

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT <i>ENGINEERING & COMPLIANCE</i> APPLICATION PROCESSING AND CALCULATIONS	PAGES 20	PAGE 1
	APPL. NO. 533688	DATE March 29, 2012
	PROCESSED BY: Connie Yee	CHECKED BY

PERMIT TO OPERATE EVALUATION
COMPANY NAME, LOCATION ADDRESS:

Ultramar Inc, SCAQMD ID # 800026
2402 E. Anaheim Street
Wilmington CA 90744

EQUIPMENT DESCRIPTION:

Additions to the equipment description are underlined. New or modified conditions are underlined. Deletions to the equipment description and conditions are noted in strikeouts.

Section D of Ultramar's Facility Permit, ID# 800026

Equipment	ID No.	Connected To	Source Type/ Monitoring Unit	Emissions And Requirements	Conditions
Process 14 : STORAGE TANKS					P13.1
System 9: DOMED EXTERNAL FLOATING ROOF TANKS					S13.12
STORAGE TANK, DOMED EXTERNAL FLOATING ROOF, 94-TK-9013, WELDED SHELL, 30,000 BBL, DIAMETER: 70 FT, HEIGHT: 48 FT WITH A/N: 450344 <u>533688</u>	D267			HAP: (10) [40CFR 63 SUBPART CC, #2, 5-25-2001 <u>6-23-2003</u>]	<u>B59.2</u> , C1.7, H23.11
DOMED COVER, GEODESIC	(B1570)				
FLOATING ROOF, PONTOON	(B500)				
PRIMARY SEAL, CATEGORY A, MECHANICAL SHOE	(B501)				
SECONDARY SEAL, CATEGORY A, RIM MOUNTED DOUBLE WIPER	(B502)				
GUIDEPOLE, GASKETED COVER, WITH POLE WIPER, POLE SLEEVE, POLE FLOAT, AND POLE FLOAT WIPER, SLOTTED	(B1571)				

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CONDITIONS:

The following permit conditions shall apply to the storage tank in order to comply with all applicable District, State, and Federal standards.

PROCESS CONDITIONS

P13.1 All devices under this process are subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
Benzene	40CFR61, SUBPART	FF

[Processes subject to this condition: P1, P2, P3, P4, P5, P7, P8, P9, P10, P11, P12, P14]

[40CFR 61 Subpart FF, 12/04/03]

SYSTEM CONDITIONS

S13.12 All devices under this system are subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
VOC	District Rule	463
VOC	District Rule	1149
VOC	District Rule	1178

[Systems subject to this condition: Process 14, System 1, 2, 7]

[RULE 1149, 7-14-1995; RULE 1149, 5-2-2008; RULE 1178, 4-7-2006; RULE 463, 5-6-2005; RULE 463, 11-4-2011]

DEVICE CONDITIONS

B. Material/Fuel Type Limits

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B59.2 The operator shall only use the following material(s) in this device:

Light Straight Run Naphtha, Slop Oil, Crude Oil, Gas Oil, Isooctane, Isooctene, Raffinate, Heavy Naphtha, FCC Gasoline, Alkylate, Distillate, Jet Fuel, Diesel Fuel, Biodiesel

[RULE 1301, 12-7-1995]

[Devices subject to this condition: D267]

C. Throughput or Operating Parameter Limits

C1.5 The operator shall limit the throughput to no more than 600,000 barrel(s) in any one calendar month.

To comply with this condition, the operator shall keep records, in a manner approved by the District, for the following parameter(s) or item(s):

Tank throughput in barrels per month.

Commodity/product stored and time period of its storage.

Vapor pressure, in psia, of each batch of commodity/product stored.

Other records that may be required to comply with the applicable requirements of District Rules 463 and 1178 and 40 CFR60, Subparts Kb.

Records shall be kept and maintained for at least five years, and shall be made available to the Executive Officer or his authorized representative upon request.

[RULE 1301, 12-7-1995]

[Devices subject to this condition:- D267]

H. Applicable Rules

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H23.11 This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
VOC	40CFR60, SUBPART	Kb

[Devices subject to this condition: D259, D266, D267, D448, D864, D868, D1460]

[**40CFR 60 Subpart Kb, 10-15-2003**]

COMPLIANCE RECORD REVIEW:

A check of the AQMD Compliance Database shows that the facility has received three (3) Notices to Comply and 16 Notices of Violation since January 1, 2010. All the NCs and NOVs have been closed according to the Compliance database. None of the NCs or NOVs issued since January 1, 2010 apply to the tank submitted for change of condition.

BACKGROUND:

Ultramar, Inc. is a refinery in the city of Wilmington. The facility is a NO_x and SO_x RECLAIM, Title V facility. Ultramar submitted the application listed in Table 1 to add *biodiesel* as a commodity stored in storage tank 94-TK-9013 (D267).

