011	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Gasoline (RVP 13.5)	Feb	57.96	53.17	62.75	61.57	6.9749	N/A	N/A	62.0000			92.00	Option 4: RVP=13.5, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0188	N/A	N/A	120.1900	0.0250	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
Benzene						1.1033	N/A	N/A	78.1100	0.0180	0.0042	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.1459	N/A	N/A	84.1600	0.0024	0.0006	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1010	N/A	N/A	106.1700	0.0140	0.0003	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.8140	N/A	N/A	86.1700	0.0100	0.0039	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isooctane							N/A	N/A	114.2200	0.0400	0.0000	114.22	
Isopropyl benzene						0.0446	N/A	N/A	120.2000	0.0050	0.0000	120.20	Option 2: A=6.93666, B=1460.793, C=207.78
Toluene						0.3097	N/A	N/A	92.1300	0.0700	0.0046	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						8.9896	N/A	N/A	61.7284	0.7456	0.9850	89.36	
Xylene (-m)						0.0841	N/A	N/A	106.1700	0.0700	0.0013	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Gasoline (RVP 13.5)	Mar	60.22	54.36	66.07	61.57	7.2749	N/A	N/A	62.0000			92.00	Option 4: RVP=13.5, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0206	N/A	N/A	120.1900	0.0250	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
Benzene						1.1749	N/A	N/A	78.1100	0.0180	0.0043	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.2186	N/A	N/A	84.1600	0.0024	0.0006	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1094	N/A	N/A	106.1700	0.0140	0.0003	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.9242	N/A	N/A	86.1700	0.0100	0.0039	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isooctane							N/A	N/A	114.2200	0.0400	0.0000	114.22	
Isopropyl benzene						0.0485	N/A	N/A	120.2000	0.0050	0.0000	120.20	Option 2: A=6.93666, B=1460.793, C=207.78
Toluene						0.3324	N/A	N/A	92.1300	0.0700	0.0047	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						9.3737	N/A	N/A	61.7213	0.7456	0.9847	89.36	
Xylene (-m)						0.0911	N/A	N/A	106.1700	0.0700	0.0013	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Gasoline (RVP 7.2)	Apr	63.26	55.68	70.54	61.57	3.8402	N/A	N/A	68.0000			92.00	Option 4: RVP=7.2, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0233	N/A	N/A	120.1900	0.0250	0.0002	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
Benzene						1.2775	N/A	N/A	78.1100	0.0180	0.0061	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.3224	N/A	N/A	84.1600	0.0024	0.0011	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1215	N/A	N/A	106.1700	0.0140	0.0006	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.0815	N/A	N/A	86.1700	0.0100	0.0073	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isooctane							N/A	N/A	114.2200	0.0400	0.0000	114.22	
Isopropyl benzene						0.0543	N/A	N/A	120.2000	0.0050	0.0001	120.20	Option 2: A=6.93666, B=1460.793, C=207.78
Toluene						0.3651	N/A	N/A	92.1300	0.0700	0.0090	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						4.8899	N/A	N/A	67.5539	0.7456	0.9710	89.36	

Xylene (-m)						0.1013	N/A	N/A	106.1700	0.0700	0.0025	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Gasoline (RVP 7.2)	May	67.10	58.83	75.36	61.57	4.1446	N/A	N/A	68.0000			92.00	Option 4: RVP=7.2, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0270	N/A	N/A	120.1900	0.0250	0.0002	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
Benzene						1.4173	N/A	N/A	78.1100	0.0180	0.0063	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.4635	N/A	N/A	84.1600	0.0024	0.0011	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1384	N/A	N/A	106.1700	0.0140	0.0006	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.2945	N/A	N/A	86.1700	0.0100	0.0075	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isooctane							N/A	N/A	114.2200	0.0400	0.0000	114.22	
Isopropyl benzene						0.0525	N/A	N/A	120.2000	0.0050	0.0001	120.20	Option 2: A=6.93666, B=1460.793, C=207.78
Toluene						0.4103	N/A	N/A	92.1300	0.0700	0.0094	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						5.2735	N/A	N/A	67.5371	0.7456	0.9701	89.36	
Xylene (-m)						0.1155	N/A	N/A	106.1700	0.0700	0.0026	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Gasoline (RVP 7.2)	Jun	70.33	61.45	79.22	61.57	4.4166	N/A	N/A	68.0000			92.00	Option 4: RVP=7.2, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0308	N/A	N/A	120.1900	0.0250	0.0002	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
Benzene						1.5449	N/A	N/A	78.1100	0.0180	0.0085	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.5922	N/A	N/A	84.1600	0.0024	0.0012	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1542	N/A	N/A	106.1700	0.0140	0.0007	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.4880	N/A	N/A	86.1700	0.0100	0.0075	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isooctane							N/A	N/A	114.2200	0.0400	0.0000	114.22	
Isopropyl benzene						0.0702	N/A	N/A	120.2000	0.0050	0.0001	120.20	Option 2: A=6.93666, B=1460.793, C=207.78
Toluene						0.4520	N/A	N/A	92.1300	0.0700	0.0097	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						5.6159	N/A	N/A	67.5226	0.7456	0.9692	89.36	
Xylene (-m)						0.1288	N/A	N/A	106.1700	0.0700	0.0026	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Gasoline (RVP 7.2)	Jul	72.25	63.02	81.48	61.57	4.5645	N/A	N/A	68.0000			92.00	Option 4: RVP=7.2, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0329	N/A	N/A	120.1900	0.0250	0.0002	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
Benzene						1.6250	N/A	N/A	78.1100	0.0180	0.0086	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.6726	N/A	N/A	84.1600	0.0024	0.0012	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1642	N/A	N/A	106.1700	0.0140	0.0007	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.6068	N/A	N/A	86.1700	0.0100	0.0077	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isooctane							N/A	N/A	114.2200	0.0400	0.0000	114.22	
Isopropyl benzene						0.0751	N/A	N/A	120.2000	0.0050	0.0001	120.20	Option 2: A=6.93666, B=1460.793, C=207.78
Toluene						0.4784	N/A	N/A	92.1300	0.0700	0.0099	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						5.8272	N/A	N/A	67.5140	0.7456	0.9687	89.36	
Xylene (-m)						0.1373	N/A	N/A	106.1700	0.0700	0.0028	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Gasoline (RVP 7.2)	Aug	71.45	62.84	80.06	61.57	4.5135	N/A	N/A	68.0000			92.00	Option 4: RVP=7.2, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0319	N/A	N/A	120.1900	0.0250	0.0002	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
Benzene						1.5910	N/A	N/A	78.1100	0.0180	0.0088	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.6386	N/A	N/A	84.1600	0.0024	0.0012	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1599	N/A	N/A	106.1700	0.0140	0.0007	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.5576	N/A	N/A	86.1700	0.0100	0.0077	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isooctane							N/A	N/A	114.2200	0.0400	0.0000	114.22	
Isopropyl benzene						0.0730	N/A	N/A	120.2000	0.0050	0.0001	120.20	Option 2: A=6.93666, B=1460.793, C=207.78
Toluene						0.4672	N/A	N/A	92.1300	0.0700	0.0098	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						5.7379	N/A	N/A	67.5176	0.7456	0.9689	89.36	
Xylene (-m)						0.1337	N/A	N/A	106.1700	0.0700	0.0028	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Gasoline (RVP 7.2)	Sep	69.03	61.28	78.77	61.57	4.3051	N/A	N/A	68.0000			92.00	Option 4: RVP=7.2, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0291	N/A	N/A	120.1900	0.0250	0.0002	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
Benzene						1.4823	N/A	N/A	78.1100	0.0180	0.0084	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.5392	N/A	N/A	84.1600	0.0024	0.0012	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1476	N/A	N/A	106.1700	0.0140	0.0006	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.4083	N/A	N/A	86.1700	0.0100	0.0078	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isooctane							N/A	N/A	114.2200	0.0400	0.0000	114.22	
Isopropyl benzene						0.0670	N/A	N/A	120.2000	0.0050	0.0001	120.20	Option 2: A=6.93666, B=1460.793, C=207.78
Toluene						0.4347	N/A	N/A	92.1300	0.0700	0.0096	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						5.4756	N/A	N/A	67.5285	0.7456	0.9696	89.36	
Xylene (-m)						0.1233	N/A	N/A	106.1700	0.0700	0.0027	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Gasoline (RVP 7.2)	Oct	64.64	58.13	71.16	61.57	3.9479	N/A	N/A	68.0000			92.00	Option 4: RVP=7.2, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0246	N/A	N/A	120.1900	0.0250	0.0002	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
Benzene						1.3266	N/A	N/A	78.1100	0.0180	0.0082	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.3720	N/A	N/A	84.1600	0.0024	0.0011	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1274	N/A	N/A	106.1700	0.0140	0.0006	106.17	Option 2: A=6.975, B=1424.255, C=213.21

