

<b>SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT</b>  <b>ENGINEERING AND COMPLIANCE</b>  <b>APPLICATION PROCESSING AND CALCULATIONS</b>	TOTAL PAGES:	PAGE NO.:
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**PERMIT TO OPERATE**

APPLICANT	Equilon Enterprises, LLC, Co. Id. 800372
MAILING ADDRESS	20945 S. Wilmington Ave. Carson, CA 90810
EQUIPMENT LOCATION	Same as above

**Equipment Description:**

Equipment	ID No.	Connected To	RECLAIM Source Type / Monitoring Unit	Emissions and Requirements	Conditions
<b>PROCESS 3: STORAGE TANKS</b>					S13.2
STORAGE TANK, INTERNAL FLOATING ROOF, NO. 577, 80488 BBL; DIAMETER: 117 FT 5 IN; HEIGHT: 41 FT 10 IN WITH A/N 494231  PRIMARY SEAL, METALLIC SHOE  SECONDARY SEAL, WIPER TYPE	D184				B22.5, C1.37, C6.1, H23.13

- \* (1) Denotes RECLAIM emission factor
  - (2) Denotes RECLAIM emission rate
  - (3) Denotes RECLAIM concentration limit
  - (4) Denotes BACT emission limit
  - (5)(5A)(5B) Denotes command and control emission limit
  - (6) Denotes air toxic control rule limit
  - (7) Denotes NSR applicability limit
  - (8)(8A)(8B) Denotes 40 CFR limit(e.g. NSPS, NESHAPS, etc.)
  - (9) See App B for Emission Limits
  - (10) See Section J for NESHAP/MACT requirements
- \*\* Refer to Section F and G of this permit to determine the monitoring, recordkeeping and reporting requirements for this device.

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**Conditions**

DEVICE CONDITIONS

S. System Conditions

**S13.2**

All devices under this system are subject to the applicable requirements of the following rules and regulations.

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

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

[Systems subject to this condition: Process 3, System 1, 2, 3, 5]

B. Material/Fuel Type Limits

B22.5 The operator shall not use this equipment with material having a(n) true vapor pressure of 11 psia or greater under actual operating conditions :

[RULE 1303(b)(2)-Offset, 5-10-96; RULE 463, 5-6-2005]

[Devices subject to this condition : D184]

C. Throughput or Operating Parameter Limits

C1.37 The operator shall limit the throughput to no more than  $9.125e + 06$  barrels in any one year.

[RULE 1303(b)(2)-Offset, 5-10-1996]

[Devices subject to this condition : D184]

C6.1 The operator shall use this equipment in such a manner the the hydrocarbon concentration being monitored, as indicated below, does not exceed 50 percent of the Lower Explosive Limit.

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The operator shall use an explosimeter or equivalent device to monitor the hydrocarb on concentratin in the vapor space above the floating roof twice a y~~l~~ear at 4 to 8 month intervals.

[RULE 463, 5-6-2005]

[Devices subject to this condition : D194]

### **H. Applicable Rules**

H 23.13 This equipment is subject to the applicable requirements of the following rules or regulations.

Contaminant	Rule	Rule/Subpart
HAPs	40CFR63, SUBPART	R

### **BACKGROUND & PROCESS DESCRIPTION**

This facility is Title V and Reclaim facility which is primarily a tank storage farm and bulk loading terminal consisting of various size tanks used to store various refinery products and loading racks.

This application is for an internal floating roof tank (Tank no. 577; device id no. D184). The applicant proposes to replace the existing aluminum bolted, pontoon-type, floating roof with a new welded steel pan roof. The application also plans on using a metallic shoe primary seal and a wiper type rim mounted secondary seal. The applicant will continue to store product with a True Vapor Pressure of less than 11 psia as described in condition no. B22.5 The applicant will also keep the overall throughput at the facility to less than  $9.125e + 06$  barrels in any one year.

The modification for the Title V and RECLAIM facility permit is under application no. 464771.

### **EMISSION CALCULATIONS**

Because this facility has a bubbled throughput wide emissions limit, the emissions calculations performed below are done only to determine that there will not be any increase in emissions due to the above modification. The calculations show a net decrease, (based on a given throughput)

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but once again because there is a bubbled throughput limit, there may not be any overall reduction in emissions because this tank may or may not be used to store product.

EPA Tanks 4.0.9 program has been used to calculate the previous and current emissions (see attachments included in this file). A summary of the emissions is shown below.

The primary changes that create an overall emissions reduction are changing from a aluminum floating roof to a steel welded roof, the primary seal will be changed from a vapor-mounted to a mechanical shoe seal, and the number of roof legs will be decreased from 111 to 50. See Tanks 4.09d results located in this file.

**Tanks Program Results**

Emissions lbs/yr	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	Total Emissions
Previous	3726.62	715.33	12748.67	5568.25	22758.87
Current	1016.35	715.33	10713.23	0	12444.91
Difference	-2710.27	0	-2035.44	-5568.25	-10313.96

To determine the toxic risk for this increase in emissions, it is assumed that five percent of the denatured ethanol is gasoline. The corresponding percentages of 1401 toxic compounds in gasoline will be determined on a worse case basis.

The below Emissions are based on the highest emissions month which is August.

**Daily emissions**

Tanks Program Results for August (highest emissions month)

	Monthly	Daily 30 day/ave	hourly
	lbs/mo	lbs/day	lbs/hr
Current	2189.75	72.99	3.04
future	1193.08	39.77	1.66
Difference	-996.67	-33.22	-1.38

These numbers are different from previous applications, this is due to the fact that how the emissions are calculated are now done differently. The above calculations confirm there is an overall decrease in emissions. Once again because the tanks at the facility have bubbled throughput limit, the previous NSR is 117 lbs/day and this number will continue to be used for this application.