Table 1 – AQMD Applications Submitted

A/N	Date Submitted	Equipment	Device ID	Requested Action	Previous A/N
533688	03/13/2012	Storage Tank # 94-TK-9013 Domed External Floating Roof	D267	Add <i>biodiesel</i> as a commodity stored	450311 (F90827-Active)
533689	03/13/2012	Title V Minor Permit Revision	n/a	n/a	n/a

FEE EVALUATION:

The fees paid for the applications submitted are as follows:

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Table 2 – Application Fees Submitted

A/N	Equipment	BCAT	Type	Status	Fee Schedule	Fees Required, \$	Fees Paid, \$
533688	Storage Tank # 94-TK-9013 Domed External Floating Roof	248919	60	20	C	\$1,820.98	\$1,820.98
533689	Title V Permit Revision	555009	85	21	n/a	\$1,747.19	\$1,747.19
Total						\$3,568.17	\$3,568.17

PROCESS DESCRIPTION:

The permit history for storage tank 95-TK-9013 is as follows in Table 3:

Table 3. Permit History

A/N	A/N Type	A/N Status	Permit #	Permit Status	Application Description
533688	60	21	TBD		Add biodiesel as a commodity
450311	50	31	F90827	Active	Add dome to external floating roof; Add gasoline blending components as commodities stored.
221290	50	31	D37848	Inactive	Add commodities and change seals
178074	40	31	D07267	Inactive	Change of Ownership from Union Pacific Resources to Ultramar
165642	30	50	n/a	n/a	
C27265	20	31	M44954	Inactive	

PROCESS DESCRIPTION:

Storage tank 95-TK-9013 (D267) is a 30,000 barrel domed external floating roof storage tank permitted to store light straight run naphtha, slop oil, crude oil, gas oil, isooctane, isooctene, raffinate, heavy naphtha, FCC gasoline, alkylate, distillate, jet fuel, and diesel fuel. The true vapor pressure (TVP), commodity, and throughput of the material stored for the past two years are shown in Table 4.

**Table 4. Storage Tank 94-TK-9013 (D267) Operational Data
March 2010 – February 2012**

Month	TVP (psia)	Commodity	Throughput, barrels
Mar-2010	2.4	Naphtha	156
Apr-2010	3	Naphtha	633
May-2010	1.7	Naphtha	608
Jun-2010	2.3	Naphtha	952
Jul-2010	3.2	Naphtha	3,272
Aug-2010	1.8	Naphtha	318
Sep-2010	2.9	Naphtha	21,906
Oct-2010	2.8	Naphtha	19,781
Nov-2010	2.4	Naphtha	187
Dec-2010	1.2	Naphtha	101
Jan-2011	2.1	Naphtha	53
Feb-2011	0.7	Naphtha	124
Mar-2011	1.1	Naphtha	299
Apr-2011	3.2	Naphtha	142
May-2011	2.1	Naphtha	202
Jun-2011	0.7	Naphtha	107
Jul-2011	3.4	Naphtha	148
Aug-2011	0.7	Naphtha	140
Sep-2011	3.8	Naphtha	227
Oct-2011	3.8	Naphtha	190
Nov-2011	4.1	Naphtha	172
Dec-2011	4.5	Naphtha	155
Jan-2011	4.7	Naphtha	75
Feb-2011	3.5	Naphtha	19,729

Addition of Commodity

The tank is currently permitted for storage of raw materials, intermediates, blending stock, and finished product. With A/N 533688, Ultramar is requesting a change of condition to existing condition B59.2 to store *biodiesel* in the tank. The storage of biodiesel will either be used as blending stock or sold as finished product. Biodiesel may contain any of following ingredients: methyl soyate, rapeseed methyl ester, methyl tallow, fatty acid methyl ester, vegetable oil methyl ester, methyl ester, and/or palm kernel oil methyl ester. The chemical and physical properties of biodiesel is similar to, or lower than, many of the products for which the tank is already

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permitted. Table 5 is comparison of the vapor pressure and percent volatiles of the commodities stored in the tank

Table 5. Vapor Pressure Comparison of Selected Materials

Material	Vapor Pressure		% Volatiles by volume
	mmHg at 68 °F	psia at 68 °F	
Biodiesel	< 2	<0.0387	<2%
Diesel No. 2	< 1	0.0009	negligible
Raffinate, Straight Run Naphtha	525	10	100
Heavy Naphtha	80	1.5	100
Jet Fuel	< 20	< 0.386	negligible
Gasoline	569	11	100
Isooctene/Isooctane	41	0.793	100
Crude oil	<12	<8.5	20 - 100

The source of biodiesel will be obtained from a variety of sources. Ultramar provided Material Safety Data Sheets (MSDS) from several suppliers. The MSDS do not necessarily represent the intended supplier materials, but are provided as representative examples of potential biodiesel materials.