Hexane (-n)						2.1564	N/A	N/A	86.1700	0.0100	0.0074	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isooctane							N/A	N/A	114.2200	0.0400	0.0000	114.22	
Isopropyl benzene						0.0571	N/A	N/A	120.2000	0.0050	0.0001	120.20	Option 2: A=6.93666, B=1460.793, C=207.78
Toluene						0.3809	N/A	N/A	92.1300	0.0700	0.0091	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						5.0257	N/A	N/A	67.5479	0.7456	0.9707	89.36	
Xylene (-m)						0.1082	N/A	N/A	106.1700	0.0700	0.0025	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Gasoline (RVP 13.5)	Nov	58.87	54.21	63.53	61.57	7.0947	N/A	N/A	62.0000			92.00	Option 4: RVP=13.5, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0195	N/A	N/A	120.1900	0.0250	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
Benzene						1.1317	N/A	N/A	78.1100	0.0180	0.0043	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.1748	N/A	N/A	84.1600	0.0024	0.0006	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1043	N/A	N/A	106.1700	0.0140	0.0003	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.8578	N/A	N/A	86.1700	0.0100	0.0039	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isooctane							N/A	N/A	114.2200	0.0400	0.0000	114.22	
Isopropyl benzene						0.0461	N/A	N/A	120.2000	0.0050	0.0000	120.20	Option 2: A=6.93666, B=1460.793, C=207.78
Toluene						0.3187	N/A	N/A	92.1300	0.0700	0.0047	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						9.1430	N/A	N/A	61.7256	0.7456	0.9849	89.36	
Xylene (-m)						0.0868	N/A	N/A	106.1700	0.0700	0.0013	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Gasoline (RVP 15.0)	Dec	54.98	51.51	58.44	61.57	7.4268	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0187	N/A	N/A	120.1900	0.0250	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
Benzene						1.0743	N/A	N/A	78.1100	0.0180	0.0038	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.0556	N/A	N/A	84.1600	0.0024	0.0005	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.0909	N/A	N/A	106.1700	0.0140	0.0003	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.6765	N/A	N/A	86.1700	0.0100	0.0035	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isooctane							N/A	N/A	114.2200	0.0400	0.0000	114.22	
Isopropyl benzene						0.0396	N/A	N/A	120.2000	0.0050	0.0000	120.20	Option 2: A=6.93666, B=1460.793, C=207.78
Toluene						0.2818	N/A	N/A	92.1300	0.0700	0.0041	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						9.5884	N/A	N/A	59.7488	0.7456	0.9887	89.36	
Xylene (-m)						0.0756	N/A	N/A	106.1700	0.0700	0.0011	106.17	Option 2: A=7.009, B=1462.266, C=215.11

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

Stockton Tank #40 - Internal Floating Roof Tank
Stockton, California

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Rim Seal Losses (lb):	28.7583	27.1452	28.7840	14.1083	15.4270	16.6364	17.3883	17.0750	16.1370	14.5710	27.7825	28.6813
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:	0.1743	0.1592	0.1688	0.0754	0.0825	0.0890	0.0930	0.0913	0.0863	0.0779	0.1630	0.1738
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	7.4408	6.9749	7.2749	3.8402	4.1446	4.4166	4.5845	4.5135	4.3051	3.9479	7.0947	7.4258
Tank Diameter (ft):	55.0000	55.0000	55.0000	55.0000	55.0000	55.0000	55.0000	55.0000	55.0000	55.0000	55.0000	55.0000
Vapor Molecular Weight (lb/lb-mole):	60.0000	62.0000	62.0000	68.0000	68.0000	68.0000	68.0000	68.0000	68.0000	68.0000	62.0000	60.0000
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):	20.9706	20.9706	20.9706	20.9706	20.9706	20.9706	20.9706	20.9706	20.9706	20.9706	20.9706	20.9706
Number of Columns:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Effective Column Diameter (ft):	1.1000	1.1000	1.1000	1.1000	1.1000	1.1000	1.1000	1.1000	1.1000	1.1000	1.1000	1.1000
Net Throughput (gal/mo.):	5,995,584.3330	5,995,584.3330	5,995,584.3330	5,995,584.3330	5,995,584.3330	5,995,584.3330	5,995,584.3330	5,995,584.3330	5,995,584.3330	5,995,584.3330	5,995,584.3330	5,995,584.3330
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):	55.0000	55.0000	55.0000	55.0000	55.0000	55.0000	55.0000	55.0000	55.0000	55.0000	55.0000	55.0000
Deck Fitting Losses (lb):	257.0820	242.6616	257.3113	126.1192	137.9080	148.7196	155.5300	152.6401	144.2549	130.2555	248.4480	256.3933
Value of Vapor Pressure Function:	0.1743	0.1592	0.1688	0.0754	0.0825	0.0890	0.0930	0.0913	0.0863	0.0779	0.1630	0.1738
Vapor Molecular Weight (lb/lb-mole):	60.0000	62.0000	62.0000	68.0000	68.0000	68.0000	68.0000	68.0000	68.0000	68.0000	62.0000	60.0000
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):	295.0000	295.0000	295.0000	295.0000	295.0000	295.0000	295.0000	295.0000	295.0000	295.0000	295.0000	295.0000
Deck Seam Losses (lb):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Length (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
Deck Seam Loss per Unit Length Factor (lb-mole/ft-yr):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Length Factor(ft/sqft):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Tank Diameter (ft):	55.0000	55.0000	55.0000	55.0000	55.0000	55.0000	55.0000	55.0000	55.0000	55.0000	55.0000	55.0000
Vapor Molecular Weight (lb/lb-mole):	60.0000	62.0000	62.0000	68.0000	68.0000	68.0000	68.0000	68.0000	68.0000	68.0000	62.0000	60.0000
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):	306.8109	290.7774	307.0659	161.1981	174.3055	186.3266	193.8989	190.6857	181.3625	165.7971	297.2111	306.0452

Roof Fitting/Status	Quantity	Roof Fitting Loss Factors KFa(lb-mole/yr)	KFb(lb-mole/(yr mph^n))	m	Losses(lb)
Access Hatch (24-in. Diam.)/Unbolted Cover, Gasketed	4	31.00	5.20	1.30	947.7527
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1	14.00	5.40	1.10	107.0043
Ladder Well (36-in. Diam.)/Sliding Cover, Gasketed	1	56.00	0.00	0.00	428.0174
Roof Leg or Hanger Well/Adjustable	12	7.90	0.00	0.00	724.5722
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1	6.20	1.20	0.94	47.3876