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**EVALUATION**

Rule 212      The proposed modifications meet all criteria Rule 212 for approval. The replaced equipment is designed so it can be expected to operate without emitting air contaminants in violation of sections 417, 41701 and 44300 of the State Health and Safety Code or in Violation of AQMD's Rules and Regulations. The project will result in an emissions decrease, therefore it does not exceed the daily maximum specified in subdivision (g) or Rule 212, and the new and modified permit unit does not have an increased cancer risk. There is no school within 1000 ft. of this project.

Rule 401      **Visible Emissions**  
Visible emissions are not expected under normal operating conditions of the tank.

Rule 402      **Nuisance**  
No nuisance complaints are expected provided that the operation is conducted according to design. Compliance with 402 is expected.

Rule 463      **Organic Liquid Storage**

Rule 463                      **Organic Liquid Storage**  
This rule applies to any above ground tank with a capacity of 19,815 gallons or greater for storing organic liquids. Internal Floating roof tanks are subject to the requirement of Rule 463 (d) – Other Performance Requirements. Compliance with Rule 463 is expected with proper record keeping and inspections.

**Regulation IX – NEW SOURCE PERFORMANCE STANDARDS**

**Subpart K      Standards of Performance for Storage Vessels for Petroleum Liquids.**  
Subparts K, Ka, and Kb impose requirements for petroleum liquids storage vessels built after June 11, 1973. This storage tank was constructed prior to this date, there will be no increase in emissions due to this modification, therefore these regulations do not apply.

Rule 1149      **Storage Tank Cleaning and Degassing**  
This Rule has requirements for tank cleaning and degassing operations. Emissions from above ground tanks are required to be controlled by one of the following methods: liquid balance, negative pressure displacement and subsequent incinerations, vapor condensation with a refrigeration system, or any other method which controls VOC by at least 90%. A permit condition requires continued compliance with this rule.

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**Rule 1173 Fugitive Emissions of Volatile Organic Compounds**

This Rule specifies leak control, identification, operator inspection, maintenance, and recordkeeping requirements for valves pumps, compressors, pressure relief valves, and other components from which fugitive VOC emissions may emanate. Since this project does not involve a change to any component outside of the storage tanks, no change in fugitive VOC emissions is expected.

**Rule 1178 Further reductions of VOC from Storage Tanks at Petroleum Refineries**

This Rule applies to facilities with VOC emissions that exceed 20 tons per year. After reviewing the 2006 AER emissions, the emissions exceeded 20 tons per year therefore this tank is required to comply with this rule.

**Internal Floating Roof Tanks**

1178(d)(3)(A) The tank will be equipped with each fixed roof support column and well with a sliding cover that is gasketed or with flexible fabric sleeves;

1178(d)(3)(B) The tank will be equipped with each ladder well with a gasketed cover. The cover shall be closed at all times, with no visible gaps, except when the well must be opened for access;

1178(d)(3)(C) The tank will be equipped with each and maintain other roof openings according to the specifications listed in subparagraph (d)(1)(A) or (d)(1)(C);

1178(d)(3)(D) The tank will be equipped with a rim seal system consisting of either a primary seal, or a primary and a secondary seal meeting the specifications listed in subparagraph (d)(1)(B), with the exception of a mechanical shoe primary seal which shall have one end extend a minimum vertical distance of 15 centimeters (6 inches) above the liquid surface and the other end extend into the liquid a minimum of 10 centimeters (4 inches); and

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1178(d)(3)(E) The concentration of organic vapor in the vapor space above the internal floating roof shall not exceed 50 percent of its lower explosive limit (LEL) for those installed prior to June 1, 1984

This tank will meet these and all of the other requirements of this Rule.

**Rule 1303: Requirements**

**Rule 1303(a) – Best Available Control Technology**

Since this project results in a reduction in VOC emissions and TAC emissions, therefore, BACT requirements do not apply.

**Rule 1303(b)(1) - Modeling**

Since this project results in a reduction in VOC emissions and TAC emissions, therefore, modeling is not required.

**Rule 1303 (b)(2) – Emissions Offsets**

Since this project results in a reduction in VOC emissions and TAC emissions, therefore, modeling is not required.

**Rule 1303 (b)(4) – Facility Compliance**

The subject facility complies with all applicable rules and regulations of the District.

**Rule 1401 New Source Review of Carcinogenic Air Contaminants**

This rules requires permit applicants to assess the cancer risks due to the cumulative emission impacts of new/modified sources in their facility. Since the project results in a reduction in VOC emissions and TAC emissions, therefore, the project is exempt from Rule 1401 assessment.

**Regulation XVII – REGIONAL CLEAN AIR INCENTIVES MARKET (RECLAIM)**

This facility is a RECLAIM facility. Therefore, it is subject to Reg. XX. This modification does not emit RECLAM pollutants, Nox RTC is currently 34,240 lbs.

**Reg XXX: Title V Permits**

The Title V permit has been issued for this facility, and the necessary sections will be amended with the necessary revisions under application no. 464771.

**CEQA – California Environment Quality Act.**

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CEQA requires that the environmental impacts of proposed projects be evaluated and that feasible methods to reduce, avoid or eliminate identified significant adverse impacts of these projects be considered. The CEQA Applicability Form (400-CEQA) indicates that the project does not have any impacts which trigger the preparation of a CEQA document. The expected impacts of the project on the environmental are not significant. Therefore a CEQA analysis is not required.

**RECOMMENDATIONS**

Based the information submitted and the above evaluation, it is recommended that this equipment should be issued a conditional Permit to Construct.