The requested change of condition will not require any physical modifications to the tank itself. In addition, there will not be change of throughput. TK-9013 is currently permitted for up to 600,000 bbls per month (Condition C1.7). The throughput data listed in Table 3 shows that the facility complies with the limit in Condition C1.7.

Table 6 lists the current and proposed storage tank specifications:

Table 6 – Storage Tank # 94-TK-9013 (D267) Specifications

	Domed External Floating Roof Tank A/N 450311	Domed External Floating Roof Tank A/N 533688
Tank Dimensions		
Diameter, feet	70	70
Volume, gallons (barrels)	1,260,000 (30,000)	1,260,000 (30,000)
Throughput, barrels per year	7,200,000 *	7,200,000 *
Turnovers	240	240
Paint Characteristics		
Internal Shell Condition	Light Rust	Light Rust
Shell Color/Shade	White/White	White/White
Shell Condition	Good	Good

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	Domed External Floating Roof Tank A/N 450311	Domed External Floating Roof Tank A/N 533688
Tank Construction and Rim-Seal System		
Construction:	Welded	Welded
Primary Seal:	Mechanical Shoe	Mechanical Shoe
Secondary Seal:	Rim-mounted	Rim-mounted
Liquid Contents		
Mixture/Component	Petroleum liquids, max vapor pressure 11 psia	Petroleum liquids, max vapor pressure 11 psia; <u>Biodiesel</u>
Roof Characteristics		
Type	Pontoon with Domed Roof	Pontoon with Domed Roof
Deck Fittings/Status	<ul style="list-style-type: none"> • 1-Access Hatch (24-in Dia.)/Bolted Cover, Gasketed • 1-Gauge-Hatch/Sample Well (8-in Dia.)/Weighted Mech. Actuation, Gasketed • 14-Roof Leg (3-in Dia.)/Adjustable, Pontoon Area, Sock • 9-Roof Leg (3-in Dia.)/Adjustable, Center Area, Sock • 2- Vacuum Breaker (10 in Dia.)/Weighted Mech. Actuation, Gasketed • 1-Slotted Guidepole Well/Gasketed Sliding Cover with Float, Sleeve, Wiper 	<ul style="list-style-type: none"> • 1-Access Hatch (24-in Dia.)/Bolted Cover, Gasketed • 1-Gauge-Hatch/Sample Well (8-in Dia.)/Weighted Mech. Actuation, Gasketed • 14-Roof Leg (3-in Dia.)/Adjustable, Pontoon Area, Sock • 9-Roof Leg (3-in Dia.)/Adjustable, Center Area, Sock • 2- Vacuum Breaker (10 in Dia.)/Weighted Mech. Actuation, Gasketed • 1-Slotted Guidepole Well/Gasketed Sliding Cover with Float, Sleeve, Wiper • <u>1-Rim Vent (6-in Diameter)/Weighted Mech. Actuation, Gasketed</u>

* Condition C1.7 limits the throughput to no more than 600,000 barrels in any one calendar month.

EMISSIONS:

Storage tank 94-TK-9013 is a post NSR tank and emissions are accounted for in NSR. The chemical and physical properties of biodiesel are similar to, or lower than, many of the products for which the tank is already permitted. The tank is permitted to store gasoline with a vapor pressure up to 11 psia. The vapor pressure of biodiesel is less than 2 psia. Because volatile organic compound (VOC) emissions are proportional to vapor pressure and % volatility, no increase in VOC emissions are expected as a result of the proposed change of condition to add biodiesel as a commodity.

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In previous A/N 450311, the worst case scenario was calculated using the commodity gasoline, maximum vapor pressure of 11 psia. The emissions were estimated using the EPA's Tank 4.0.9d program. For A/N 533688, the emissions from storing biodiesel were also estimated using EPA's Tank 4.0.9d program. The 4.0.9d program output files are shown in Appendix A. As noted in Table 7, emissions from storing biodiesel would be less than storing gasoline. Therefore, there is no emission increase from storing biodiesel.

Table 7. Emissions

A/N	Tank No.	Throughput, bbl/year	ROG Emissions, lbs/year		
			Gasoline, Max VP = 11 psia	Biodiesel	Difference in Emissions
533688	94-TK-9013 (D267)	7,200,000 (24 turnovers)	2,814.93 (7.71 lbs/day)	1,055.75 (2.89 lbs/day)	- 1,759.18 (-4.82 lbs/day)

The tank is already equipped with primary and secondary seals and a domed roof as control.