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

Emissions Report for: Annual

Stockton Tank #40 - Internal Floating Roof Tank
Stockton, California

	Losses(lbs)				
Components	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	Total Emissions
Gasoline (RVP 13.5)	83.72	62.91	748.42	0.00	895.05
1,2,4-Trimethylbenzene	0.01	1.57	0.08	0.00	1.66
Benzene	0.36	1.13	3.19	0.00	4.68
Cyclohexane	0.05	0.15	0.44	0.00	0.64
Ethylbenzene	0.03	0.88	0.23	0.00	1.14
Hexane (-n)	0.33	0.63	2.91	0.00	3.87
Isooctane	0.00	2.52	0.00	0.00	2.52
Isopropyl benzene	0.00	0.31	0.04	0.00	0.35
Toluene	0.39	4.40	3.50	0.00	8.29
Unidentified Components	82.45	46.91	737.08	0.00	866.44
Xylene (-m)	0.11	4.40	0.95	0.00	5.46
Gasoline (RVP 15.0)	57.44	41.94	513.48	0.00	612.86
1,2,4-Trimethylbenzene	0.00	1.05	0.04	0.00	1.10
Benzene	0.22	0.75	1.94	0.00	2.91
Cyclohexane	0.03	0.10	0.27	0.00	0.40
Ethylbenzene	0.02	0.59	0.14	0.00	0.74
Hexane (-n)	0.20	0.42	1.78	0.00	2.40
Isooctane	0.00	1.68	0.00	0.00	1.68
Isopropyl benzene	0.00	0.21	0.02	0.00	0.23
Toluene	0.23	2.94	2.09	0.00	5.26
Unidentified Components	56.67	31.27	506.64	0.00	594.58
Xylene (-m)	0.06	2.94	0.56	0.00	3.56
Gasoline (RVP 7.2)	111.35	146.79	995.43	0.00	1,253.57
1,2,4-Trimethylbenzene	0.03	3.67	0.23	0.00	3.92
Benzene	0.94	2.64	8.37	0.00	11.95

Cyclohexane	0.13	0.35	1.15	0.00	1.63
Ethylbenzene	0.07	2.06	0.64	0.00	2.77
Hexane (-n)	0.84	1.47	7.51	0.00	9.82
Isooctane	0.00	5.87	0.00	0.00	5.87
Isopropyl benzene	0.01	0.73	0.10	0.00	0.85
Toluene	1.06	10.28	9.47	0.00	20.81
Unidentified Components	107.98	109.45	965.26	0.00	1,182.69
Xylene (-m)	0.30	10.28	2.68	0.00	13.26

APPENDIX IV

BACT Guideline & Top-Down BACT (T-BACT) Analysis

San Joaquin Valley
Unified Air Pollution Control District

Best Available Control Technology (BACT) Guideline 7.3.1*

Last Update 10/1/2002

Petroleum and Petrochemical Production - Fixed Roof Organic Liquid Storage or Processing Tank, < 5,000 bbl Tank capacity **

Pollutant	Achieved in Practice or contained in the SIP	Technologically Feasible	Alternate Basic Equipment
VOC	PV-vent set to within 10% of maximum allowable pressure	99% control (Waste gas incinerated in steam generator, heater treater, or other fired equipment and inspection and maintenance program; transfer of noncondensable vapors to gas pipeline; reinjection to formation (if appropriate wells are available); or equal).	

** Converted from Determinations 7.1.11 (10/01/02).

BACT is the most stringent control technique for the emissions unit and class of source. Control techniques that are not achieved in practice or contained in s a state implementation plan must be cost effective as well as feasible. Economic analysis to demonstrate cost effectiveness is required for all determinations that are not achieved in practice or contained in an EPA approved State Implementation Plan.

***This is a Summary Page for this Class of Source**

N-845-10

Top-Down BACT (T-BACT) Analysis for VOC emissions

The following VOC emission control technologies are listed in BACT guideline 7.3.1, 3rd quarter of 2011 for petroleum and petrochemical production – fixed roof organic liquid storage or processing tank with tank capacity less than 5,000 bbl as follows:

Step 1 - Identify all control technologies

Achieved in Practice or contained in the SIP:

PV-vent set to within 10% of maximum allowable pressure

Technologically Feasible:

99% control (waste gas incinerated in steam generator, heater treater, or other fired equipment and inspection and maintenance program; transfer of noncondensable vapors to gas pipeline; reinjection to formation (if appropriate wells are available); or equal).

Alternate Basic Equipment:

There is no alternate basic equipment listed on this guideline.

Step 2 - Eliminate technologically infeasible options

There is no technologically infeasible option.

Step 3 - Rank remaining options by control effectiveness

1. 99% control (waste gas incinerated in steam generator, heater treater, or other fired equipment and inspection and maintenance program; transfer of noncondensable vapors to gas pipeline; reinjection to formation (if appropriate wells are available); or equal)
2. PV-vent set to within 10% of maximum allowable pressure

Step 4 - Cost Effectiveness Analysis

Pursuant to District BACT Policy APR 1305 IX.D.3 (11/99), a cost-effective analysis is not required since the applicant has proposed utilize the most stringent control technology option listed in Step 3. Therefore, the cost effectiveness analysis is not required.

Step 5 - Select BACT

The applicant has proposed to vent the vapors to a vapor recovery system with a minimum of 99% destruction efficiency of VOC. Therefore, BACT for VOC emissions is satisfied.

San Joaquin Valley
Unified Air Pollution Control District

Best Available Control Technology (BACT) Guideline 7.1.10*

Last Update 2/23/2005

Loading Rack/Switch Loading

Pollutant	Achieved in Practice or contained in the SIP	Technologically Feasible	Alternate Basic Equipment
CO	natural gas fired pilot and air assist		
NOx	natural gas or LPG fired pilot and air assist		
PM10	air assisted flare with smokeless combustion		
SOx	natural gas fired flare		
VOC	bottom loading with dry break couplers and vapor collection vented to a thermal incinerator or flare with destruction efficiency => 99%		

BACT is the most stringent control technique for the emissions unit and class of source. Control techniques that are not achieved in practice or contained in s a state implementation plan must be cost effective as well as feasible. Economic analysis to demonstrate cost effectiveness is required for all determinations that are not achieved in practice or contained in an EPA approved State Implementation Plan.

***This is a Summary Page for this Class of Source**

N-845-22

Top-Down BACT (T-BACT) Analysis for VOC emissions

The following VOC emission control technologies are listed in BACT guideline 7.1.10, 3rd quarter of 2011 for loading rack or switch loading operation as follows:

Step 1 - Identify all control technologies

Achieved in Practice or contained in the SIP:

Bottom loading with dry break couplers and vapor collection vented to a thermal incinerator or flare with destruction efficiency equal to or greater than 99%

Technologically Feasible:

There is no technologically feasible control technoology listed on this guideline.

Alternate Basic Equipment:

There is no alternate basic equipment listed on this guideline.

Step 2 - Eliminate technologically infeasible options

There are no technologically infeasible options that can be eliminated from step 1.

Step 3 - Rank remaining options by control effectiveness

Ranking of the control technologies is not required, since the applicant has proposed utilize the only control technology, achieved in practice control technology listed on this guideline.

Step 4 - Cost Effectiveness Analysis

Pursuant to District BACT Policy APR 1305 IX.D.3 (11/99), a cost-effective analysis is not required since the applicant has proposed utilize the most stringent control technology option listed in Step 3. Therefore, the cost effectiveness analysis is not required.

Step 5 - Select BACT

The applicant has proposed to use bottom loading equipment that equipped with dry break couplers, and vent the vapors to a vapor recovery system with a minimum of 99% destruction efficiency of VOC. Therefore, BACT for VOC emissions is satisfied.

San Joaquin Valley
Unified Air Pollution Control District

Best Available Control Technology (BACT) Guideline 7.3.3*

Last Update 10/1/2002

Petroleum and Petrochemical Production - Floating Roof Organic Liquid Storage or Processing Tank, = or > 471 bbl Tank capacity, = or > 0.5 psia TVP

Pollutant	Achieved in Practice or contained in the SIP	Technologically Feasible	Alternate Basic Equipment
VOC	95% control (Primary metal shoe seal with secondary wiper seal, or equal)	95% Control (Dual wiper seal with drip curtain or primary metal shoe seal with secondary wiper seal, or equal.)	

BACT is the most stringent control technique for the emissions unit and class of source. Control techniques that are not achieved in practice or contained in s a state implementation plan must be cost effective as well as feasible. Economic analysis to demonstrate cost effectiveness is required for all determinations that are not achieved in practice or contained in an EPA approved State Implementation Plan.

***This is a Summary Page for this Class of Source**

N-845-24

Top-Down BACT Analysis for VOC emissions

The following VOC emission control technologies are listed in BACT guideline 7.3.3, 3rd quarter of 2011 for petroleum and petrochemical production – floating roof organic liquid storage or processing tank with tank capacity equal to or greater than 471 bbl, or the true vapor pressure is equal to or greater than 0.5 psia as follows:

Step 1 - Identify all control technologies

Achieved in Practice or contained in the SIP:

95% control (primary metal shoe seal with secondary wiper seal, or equal)

Technologically Feasible:

95% control (dual wiper seal with drip curtain or primary metal shoe seal with secondary wiper seal, or equal)

Alternate Basic Equipment:

There is no alternate basic equipment listed on this guideline.

Step 2 - Eliminate technologically infeasible options

There is no technologically infeasible option.

Step 3 - Rank remaining options by control effectiveness

The technologically feasible and achieved-in-practice have the same control effectiveness.

3. 95% control (dual wiper seal with drip curtain or primary metal shoe seal with secondary wiper seal, or equal)
4. 95% control (primary metal shoe seal with secondary wiper seal, or equal)

Step 4 - Cost Effectiveness Analysis

The applicant is proposing to install a storage tank that equipped with both primary metal shoe seal and secondary wiper seal, which provide a minimum of 95% control of VOC emissions. These seals are equivalent to the control requirements listed in the technologically feasible option. Therefore, the cost effectiveness analysis is not performed.

Step 5 - Select BACT

The applicant has proposed to install a storage tank that equipped with both primary metal shoe seal and secondary wiper seal. Therefore, BACT for VOC emissions is satisfied.

APPENDIX V

Tanks 4.0.9d Emissions Reports

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

Identification

User Identification:	New Gasoline Tank (N-845-24-0)
City:	Stockton
State:	California
Company:	Tesoro Logistic Operations LLC.
Type of Tank:	Internal Floating Roof Tank
Description:	New Gasoline Tank

Tank Dimensions

Diameter (ft):	84.00
Volume (gallons):	2,321,508.00
Turnovers:	93.13
Self Supp. Roof? (y/n):	N
No. of Columns:	1.00
Eff. Col. Diam. (ft):	1.10

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:	Mechanical Shoe
Secondary Seal	Rim-mounted

Deck Characteristics

Deck Fitting Category:	Detail
Deck Type:	Welded

Deck Fitting/Status	Quantity
Access Hatch (24-in. Diam.)/Unbolted Cover, Gasketed	4
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1
Ladder Well (36-in. Diam.)/Sliding Cover, Gasketed	1
Roof Leg or Hanger Well/Adjustable	12
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1

Meterological Data used in Emissions Calculations: Stockton, California (Avg Atmospheric Pressure = 14.72 psia)

TANKS 4.0.9d

Emissions Report - Detail Format
Liquid Contents of Storage Tank

New Gasoline Tank - Internal Floating Roof Tank
Stockton, California

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 15.0)	Jan	55.08	51.49	58.67	61.57	7.4408	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0167	N/A	N/A	120.1900	0.0250	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
Benzene						1.0172	N/A	N/A	78.1100	0.0180	0.0038	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.0566	N/A	N/A	84.1600	0.0024	0.0005	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.0913	N/A	N/A	106.1700	0.0140	0.0003	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.6810	N/A	N/A	86.1700	0.0100	0.0035	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isooctane							N/A	N/A	114.2200	0.0400	0.0000	114.22	
Isopropyl benzene						0.0399	N/A	N/A	120.2000	0.0050	0.0000	120.20	Option 2: A=6.93666, B=1460.793, C=207.78
Toluene						0.2827	N/A	N/A	92.1300	0.0700	0.0041	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						9.6044	N/A	N/A	59.7485	0.7456	0.9867	89.36	
Xylene (-m)						0.0759	N/A	N/A	106.1700	0.0700	0.0011	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Gasoline (RVP 13.5)	Feb	57.96	53.17	62.75	61.57	6.9749	N/A	N/A	62.0000			92.00	Option 4: RVP=13.5, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0188	N/A	N/A	120.1900	0.0250	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
Benzene						1.1033	N/A	N/A	78.1100	0.0180	0.0042	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.1459	N/A	N/A	84.1600	0.0024	0.0006	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1010	N/A	N/A	106.1700	0.0140	0.0003	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.8140	N/A	N/A	86.1700	0.0100	0.0039	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isooctane							N/A	N/A	114.2200	0.0400	0.0000	114.22	
Isopropyl benzene						0.0446	N/A	N/A	120.2000	0.0050	0.0000	120.20	Option 2: A=6.93666, B=1460.793, C=207.78
Toluene						0.3097	N/A	N/A	92.1300	0.0700	0.0045	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						8.9896	N/A	N/A	61.7284	0.7456	0.9850	89.36	
Xylene (-m)						0.0841	N/A	N/A	106.1700	0.0700	0.0013	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Gasoline (RVP 13.5)	Mar	60.22	54.36	66.07	61.57	7.2749	N/A	N/A	62.0000			92.00	Option 4: RVP=13.5, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0206	N/A	N/A	120.1900	0.0250	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
Benzene						1.1749	N/A	N/A	78.1100	0.0180	0.0043	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.2186	N/A	N/A	84.1600	0.0024	0.0006	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1094	N/A	N/A	106.1700	0.0140	0.0003	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.9242	N/A	N/A	86.1700	0.0100	0.0039	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isooctane							N/A	N/A	114.2200	0.0400	0.0000	114.22	
Isopropyl benzene						0.0485	N/A	N/A	120.2000	0.0050	0.0000	120.20	Option 2: A=6.93666, B=1460.793, C=207.78
Toluene						0.3324	N/A	N/A	92.1300	0.0700	0.0047	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						9.3737	N/A	N/A	61.7213	0.7456	0.9847	89.36	
Xylene (-m)						0.0911	N/A	N/A	106.1700	0.0700	0.0013	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Gasoline (RVP 7.2)	Apr	63.26	55.98	70.54	61.57	3.8402	N/A	N/A	68.0000			92.00	Option 4: RVP=7.2, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0233	N/A	N/A	120.1900	0.0250	0.0002	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
Benzene						1.2775	N/A	N/A	78.1100	0.0180	0.0081	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.3224	N/A	N/A	84.1600	0.0024	0.0011	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1215	N/A	N/A	106.1700	0.0140	0.0006	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.0815	N/A	N/A	86.1700	0.0100	0.0073	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isooctane							N/A	N/A	114.2200	0.0400	0.0000	114.22	
Isopropyl benzene						0.0543	N/A	N/A	120.2000	0.0050	0.0001	120.20	Option 2: A=6.93666, B=1460.793, C=207.78
Toluene						0.3651	N/A	N/A	92.1300	0.0700	0.0080	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						4.8899	N/A	N/A	67.5539	0.7456	0.9710	89.36	