RULES EVALUATION:

PART 1 SCAQMD REGULATIONS

Rule 212	Standards for Approving Permits	November 14, 1997
	<p>This proposed application meets all criteria in Rule 212 for permit approval. The modification proposed are designed so it can be expected to operate without emitting air contaminants in violation of Division 26 of the State Health and Safety Code or in violation of AQMD's rules and regulations.</p> <p>The storage tank change of condition does not constitute a significant project because (1) the permit unit is not located within 1000 feet of a school; (2) the emissions increase does not exceed the daily maximum specified in subdivision (g) of this rule (30 lbs/day); and (3) the permit unit does not have an increased cancer risk greater than, or equal to, one in a million (1×10^{-6}) during a lifetime of 70 years or pose a risk of nuisance.</p>	
Rule 402	Nuisance	May 7, 1976
	<p>Nuisance complaints associated with the above project are not expected under normal operating conditions.</p>	

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Rule 463	Organic Liquid Storage	May 6, 2005
463(a)	Applicability. This rule applies to any aboveground tank with capacity 19,815 gallons or greater for storing organic liquids. Tank 94-TK-9013 (D267) is an aboveground tank with capacity greater than 19,815 gallons for storing organic liquids. Therefore, this tank is subject to this rule.	
463(c)	Tank Roof Requirements.	
463(c)(1)	External Floating Roof. Tank 94-TK-9013 (D267) is a domed external floating roof consisting of a pontoon-type cover and are equipped with both primary and secondary seal. The primary seal is a liquid mounted mechanical shoe and the secondary seal is rim-mounted wiper type. Therefore, the tank complies with the tank roof requirements.	
463(d)	Other Performance Requirements.	
463(d)(1)	The tank is greater than greater than 19,815 gallons. Therefore, this paragraph does not apply.	
463(d)(2)	The external floating roof tank shall float on the organic liquid at all times (i.e., free of the roof leg supports) except when the tank is being completely emptied for cleaning, or repair.	
463(d)(3)	The external floating roof shall be refloated with water or equivalent method approved by the District whenever the tank is gas-freed or refilled by gasoline.	
463(d)(4)	The tank will not store organic liquids having a true vapor pressure of 11 psia (569 mm Hg) or greater under actual storage conditions. The tank stores gasoline, crude oil, naphtha, or gasoline blending components such as isooctane, isooctene, alkylate, light straight run (LSR) naphtha, heavy cat naphtha, light cat naphtha, raffinate, distillate, jet fuel, diesel, slop oil, crude oil, gas oil, and now biodiesel.	
463(d)(5)	Replacement seals on the tank will only be chosen from the current list of seals approved by District.	
463(d)(6)	The organic liquids stored in this tank should be in compliance with the appropriate vapor pressure limits provided the actual storage temperature does not exceed the corresponding maximum temperature listed in the Addendum of this rule.	
	Compliance with Rule 463 is expected with proper recordkeeping and inspections. The Rule 463 inspection and maintenance plan will be updated to reflect installation of the dome roofs. Ultramar submitted an updated Rule 463 inspection and maintenance plan on September 2, 2011 (A/N 526461).	

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Rule 1149	Storage Tank Cleaning and Degassing	May 2, 2008
	The tank being modified will continue to be subject to the tank cleaning and degassing requirements of this rule. Compliance is expected.	

Rule 1178	Further Reduction of VOC Emissions from Storage Tanks at Petroleum Facilities	April 7, 2006
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1178(b)	Applicability. This rule applies to all aboveground storage tanks with capacity greater than 19,818 gallons and used to store organic liquids with true vapor pressure greater than 0.1 psi and located at any petroleum facility emitting more than 20 tons per year of VOC in any emission inventory year starting with emission inventory year 2000. Storage tank 94-TK-9013 (D267) is greater than 19,818 gallons and used to store organic liquids with true vapor pressure greater than 0.1 psi and are located at a refinery emitting greater than 20 tons per year of VOC in year 2000. Therefore, the tank is subject to Rule 1178.	
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1178(d)(1)(A)	The external floating roof tank stores materials with vapor pressure less than 3 psia. The tank is equipped with all the specifications listed in (d)(1)(A):	
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Specification	✓ = Complies
(i) Equip each access hatch and gauge float well with a cover that is gasketed and bolted. The cover shall be closed at all times, with no visible gaps, except when the hatch or well must be opened for access.	✓
(ii) Equip each gauge hatch/sample well with a cover that is gasketed. The cover shall be closed at all times, with no visible gaps, except when the hatch or well must be opened for access.	✓
(iii) Gasket or cover each adjustable roof leg with a VOC impervious sock at all times when the roof is floating.	✓
(iv) Gasket each rim vent.	✓
(v) Gasket each vacuum breaker. Vacuum breakers shall be closed at all times, with no visible gaps, when the roof is floating; and shall be set to open only when the roof is being floated off or is being landed on the roof leg supports.	✓
(vi) Equip each open floating roof drain with a slotted membrane fabric cover that covers at least 90 % of the area of the opening.	n/a; no open floating roof drain
(vii) Equip each unslotted guidepole well with a gasketed sliding cover and a flexible fabric sleeve or wiper.	n/a; no unslotted guidepole
(viii) Equip each unslotted guidepole with a gasketed cover at the end of the pole. The cover shall be closed at all times, with no visible gaps,	n/a; no unslotted guidepole