Xylene (-m)						0.1013	N/A	N/A	106.1700	0.0700	0.0025	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Gasoline (RVP 7.2)	May	67.10	58.83	75.36	61.57	4.1446	N/A	N/A	68.0000			92.00	Option 4: RVP=7.2, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0270	N/A	N/A	120.1900	0.0250	0.0002	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
Benzene						1.4173	N/A	N/A	78.1100	0.0180	0.0083	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.4635	N/A	N/A	84.1600	0.0024	0.0011	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1384	N/A	N/A	106.1700	0.0140	0.0008	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.2945	N/A	N/A	86.1700	0.0100	0.0075	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isooctane							N/A	N/A	114.2200	0.0400	0.0000	114.22	
Isopropyl benzene						0.0625	N/A	N/A	120.2000	0.0050	0.0001	120.20	Option 2: A=6.93666, B=1460.793, C=207.78
Toluene						0.4103	N/A	N/A	92.1300	0.0700	0.0094	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						5.2735	N/A	N/A	67.5371	0.7456	0.9701	89.36	
Xylene (-m)						0.1155	N/A	N/A	106.1700	0.0700	0.0026	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Gasoline (RVP 7.2)	Jun	70.33	61.45	79.22	61.57	4.4166	N/A	N/A	68.0000			92.00	Option 4: RVP=7.2, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0308	N/A	N/A	120.1900	0.0250	0.0002	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
Benzene						1.5449	N/A	N/A	78.1100	0.0180	0.0085	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.5922	N/A	N/A	84.1600	0.0024	0.0012	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1542	N/A	N/A	106.1700	0.0140	0.0007	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.4880	N/A	N/A	86.1700	0.0100	0.0076	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isooctane							N/A	N/A	114.2200	0.0400	0.0000	114.22	
Isopropyl benzene						0.0702	N/A	N/A	120.2000	0.0050	0.0001	120.20	Option 2: A=6.93666, B=1460.793, C=207.78
Toluene						0.4520	N/A	N/A	92.1300	0.0700	0.0097	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						5.6159	N/A	N/A	67.5226	0.7458	0.9892	89.36	
Xylene (-m)						0.1268	N/A	N/A	106.1700	0.0700	0.0028	106.17	Option 2: A=7.008, B=1462.266, C=215.11
Gasoline (RVP 7.2)	Jul	72.25	63.02	81.48	61.57	4.5845	N/A	N/A	68.0000			92.00	Option 4: RVP=7.2, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0329	N/A	N/A	120.1900	0.0250	0.0002	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
Benzene						1.6250	N/A	N/A	78.1100	0.0180	0.0088	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.6728	N/A	N/A	84.1600	0.0024	0.0012	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1642	N/A	N/A	106.1700	0.0140	0.0007	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.6088	N/A	N/A	86.1700	0.0100	0.0077	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isooctane							N/A	N/A	114.2200	0.0400	0.0000	114.22	
Isopropyl benzene						0.0751	N/A	N/A	120.2000	0.0050	0.0001	120.20	Option 2: A=6.93666, B=1460.793, C=207.78
Toluene						0.4784	N/A	N/A	92.1300	0.0700	0.0099	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						5.8272	N/A	N/A	67.5140	0.7456	0.9687	89.36	
Xylene (-m)						0.1373	N/A	N/A	106.1700	0.0700	0.0028	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Gasoline (RVP 7.2)	Aug	71.45	62.84	80.08	61.57	4.5135	N/A	N/A	68.0000			92.00	Option 4: RVP=7.2, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0319	N/A	N/A	120.1900	0.0250	0.0002	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
Benzene						1.5910	N/A	N/A	78.1100	0.0180	0.0088	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.6388	N/A	N/A	84.1600	0.0024	0.0012	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1599	N/A	N/A	106.1700	0.0140	0.0007	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.5576	N/A	N/A	86.1700	0.0100	0.0077	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isooctane							N/A	N/A	114.2200	0.0400	0.0000	114.22	
Isopropyl benzene						0.0730	N/A	N/A	120.2000	0.0050	0.0001	120.20	Option 2: A=6.93666, B=1460.793, C=207.78
Toluene						0.4672	N/A	N/A	92.1300	0.0700	0.0098	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						5.7379	N/A	N/A	67.5176	0.7458	0.9689	89.36	
Xylene (-m)						0.1337	N/A	N/A	106.1700	0.0700	0.0028	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Gasoline (RVP 7.2)	Sep	69.03	61.28	76.77	61.57	4.3051	N/A	N/A	68.0000			92.00	Option 4: RVP=7.2, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0291	N/A	N/A	120.1900	0.0250	0.0002	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
Benzene						1.4923	N/A	N/A	78.1100	0.0180	0.0084	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.5392	N/A	N/A	84.1600	0.0024	0.0012	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1476	N/A	N/A	106.1700	0.0140	0.0006	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.4063	N/A	N/A	86.1700	0.0100	0.0076	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isooctane							N/A	N/A	114.2200	0.0400	0.0000	114.22	
Isopropyl benzene						0.0670	N/A	N/A	120.2000	0.0050	0.0001	120.20	Option 2: A=6.93666, B=1460.793, C=207.78
Toluene						0.4347	N/A	N/A	92.1300	0.0700	0.0098	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						5.4756	N/A	N/A	67.5285	0.7456	0.9696	89.36	
Xylene (-m)						0.1233	N/A	N/A	106.1700	0.0700	0.0027	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Gasoline (RVP 7.2)	Oct	64.64	58.13	71.16	61.57	3.9479	N/A	N/A	68.0000			92.00	Option 4: RVP=7.2, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0246	N/A	N/A	120.1900	0.0250	0.0002	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
Benzene						1.3266	N/A	N/A	78.1100	0.0180	0.0082	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.3720	N/A	N/A	84.1600	0.0024	0.0011	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1274	N/A	N/A	106.1700	0.0140	0.0006	106.17	Option 2: A=6.975, B=1424.255, C=213.21

Hexane (-n)						2.1564	N/A	N/A	86.1700	0.0100	0.0074	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isooctane							N/A	N/A	114.2200	0.0400	0.0000	114.22	
Isopropyl benzene						0.0571	N/A	N/A	120.2000	0.0050	0.0001	120.20	Option 2: A=6.93666, B=1460.793, C=207.78
Toluene						0.3809	N/A	N/A	92.1300	0.0700	0.0091	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						5.0257	N/A	N/A	87.5479	0.7456	0.9707	89.36	
Xylene (-m)						0.1052	N/A	N/A	106.1700	0.0700	0.0025	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Gasoline (RVP 13.5)	Nov	58.87	54.21	63.53	61.57	7.0947	N/A	N/A	62.0000			92.00	Option 4: RVP=13.5, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0195	N/A	N/A	120.1900	0.0250	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
Benzene						1.1317	N/A	N/A	78.1100	0.0180	0.0043	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.1748	N/A	N/A	84.1600	0.0024	0.0006	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1043	N/A	N/A	106.1700	0.0140	0.0003	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.8578	N/A	N/A	86.1700	0.0100	0.0039	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isooctane							N/A	N/A	114.2200	0.0400	0.0000	114.22	
Isopropyl benzene						0.0461	N/A	N/A	120.2000	0.0050	0.0000	120.20	Option 2: A=6.93666, B=1460.793, C=207.78
Toluene						0.3187	N/A	N/A	92.1300	0.0700	0.0047	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						9.1430	N/A	N/A	61.7256	0.7456	0.9849	89.36	
Xylene (-m)						0.0868	N/A	N/A	106.1700	0.0700	0.0013	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Gasoline (RVP 15.0)	Dec	54.96	51.51	58.44	61.57	7.4268	N/A	N/A	60.0000			92.00	Option 4: RVP=15, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0167	N/A	N/A	120.1900	0.0250	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
Benzene						1.0143	N/A	N/A	78.1100	0.0180	0.0038	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.0556	N/A	N/A	84.1600	0.0024	0.0005	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.0809	N/A	N/A	106.1700	0.0140	0.0003	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.6765	N/A	N/A	86.1700	0.0100	0.0035	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isooctane							N/A	N/A	114.2200	0.0400	0.0000	114.22	
Isopropyl benzene						0.0398	N/A	N/A	120.2000	0.0050	0.0000	120.20	Option 2: A=6.93666, B=1460.793, C=207.78
Toluene						0.2818	N/A	N/A	92.1300	0.0700	0.0041	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						9.5864	N/A	N/A	59.7488	0.7456	0.9867	89.36	
Xylene (-m)						0.0756	N/A	N/A	106.1700	0.0700	0.0011	106.17	Option 2: A=7.009, B=1462.266, C=215.11

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

New Gasoline Tank - Internal Floating Roof Tank
Stockton, California

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Rim Seal Losses (lb):	43.9218	41.4581	43.9510	21.5471	23.5612	25.4084	26.5719	26.0782	24.6456	22.2538	42.4467	43.8041
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:	0.1743	0.1592	0.1688	0.0754	0.0825	0.0890	0.0930	0.0913	0.0863	0.0779	0.1630	0.1738
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	7.4408	6.9749	7.2749	3.8402	4.1446	4.4166	4.5845	4.5135	4.3051	3.9479	7.0947	7.4268
Tank Diameter (ft):	84.0000	84.0000	84.0000	84.0000	84.0000	84.0000	84.0000	84.0000	84.0000	84.0000	84.0000	84.0000
Vapor Molecular Weight (lb/lb-mole):	60.0000	62.0000	62.0000	68.0000	68.0000	68.0000	68.0000	68.0000	68.0000	68.0000	62.0000	60.0000
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):	40.9814	40.9814	40.9814	40.9814	40.9814	40.9814	40.9814	40.9814	40.9814	40.9814	40.9814	40.9814
Number of Columns:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Effective Column Diameter (ft):	1.1000	1.1000	1.1000	1.1000	1.1000	1.1000	1.1000	1.1000	1.1000	1.1000	1.1000	1.1000
Net Throughput (gal/mo.):	18,016,666.660018	16,666.660018	16,666.660018	16,666.660018	16,666.660018	16,666.660018	16,666.660018	16,666.660018	16,666.660018	16,666.660018	16,666.660018	16,666.6600
Shell Clingage Factor (bbl/1000 sq/ft):	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):	84.0000	84.0000	84.0000	84.0000	84.0000	84.0000	84.0000	84.0000	84.0000	84.0000	84.0000	84.0000
Deck Fitting Losses (lb):	257.0820	242.6616	257.3113	126.1192	137.9080	148.7196	155.5300	152.6401	144.2549	130.2555	248.4480	256.3933
Value of Vapor Pressure Function:	0.1743	0.1592	0.1688	0.0754	0.0825	0.0890	0.0930	0.0913	0.0863	0.0779	0.1630	0.1738
Vapor Molecular Weight (lb/lb-mole):	60.0000	62.0000	62.0000	68.0000	68.0000	68.0000	68.0000	68.0000	68.0000	68.0000	62.0000	60.0000
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):	295.0000	295.0000	295.0000	295.0000	295.0000	295.0000	295.0000	295.0000	295.0000	295.0000	295.0000	295.0000
Deck Seam Losses (lb):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Length (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
Deck Seam Loss per Unit Length Factor (lb-mole/ft-yr):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Length Factor(ft/sq/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
Tank Diameter (ft):	84.0000	84.0000	84.0000	84.0000	84.0000	84.0000	84.0000	84.0000	84.0000	84.0000	84.0000	84.0000
Vapor Molecular Weight (lb/lb-mole):	60.0000	62.0000	62.0000	68.0000	68.0000	68.0000	68.0000	68.0000	68.0000	68.0000	62.0000	60.0000
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):	341.9852	325.1011	342.2537	188.6478	202.4506	215.1094	223.0833	219.6997	209.8818	193.4908	331.8761	341.1789

Roof Fitting/Status	Quantity	Roof Fitting Loss Factors KFa(lb-mole/yr)	KFb(lb-mole/(yr mph^n))	m	Losses(lb)
Access Hatch (24-in. Diam.)/Unbolted Cover, Gasketed	4	31.00	5.20	1.30	947.7527
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1	14.00	5.40	1.10	107.0043
Ladder Well (36-in. Diam.)/Sliding Cover, Gasketed	1	56.00	0.00	0.00	428.0174
Roof Leg or Hanger Well/Adjustable	12	7.90	0.00	0.00	724.5722
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1	6.20	1.20	0.94	47.3876

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

Emissions Report for: Annual

New Gasoline Tank - Internal Floating Roof Tank
Stockton, California

	Losses(lbs)				
Components	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	Total Emissions
Gasoline (RVP 15.0)	87.73	81.96	513.48	0.00	683.16
1,2,4-Trimethylbenzene	0.01	2.05	0.04	0.00	2.10
Benzene	0.33	1.48	1.94	0.00	3.74
Cyclohexane	0.05	0.20	0.27	0.00	0.51
Ethylbenzene	0.02	1.15	0.14	0.00	1.31
Hexane (-n)	0.30	0.82	1.78	0.00	2.90
Isooctane	0.00	3.28	0.00	0.00	3.28
Isopropyl benzene	0.00	0.41	0.02	0.00	0.43
Toluene	0.36	5.74	2.09	0.00	8.19
Unidentified Components	86.56	61.11	506.64	0.00	654.31
Xylene (-m)	0.10	5.74	0.56	0.00	6.39
Gasoline (RVP 13.5)	127.87	122.94	748.42	0.00	999.23
1,2,4-Trimethylbenzene	0.01	3.07	0.08	0.00	3.16
Benzene	0.55	2.21	3.19	0.00	5.95
Cyclohexane	0.08	0.30	0.44	0.00	0.81
Ethylbenzene	0.04	1.72	0.23	0.00	1.99
Hexane (-n)	0.50	1.23	2.91	0.00	4.64
Isooctane	0.00	4.92	0.00	0.00	4.92
Isopropyl benzene	0.01	0.61	0.04	0.00	0.66
Toluene	0.60	8.61	3.50	0.00	12.70
Unidentified Components	125.93	91.67	737.08	0.00	954.67
Xylene (-m)	0.16	8.61	0.95	0.00	9.72
Gasoline (RVP 7.2)	170.07	286.87	995.43	0.00	1,452.36
1,2,4-Trimethylbenzene	0.04	7.17	0.23	0.00	7.44
Benzene	1.43	5.16	8.37	0.00	14.97

Cyclohexane	0.20	0.69	1.15	0.00	2.04
Ethylbenzene	0.11	4.02	0.64	0.00	4.77
Hexane (-n)	1.28	2.87	7.51	0.00	11.67
Isooctane	0.00	11.47	0.00	0.00	11.47
Isopropyl benzene	0.02	1.43	0.10	0.00	1.56
Toluene	1.62	20.08	9.47	0.00	31.17
Unidentified Components	164.91	213.89	965.26	0.00	1,344.06
Xylene (-m)	0.46	20.08	2.68	0.00	23.22

APPENDIX VI

Baseline Emissions Calculations

Baseline Emissions Calculations

Pursuant to Rule 2201, Section 3.8, the Baseline Emissions (BE) for a given pollutant is the sum of the Pre-project Potential to Emit (PE1) of any emissions units located at a Major Source as follow: 1) any Highly Utilized Emissions Unit, 2) any Fully-Offset Emissions Unit, 3) any Clean Emissions Unit, and 4) the Historical Actual Emissions for emissions units not specified above.

Clean Emissions Unit Verification:

Pursuant to Rule 2201, Section 3.13, a Clean Emissions Unit is defined as an emissions unit that is equipped with an emissions control technology with a minimum control efficiency of at least 95% or the unit is equipped with emission control technology that meets the requirements for achieved-in-practice BACT as accepted by the APCO during the five years immediately prior to the submission of the complete application.

N-845-1, N-845-4, and N-845-5

These gasoline storage tanks are each equipped with a primary metal seal and a secondary wiper seal which meet the requirements for achieved-in-practice BACT as accepted by the District during five years immediatedly prior to the submissions of the complete application. Therefore, these storage tanks are Clean Emissions Units, and the baseline emissions (BE) of each of these permits are equal to the pre-project potential to emit (PE1).

N-845-6

This loading rack is currently served by a CARB-certified Hydrotech Carbon Adsorption/Absorption Vapor Recovery System permitted under N-845-22. This vapor recovery system has certified VOC control efficiency of a minimum of 95% that meets the requirements for achieved-in-practice BACT. Therefore, this loading rack is a Clean Emissions Unit, and the BE is equal to the pre-project potential to emit PE1.