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Rule 1178	Further Reduction of VOC Emissions from Storage Tanks at Petroleum Facilities	April 7, 2006
	except when gauging or sampling.	
	(ix) Equip each slotted guidepole with a gasketed cover, a pole wiper and a pole sleeve. The pole sleeve shall be extended into the stored liquid.	✓
	(x) Equip each slotted guidepole having a pole float with a gasketed cover, a pole wiper, and a pole float wiper. The wiper or seal of the pole float shall be at or above the height of the pole wiper.	✓
	(xi) Cover each slotted guidepole opening with a gasketed cover at all times, with no visible gaps, except when the cover must be opened for access.	✓
	(xii) Maintain the pole float in a condition such that it floats within the guidepole at all times except when it must be removed for sampling or when the tank is empty.	✓
	(xiii) Except for vacuum breakers and rim vents, ensure that each opening in the external floating roof shall provide a projection below the liquid surface.	✓
	(xiv) Except for vacuum breakers, rim vents, roof drains, and leg sleeves, equip all other openings in the roof with a gasketed cover or seal which is closed at all times, with no visible gaps, except when the cover or seal must be opened for access.	✓
1178(d)(2)	<p>Domed External Floating Roof Tanks. This subparagraph applies to a facility with annual VOC emissions exceeding 20 tons for year 2000 and after and to external floating roof tanks containing organic liquids having true vapor pressure greater than 3 psia.</p> <p>Storage tank 94-TK-9013 (D267) contains organic liquids having true vapor pressure greater 3 psia. Therefore, a dome was completely installed on this tank on July 10, 2006.</p>	
1178(d)(2)(D)	The domed external floating roof tank is equipped and maintains all roof openings in according with the specifications listed in (d)(1)(A).	
1178(d)(2)(E)	The domed external floating roof tank is equipped with a rim seal system consisting of a primary and secondary seal meeting the specifications listed in (d)(1)(B). The primary seal is a mechanical shoe. The secondary seal is rim mounted and not attached to the primary seal.	

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Rule 1178	Further Reduction of VOC Emissions from Storage Tanks at Petroleum Facilities	April 7, 2006
1178(d)(2)(F)	The operator ensures the concentration of the organic vapor in the vapor space above the domed external floating roof tank is less than 30% of its lower explosive limit (LEL). The past two years records shows the LEL is well below 30%.	
	Continued compliance with this rule is expected. The Rule 1178 inspection program has been updated.	
1178(d)(5)	Internal Floating Roof Tanks. The tank is not internal floating roof tank.	
1178(d)(4)	Fixed Roof. The tank is not a fixed roof tank.	
1178(d)(5)	This subparagraph applies to facilities with annual VOC emissions exceeding 20 tons for any emission inventory year subsequent to 2000. Ultramar exceeded the 20 ton threshold before 2000.	
1178(d)(6)	Newly tanks constructed issued Permits to Construct and Operate on and after January 1, 2002. According to Ultramar, storage tank 94-TK-9013 (D267) was constructed in 1980 and issued permits well before 2002.	

REG XIII	New Source Review (NSR)	December 6, 2002										
		Application Deem Complete Year: 2012										
	<p>The tank is subject to New Source Review since it was constructed in 1980. Table 8 is a comparison of the emission currently in NSR for the previous and current application.</p> <p style="text-align: center;">Table 8. NSR Emissions</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Storage Tank</th> <th>Device ID</th> <th>A/N 450311 Emissions*, lbs/day</th> <th>A/N 533688 Emissions, lbs/day</th> <th>Emission/Decrease, lbs/day</th> </tr> </thead> <tbody> <tr> <td>94-TK-9013</td> <td>D267</td> <td>8**</td> <td>3</td> <td>-4</td> </tr> </tbody> </table> <p>* From previous application 450311. Calculated using EPA Tanks 4.0.9d software with commodity gasoline, vapor pressure 11 psia.</p> <p>As noted in Table 8, there is not an emission increase with adding biodiesel as a commodity since the current emissions with storing gasoline is greater than storing biodiesel. Since Ultramar would like to continue to store petroleum liquids with maximum vapor pressure 11 psia (i.e., gasoline), the emissions to be</p>		Storage Tank	Device ID	A/N 450311 Emissions*, lbs/day	A/N 533688 Emissions, lbs/day	Emission/Decrease, lbs/day	94-TK-9013	D267	8**	3	-4
Storage Tank	Device ID	A/N 450311 Emissions*, lbs/day	A/N 533688 Emissions, lbs/day	Emission/Decrease, lbs/day								
94-TK-9013	D267	8**	3	-4								