N-845-10

This organic liquid storage tank (Tank #420) is served by same vapor recovery system that served the loading rack discussed above. Therefore, this organic liquid storage tank is a Clean Emissions Unit, and the BE is equal to the PE1.

N-845-22:

This vapor recovery system is an emissions control device. Therefore, clean emissions unit verification is not necessary.

N-845-23:

This diesel lubricity additive storage tank is not equipped with a pressure-vacuum (PV) relief valve, where PV-valve is the achieved-in-practice BACT for this type of storage tank. Therefore, this storage tank is not considered a Clean Emissions Unit.

Highly Utilized Emissions Unit Verification:

Pursuant to Rule 2201, Section 3.22, a Highly Utilized Emissions Unit is defined as an emissions unit for which the average annual Actual Emissions during the two consecutive years immediately prior to filing of an application for an Authority to Construct equal to or greater than 80% of the units' pre-project Potential to Emit. The unit must have been in operation for at least two years and, during that entire period, the unit must have complied with all applicable emission limits and performance standards.

N-845-23:

In order to determine this permit unit is a highly utilized emissions unit, the applicant has provided the annual throughputs for this tank for 2009 and 2010 (i.e. two years prior to submit this application) as follows:

2009: 10,292 gallons
2010: 5,162 gallons

Annual emissions from this tank for year 2009 and 2010 will be determined by using EPA's TANKS 4.09d program (see detail emissions report at the end of this Appendix) as follows:

2009: 178 lb-VOC/year
2010: 164 lb-VOC/year

Therefore, the average of Historial Actual Emissions is calculated to:

Average HAE = (178 + 164)/2
= 171 lb-VOC/year

As indicated in section VII.D.1 of this document, the PE1 for this unit was 176 lb-VOC/yr. The HAE calculated above represents 97% (171/176) of the unit's PE1. Therefore, this unit is considered as a Highly Utilized Emissions Unit for VOC emissions.

Baseline Emissions Calculation:

As discussed above, these permit units are determined as either Clean Emission Units or Highly Utilized Emissions Units, therefore, BE is equal to the PE1 for each of these permit units. Thus,

BE = SSPE1 = 22,751 lb-VOC/year.

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

Identification

User Identification:	N-845-23-0
City:	Stockton
State:	California
Company:	Tesoro Logistics Operations LLC
Type of Tank:	Horizontal Tank
Description:	Tesoro Tank #11 - 2009

Tank Dimensions

Shell Length (ft):		11.00
Diameter (ft):		8.00
Volume (gallons):		4,000.00
Turnovers:		2.57
Net Throughput(gal/yr):		10,292.00
Is Tank Heated (y/n):	N	
Is Tank Underground (y/n):	N	

Paint Characteristics

Shell Color/Shade:	White/White
Shell Condition	Good

Breather Vent Settings

Vacuum Settings (psig):	-0.03
Pressure Settings (psig)	0.03

Meterological Data used in Emissions Calculations: Stockton, California (Avg Atmospheric Pressure = 14.72 psia)

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

N-845-23-0 - Horizontal Tank
Stockton, California

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
Jet naphtha (JP-4)	All	63.76	57.19	70.34	61.57	1.4129	1.2157	1.6101	80.0000			120.00	Option 1: VP60 = 1.3 VP70 = 1.6

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

N-845-23-0 - Horizontal Tank
Stockton, California

Annual Emission Calcaulations

Standing Losses (lb):	150.0252
Vapor Space Volume (cu ft):	352.1785
Vapor Density (lb/cu ft):	0.0201
Vapor Space Expansion Factor:	0.0754
Vented Vapor Saturation Factor:	0.7695
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	352.1785
Tank Diameter (ft):	8.0000
Effective Diameter (ft):	10.5878
Vapor Space Outage (ft):	4.0000
Tank Shell Length (ft):	11.0000
Vapor Density	
Vapor Density (lb/cu ft):	0.0201
Vapor Molecular Weight (lb/lb-mole):	80.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	1.4129
Daily Avg. Liquid Surface Temp. (deg. R):	523.4335
Daily Average Ambient Temp. (deg. F):	61.5458
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	521.2358
Tank Paint Solar Absorptance (Shell):	0.1700
Daily Total Solar Insulation Factor (Btu/sqft day):	1,642.9167
Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.0754
Daily Vapor Temperature Range (deg. R):	26.2943
Daily Vapor Pressure Range (psia):	0.3944
Breather Vent Press. Setting Range(psia):	0.0600
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	1.4129
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	1.2157
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	1.6101
Daily Avg. Liquid Surface Temp. (deg R):	523.4335
Daily Min. Liquid Surface Temp. (deg R):	516.8599
Daily Max. Liquid Surface Temp. (deg R):	530.0070
Daily Ambient Temp. Range (deg. R):	25.6583
Vented Vapor Saturation Factor	
Vented Vapor Saturation Factor:	0.7695
Vapor Pressure at Daily Average Liquid: Surface Temperature (psia):	1.4129
Vapor Space Outage (ft):	4.0000
Working Losses (lb):	27.6983
Vapor Molecular Weight (lb/lb-mole):	80.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	1.4129
Annual Net Throughput (gal/yr.):	10,292.0000

Annual Turnovers:	2.5730
Turnover Factor:	1.0000
Tank Diameter (ft):	8.0000
Working Loss Product Factor:	1.0000
Total Losses (lb):	177.7235

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

Emissions Report for: Annual

N-845-23-0 - Horizontal Tank
Stockton, California

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
Jet naphtha (JP-4)	27.70	150.03	177.72

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

Identification

User Identification:	N-845-23-0
City:	Stockton
State:	California
Company:	Tesoro Logistics Operations LLC
Type of Tank:	Horizontal Tank
Description:	Tesoro Tank #11 - 2010

Tank Dimensions

Shell Length (ft):		11.00
Diameter (ft):		8.00
Volume (gallons):		4,000.00
Turnovers:		1.29
Net Throughput(gal/yr):		5,162.00
Is Tank Heated (y/n):	N	
Is Tank Underground (y/n):	N	

Paint Characteristics

Shell Color/Shade:	White/White
Shell Condition	Good

Breather Vent Settings

Vacuum Settings (psig):	-0.03
Pressure Settings (psig)	0.03

Meterological Data used in Emissions Calculations: Stockton, California (Avg Atmospheric Pressure = 14.72 psia)

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

N-845-23-0 - Horizontal Tank
Stockton, California

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
Jet naphtha (JP-4)	All	63.76	57.19	70.34	61.57	1.4129	1.2157	1.6101	80.0000			120.00	Option 1: VP60 = 1.3 VP70 = 1.6

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

N-845-23-0 - Horizontal Tank
Stockton, California

Annual Emission Calcaulations	
Standing Losses (lb):	150.0252
Vapor Space Volume (cu ft):	352.1785
Vapor Density (lb/cu ft):	0.0201
Vapor Space Expansion Factor:	0.0754
Vented Vapor Saturation Factor:	0.7695
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	352.1785
Tank Diameter (ft):	8.0000
Effective Diameter (ft):	10.5878
Vapor Space Outage (ft):	4.0000
Tank Shell Length (ft):	11.0000
Vapor Density	
Vapor Density (lb/cu ft):	0.0201
Vapor Molecular Weight (lb/lb-mole):	80.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	1.4129
Daily Avg. Liquid Surface Temp. (deg. R):	523.4335
Daily Average Ambient Temp. (deg. F):	61.5458
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	521.2358
Tank Paint Solar Absorptance (Shell):	0.1700
Daily Total Solar Insulation Factor (Btu/sqft day):	1,642.9167
Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.0754
Daily Vapor Temperature Range (deg. R):	26.2943
Daily Vapor Pressure Range (psia):	0.3944
Breather Vent Press. Setting Range(psia):	0.0600
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	1.4129
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	1.2157
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	1.6101
Daily Avg. Liquid Surface Temp. (deg R):	523.4335
Daily Min. Liquid Surface Temp. (deg R):	516.8599
Daily Max. Liquid Surface Temp. (deg R):	530.0070
Daily Ambient Temp. Range (deg. R):	25.6583
Vented Vapor Saturation Factor	
Vented Vapor Saturation Factor:	0.7695
Vapor Pressure at Daily Average Liquid: Surface Temperature (psia):	1.4129
Vapor Space Outage (ft):	4.0000
Working Losses (lb):	13.8922
Vapor Molecular Weight (lb/lb-mole):	80.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	1.4129
Annual Net Throughput (gal/yr.):	5,162.0000