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REG XIII	New Source Review (NSR)	December 6, 2002 Application Deem Complete Year: 2012
	entered in NSR will be the same as the previous application # 450311 since this represents the worst case scenario and emissions.	
1303(a)	Best Available Control Technology (BACT). BACT is required when there is an emission increase of 1 lb/day. With the inclusion of biodiesel as a commodity, there is not an emission increase. The tank is already equipped with primary and secondary seals and a dome. Therefore, although this change of modification does not trigger BACT, BACT is already employed in this tank.	
1303(b)	Modeling. Air quality modeling for VOC is not required.	
1303(b)(2)	Emission Offsets. Since there is not an emission increase, offsets are not required.	
1303(b)(3)	Sensitive Zone Requirements. ERCs are not required.	
1303(b)(4)	Facility Compliance. This facility complies with all applicable District rules and regulations.	
1303(b)(5)	Major Polluting Facilities. A new major polluting facility or major modification at an existing major polluting facility shall comply with the requirements of this paragraph. This refinery is an existing major polluting facility and the project is a major modification. Rule 1302(r) defines (in part) a major modification as any modification "... at an existing major polluting facility that will cause; 1) an increase of <u>one</u> pound per day or more, of the facility's potential to emit oxides of nitrogen (NOx) or volatile organic compounds (VOCs), provided the facility is located in the South Coast Air Basin (SOCAB) , ..." The emission increase of VOC is less than 1 lb/day. Therefore, the requirements of this paragraph do not apply.	

Rule 1401	New Source Review of Toxic Air Contaminants	March 4, 2005
	In accordance with Rule 1401(f)(3), to determine the maximum individual cancer risk (MICR), cancer burden and <i>chronic</i> health index (HIC) due to a modified permit unit, the <u>increase</u> in emissions from the modified permit unit shall be calculated based on the difference between the total permitted emissions after the modification, calculated pursuant to the criteria established in subparagraphs: (f)(1)(A), the maximum rated capacity; (f)(1)(B), the maximum possible annual hours of operation;	

Rule 1401 New Source Review of Toxic Air Contaminants March 4, 2005

(f)(1)(C), the maximum annual emissions; and (f)(1)(D), the physical characteristics of the materials processed, and the total permitted emissions prior to the modification as stated in the permit condition [Subparagraph (f)(3)(A)].

In accordance with Rule 1401(f)(4), to determine the *acute* health index (HIA) due to a modified permit unit, the total emissions from the permit unit shall be calculated on a based on permit conditions which directly limit the emissions.

Biodiesel may contain one or more Rule 1401-listed toxic air contaminants (TAC), depending on the feedstock and production method. The TAC in biodiesel may include naphthalene, xylene, and methanol. The tank is permitted to store many petroleum-based materials, all of which contain one or more 1401-listed TAC. To determine if the storage of biodiesel would cause an increase in emissions of any specific TAC, the TAC content of several of the materials for which the tank is permitted is compared to the TAC content of biodiesel in Table 9. As shown in Table 9, the concentration of xylene expected in biodiesel is lower than the concentration of xylene in one or more materials for which the tank is already permitted. Therefore, storage of biodiesel should not cause an increase in xylene emissions.

Table 9. Toxic Air Contaminant Comparison

Commodity	Toxic Air Contaminant (TAC), %							
	Benzene	Ethylbenzene	n-Hexane	Hydrogen sulfide	Naphthalene	Methanol	Toluene	Xylene (o, m, p isomers)
Naphtha	3-5	5-7	23-35	--	--	--	15-20	25-35
Gas Oil	0-0.5	0-1	0-2	0-1	0-3	--	0-1	0-1
Heavy Naphtha	0.1-0.5	--	0.1-5	--	--	--	0.5-1.5	5-10
Gasoline	0-5	0-5	0-3	<1	0-2	--	0-10	0-5
Jet Fuel	0-1	0-1	--	--	0-3	--	0-1	0-2
Diesel Fuel	--	--	0-1	--	0-1	--	--	--
Biodiesel	--	--	--	--	1-5	0-0.2	--	0.75-1

Rule 1401	New Source Review of Toxic Air Contaminants	March 4, 2005																																																																
	<p>However, as shown in the Table 9, biodiesel may contain methanol and naphthalene at concentration exceeding the concentrations of those constituents found in currently permitted materials. Therefore, emissions of methanol, naphthalene, and even xylene are estimated for this application. Annual TAC emissions are estimated using EPA Tanks 4.0.9d. Based on the Tanks output report, the maximum annual emissions of methanol will be 3.86 lbs/year, xylenes will 11.07 lbs/year, and naphthalene will be 52.59 lbs/year based on 240 tank volume turnovers per year.</p> <p>The MICR and HIA and HIC for both off-site worker and residential receptors are shown below in Table 10. The Tier 2 Screening Risk Assessments are shown in Appendix B. All the calculated MICR and HIs for the each target organ were below the Rule 1401 risk thresholds. Therefore, the proposed modification complies with Rule 1401.</p> <p style="text-align: center;">Table 10 - Rule 1401 Emissions and Summary</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="5" style="text-align: center;">Air Toxic Emissions</th> </tr> <tr> <th colspan="2" style="text-align: center;">Toxic Air Contaminant</th> <th colspan="3" style="text-align: center;">Post Modification Emissions, lbs/year</th> </tr> <tr> <td colspan="5" style="text-align: center;">94-TK-9013, D267</td> </tr> </thead> <tbody> <tr> <td colspan="2">Methanol</td> <td colspan="3" style="text-align: center;">3.86</td> </tr> <tr> <td colspan="2">Xylene (-o, -m, -p isomers)</td> <td colspan="3" style="text-align: center;">11.07</td> </tr> <tr> <td colspan="2">Naphthalene</td> <td colspan="3" style="text-align: center;">52.59</td> </tr> <tr> <th colspan="5" style="text-align: center;">Risk Summary</th> </tr> <tr> <th style="width: 15%;">Commodity</th> <th style="width: 20%;">Scenario</th> <th style="width: 15%;">MICR</th> <th style="width: 15%;">HI_{Acute}, HIA</th> <th style="width: 15%;">HI_{Chronic}, HIC</th> </tr> <tr> <td rowspan="2" style="text-align: center;">Biodiesel</td> <td style="text-align: center;">Worker</td> <td style="text-align: center;">9.47×10^{-7}</td> <td style="text-align: center;">1.74×10^{-5}</td> <td style="text-align: center;">1.55×10^{-2}</td> </tr> <tr> <td style="text-align: center;">Residential</td> <td style="text-align: center;">8.71×10^{-7}</td> <td style="text-align: center;">3.33×10^{-6}</td> <td style="text-align: center;">2.79×10^{-3}</td> </tr> <tr> <td colspan="2" style="text-align: center;">Maximum Risk</td> <td style="text-align: center;">9.47×10^{-7}</td> <td style="text-align: center;">1.74×10^{-5}</td> <td style="text-align: center;">1.55×10^{-2}</td> </tr> <tr> <td colspan="2" style="text-align: center;">Rule 1401 Risk Thresholds</td> <td style="text-align: center;">1×10^{-6}</td> <td style="text-align: center;">1</td> <td style="text-align: center;">1</td> </tr> <tr> <td colspan="2"></td> <td style="text-align: center;">Pass</td> <td style="text-align: center;">Pass</td> <td style="text-align: center;">Pass</td> </tr> </tbody> </table> <p>Federal NSR for toxics does not apply since this is not considered a reconstruction per 40CFR63, Subpart A, §63.2.</p>		Air Toxic Emissions					Toxic Air Contaminant		Post Modification Emissions, lbs/year			94-TK-9013, D267					Methanol		3.86			Xylene (-o, -m, -p isomers)		11.07			Naphthalene		52.59			Risk Summary					Commodity	Scenario	MICR	HI _{Acute} , HIA	HI _{Chronic} , HIC	Biodiesel	Worker	9.47×10^{-7}	1.74×10^{-5}	1.55×10^{-2}	Residential	8.71×10^{-7}	3.33×10^{-6}	2.79×10^{-3}	Maximum Risk		9.47×10^{-7}	1.74×10^{-5}	1.55×10^{-2}	Rule 1401 Risk Thresholds		1×10^{-6}	1	1			Pass	Pass	Pass
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		Pass	Pass	Pass																																																														

Regulation XXX	Title V	March 16, 2001
	Ultramar is a designated as a Title V facility. The Title V permit was issued	