Annual Turnovers:	1.2905
Turnover Factor:	1.0000
Tank Diameter (ft):	8.0000
Working Loss Product Factor:	1.0000
Total Losses (lb):	163.9174

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

Emissions Report for: Annual

N-845-23-0 - Horizontal Tank
Stockton, California

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
Jet naphtha (JP-4)	13.89	150.03	163.92

APPENDIX VII

RMR Summary

REVISED 2/02/12
San Joaquin Valley Air Pollution Control District
Risk Management Review

To:	Wai-Man So, AQE – Permit Services
From:	Ester Davila, SAQS – Technical Services
Date:	February 2, 2012
Facility Name:	Tesoro Logistics Operations, LLC
Location:	Stockton, CA
Application #(s):	N-845-6-3, 10-2, 22-3, & 24-0
Project #:	N-1112963

RMR SUMMARY

RMR Summary						
Categories	**Loading Rack (6-3)**	**Tank (10-2)**	**VRS (22-3)**	**Tank (24-0)**	**Project Totals**	**Facility Totals**
Prioritization Score	0.101	N/A[1]	2.1	1.08	3.28	3.91
Acute Hazard Index	3.21E-4	N/A[1]	1.22E-3	1.50E-4	1.94E-3	1.69E-3
Chronic Hazard Index	3.10E-4	N/A[1]	1.56E-3	1.02E-5	1.88E-3	1.88E-3
Max. Individual Cancer Risk (10^{-6})	4.98E-7	N/A[1]	2.51E-6	1.63E-8	3.02E-6	3.02E-6
T-BACT Required?	**No**	**No**	**Yes***	**No**		
Special Permit Conditions?	**No**	**No**	**No**	**No**		

1 The modification to this unit resulted in a decrease of emissions. No further analysis was required for unit 10-2.

Proposed Permit Conditions

To ensure that human health risks will not exceed District allowable levels; the following permit conditions must be included for:

Unit # 6-3, 10-2, 22-3, 24-0

No special conditions required.

***T-BACT is required for unit N-845-22-3 due to emissions of benzene, which is a VOC. In accordance with District policy, BACT for this unit will be considered to be T-BACT.**

B. RMR REPORT

I. Project Description

Technical Services received a request on February 1, 2012, to perform a revised Risk Management Review to the modifications of a loading rack (unit 6-3), storage tank (unit 10-2), VRS (unit 22-3); and the installation of a new storage tank (unit 24-0). The modification to unit 10-2 (storage tank) results in a decrease in emissions and will not contribute to the potential project risks. The applicant is proposing to decrease the exhaust flow rate for the vapor recovery system (unit 22-3) from 1046 cfm to 167 cfm.

II. Analysis

Toxic emissions for the proposed project were calculated using the District's approved emissions factors for gasoline storage tanks and the VOC emissions factors provided by the processing engineer. In accordance with the District's *Risk Management Policy for Permitting New and Modified Sources* (APR 1905-1, March 2, 2001), risks from the proposed units' toxic emissions were prioritized using the procedure in the 1990 CAPCOA Facility Prioritization Guidelines and incorporated in the District's HEARTs database. The prioritization score for this project was greater than 1.0 (see RMR Summary Table). Therefore, further analysis was necessary. The AERMOD model was used, with the parameters outlined below and concatenated meteorological data for 2005 to 2009 from Stockton to determine the dispersion factors (i.e., the predicted concentration or X divided by the normalized source strength or Q) for a receptor grid. These dispersion factors were input into the Hot Spots Analysis and Reporting Program (HARP) risk assessment module to calculate the chronic and acute hazard indices and the carcinogenic risk for the project.

The following parameters were used for the review:

Units 6-3, 10-2, 22-3, & 24-0				
Unit	**6-3**	**22-3**	**24-0**	**Fugitives**
VOC Emissions (lb/hr)	0.03	1.08	0.475	0.002
VOC Emissions (lb/yr)	292	6,088	3,135	15
Source Type	**Poly Area**	**Point**	**Circle Area**	N/A
Stack/Release Height (m)	0.9	7.62	16.5	N/A
Stack Diameter/Radius (m)	N/A	0.2	9.75	N/A
Stack Exit Velocity (m/s)	N/A	2.43*	N/A	N/A
Stack Temp. (°K)	N/A	293	N/A	N/A
Closest Receptor (m)	3	3	3	3
Max Hours per Year	8760	8760	8760	8760

*Unit 22-3 is equipped with a fixed rain cap

III. Conclusion

The acute and chronic hazard indices were less than one and the cancer risk was greater than one but less than 10 in a million. In accordance with the District's Risk Management Policy, permitting may proceed with Toxic Best Available Control Technology (TBACT).

These conclusions are based on the data provided by the applicant and the project engineer. Therefore, this analysis is valid only as long as the proposed data and parameters do not change.

Attachments:

A. RMR Request & Additional Information
B. Toxic Emissions Summary
C. Prioritization Score
D. HARP Reports
E. Facility Summary

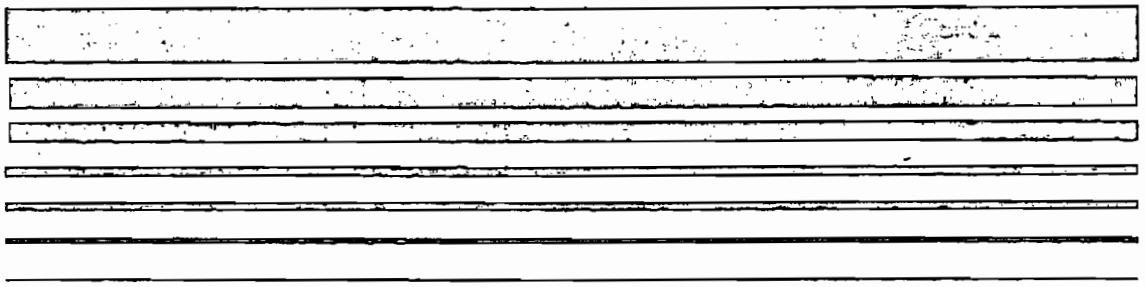
APPENDIX VIII

EPA's Gasoline Distribuion Industry (Stage 1) –
Background Information for Proposed Standards
(EPA – 453/R-94-0002a)

United States Environmental Protection Agency
Office of Air Quality Planning and Standards Research Triangle Park NC 27711
EPA-453/R-94-002a January 1994
Air

EPA

Gasoline Distribution Industry (Stage I) - Background Information for Proposed Standards



NESHAP

TABLE 3-1. VAPOR PROFILE OF NORMAL GASOLINE

HAZARDOUS AIR POLLUTANT[a]	HAP TO VOC RATIO (percentage by weight) MINIMUM	ARITHMETIC AVERAGE	MAXIMUM
Hexane	0.3	1.6	4.4
Benzene	0.2	0.9	2.2
Toluene	0.4	1.3	4
2,2,4 Trimethylpentane (iso-octane)	0.03	0.8	2.6
Xylenes	0.05	0.5	1.5
Ethylbenzene	0.03	0.1	0.5
TOTAL HAPs[b]	2	4.8	11

[a] Cumene and naphthalene were also identified in some of the data points in small quantities. They are not shown as their addition does not significantly change the totals.

[b] The total HAP ratios shown in the table are not simply sums of the individual HAP percentages listed in the columns; rather, total HAPs were calculated for each individual sample in the data base. The values represented in the table reflect the maximum, minimum, and arithmetic average total HAPs of these samples.