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Regulation XXX	Title V	March 16, 2001
	<p>on May 29, 2009. Therefore, the facility is now subject to the requirements of Reg XXX.</p> <p>There is not an emission increase of VOC associated with the addition of biodiesel. This application is subject to the requirements of a Minor Permit Revision [Rule 3000(b)(15)].</p> <p>A Minor Permit Revision shall also meet the requirements of clauses (b)(15)(A)(i), (ii), (iii), (iv), (vii), (viii) and (ix) of Rule 3000.</p>	
(b)(15)(A)(i)	This revision does not require or change a case-by-case evaluation of: reasonably available control technology (RACT) pursuant to Title I of the federal Clean Air Act; or maximum achievable control technology (MACT) pursuant to 40 CFR Part 63, Subpart B.	
(b)(15)(A)(ii)	This revision does not violate a regulatory requirement.	
(b)(15)(A)(iii)	This revision does not require any significant change in monitoring terms or conditions in the permit.	
(b)(15)(A)(iv)	This revision does not require relaxation of any recordkeeping, or reporting requirement, or term, or condition in the permit.	
(b)(15)(A)(vii)	This revision does not result in an increase of GHG emissions of > 75,000 tpy CO ₂ e.	
(b)(15)(A)(viii)	This revision does not establish or change a permit condition that the facility has assumed to avoid an applicable requirement.	
(b)(15)(A)(ix)	This revision is not an installation of a new permit unit subject to a New Source Performance Standard (NSPS) pursuant to 40 CFR Part 60, or a National Emission Standard for Hazardous Air Pollutants (NESHAP) pursuant to 40 CFR Part 61 or 40 CFR Part 63.	
A Minor Permit Revision is subject to a 45-day EPA review, Rule 3003(j), and not subject to public participation requirements, Rule 3006(b).		

PART 2 STATE REGULATIONS

California Environmental Quality Act (CEQA)	
	This proposed modification is not a significant project.

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PART 3 FEDERAL REGULATIONS

40CFR Part 60 Subpart Kb	Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984
§60.110b	<p>Tank 94-TK-9031 (D267) will continue to be subject to 40 CFR 60 Subpart Kb. This tank will comply with the tank design/control requirement of this regulation. The inspection program will be updated, as needed, to reflect the storage of biodiesel. The refinery conducts annual inspections of the tank. Reports are sent to EPA annually and included in this application folder.</p> <p>Note that Subpart Kb does not apply to this change of condition to add biodiesel as a commodity. According to 40CFR Part 60 Subpart A – General Provisions: §60.2 Definitions, <i>modification</i> “means any physical change in, or change in the method of operation of, an existing facility which <u>increases</u> 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.” Since this modification will not result in an emission increase of VOC (air pollutants to which a standard applies) or result in an emission of any pollutant not previously emitted, this rule should not apply to these application. Nevertheless, the tank will continue to be subject to Subpart Kb.</p>
§60.112b(a)(2)	<p>External Floating Roof Tank. Subpart Kb requires the following seals/gap requirements:</p> <ul style="list-style-type: none"> (i) Closure device consists of two seals (a primary seal and a secondary seal). The primary seal shall be either a mechanical shoe seal or a liquid-mounted seal. The secondary seal shall completely cover the annular space between the external floating roof and the wall of the storage vessel in a continuous fashion except as allowed in §60.113b(b)(4). Primary and secondary seals need to meet certain gap criteria. (ii) The floating roof has to float on the liquid at all times, exempt during emptying or refilling. (iii) There are to be no holes, tears, or other openings in the shoe, seal fabric, or seal envelope. <p>The tank complies with the tank design/control requirements of this regulation. Both District Rules 463 and/or 1178 require the same or more stringent requirements than noted above. Therefore, continued compliance is expected</p> <p>Subpart Kb also requires the rim vent to be gasketed and roof drains to be</p>

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40CFR Part 60 Subpart Kb	Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984
	equipped with slotted fabric membranes covering at least 90% of the opening. Both District Rules 463 and 1178 require this requirement. Tank 94-TK-9013 is equipped with a gasketed rim vent or roof drain.

40CFR Part 63 Subpart CC	National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries
§63.640	Tank 94-TK-9013 (D267) will continue to be subject to 40 CFR 63 Subpart CC as a Group 1 tank.
§63.640(n)(1)	Overlap of subpart CC with other regulations for storage vessels. A Group 1 or 2 storage vessel that is also subject to the control requirements of 40 CFR Part 60, Subpart Kb is required to comply only with the provisions of 40 CFR Part 60, Subpart Kb. Tank 94-TK-9013 currently complies with Subpart Kb.
§63.646	Recordkeeping. The refinery conducts biannual inspections of the tank. Reports are sent to EPA biannually and copied to the District.

CONCLUSION:

Based on the above evaluation, it recommended that the following be issued:

A/N	Recommendation
533688	Issue Permit to Construct-Permit to Operate (PC-PO) with conditions listed in the Conditions Section
533689	Approve Title V Permit Revision Application

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Appendix

A. Tank 4.0.9d Output for 94-TK-9013 (D267) with Biodiesel

B. Tier 2 Screening Risk Assessment