

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

ENGINEERING DIVISION

APPLICATION PROCESSING AND CALCULATIONS

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APPLICANT: Ultramar, Inc.
2402 E. Anaheim St.
Wilmington, Ca 90744

EQUIPMENT LOCATION: 1220 N. Alameda St.
Wilmington, Ca. 90744

EQUIPMENT DESCRIPTION:

APPLICATION NO. 495059

STORAGE TANK, INTERNAL FLOATING ROOF, NO. 299-TK-1501, 141,271 BBL WORKING CAPACITY, 150'-0" DIA. x 55'-6" H., WITH A WELDED SHELL, A MECHANICAL SHOE PRIMARY SEAL, AND A RIM MOUNTED SECONDARY SEAL.

APPLICATION NO. 495064

STORAGE TANK, INTERNAL FLOATING ROOF, NO. 299-TK-1502, 141,271 BBL WORKING CAPACITY, 150'-0" DIA. x 55'-6" H., WITH A WELDED SHELL, A MECHANICAL SHOE PRIMARY SEAL, AND A RIM MOUNTED SECONDARY SEAL.

APPLICATION NO. 495068

STORAGE TANK, INTERNAL FLOATING ROOF, NO. 299-TK-1503, 141,271 BBL WORKING CAPACITY, 150'-0" DIA. x 55'-6" H., WITH A WELDED SHELL, A MECHANICAL SHOE PRIMARY SEAL, AND A RIM MOUNTED SECONDARY SEAL.

APPLICATION NO. 495069

STORAGE TANK, INTERNAL FLOATING ROOF, NO. 299-TK-1504, 141,271 BBL WORKING CAPACITY, 150'-0" DIA. x 55'-6" H., WITH A WELDED SHELL, A MECHANICAL SHOE PRIMARY SEAL, AND A RIM MOUNTED SECONDARY SEAL.

APPLICATION NO. 495073

STORAGE TANK, INTERNAL FLOATING ROOF, NO. 299-TK-721, 62,277 BBL WORKING CAPACITY, 120'-0" DIA. x 40'-0" H., WITH A WELDED SHELL, A MECHANICAL SHOE PRIMARY SEAL, AND A RIM MOUNTED SECONDARY SEAL.

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APPLICATION NO. 495076

STORAGE TANK, INTERNAL FLOATING ROOF, NO. 299-TK-722, 62,277 BBL WORKING CAPACITY, 120'-0" DIA. x 40'-0" H., WITH A WELDED SHELL, A MECHANICAL SHOE PRIMARY SEAL, AND A RIM MOUNTED SECONDARY SEAL.

APPLICATION NO. 495079

STORAGE TANK, INTERNAL FLOATING ROOF, NO. 299-TK-501, 43,364 BBL WORKING CAPACITY, 100'-0" DIA. x 40'-0" H., WITH A WELDED SHELL, A MECHANICAL SHOE PRIMARY SEAL, AND A RIM MOUNTED SECONDARY SEAL.

HISTORY:

Application Nos. 495059, 495064, 495068, 495069, 495073, 495076, 495079 were submitted on 01/22/09. Application Nos. 495082 and 495085 were also submitted along with these and are applications are for IC Engines to operate two emergency fire pumps. The remaining applications are for storage tanks. Four of the tanks will be new internal floating roof installations while the remaining three will be modified by converting fixed roof tanks to internal floating roof tanks. The three applications for modification, A/N's 495073, 495076, 495079 were permitted under P/O's F41499 (A/N 384914), F41500 (A/N 384916), and F41495 (A/N 384906), respectively. The tanks will store heavy oil products, specifically, gas oil, distillate, light cycle oil, decant, and diesel. The seven applications for the storage tanks and the two emergency IC engine applications will be considered as Class I.

Ultramar has a tank farm known as the Marine Tank Farm (MTF) which is located near the Olympic Tank Farm (OTF). The MTF is owned by LADWP, with Ultramar leasing it from LADWP. Ultramar has applied for a change of ownership for the MTF. The City of LA and the Port of LA have decided on a Wilmington Waterfront Project, which will result in the demolition of the Marine Tank Farm. This project has caused Ultramar to move its product storage to the Olympic Tank Farm. To handle the necessary storage capacity, four new internal floating roof storage tanks will be constructed. The OTF has not been in operation since the MTF was leased by Ultramar. Three of the original OTF fixed roof tanks will be used to help with the capacity that will be needed. These fixed roof tanks will be modified by the addition of internal floating roof tanks, with mechanical shoe primary seals and rim mounted secondary seals. Upon modification, Ultramar intends to change the identifying names of the three tanks. The tank previously permitted as TK-80006, will become 299-TK-721. Tank No. TK-80007, will become 299-TK-722, and Tank No. TK-55007, will become 299-TK-501. The OTF was originally owned by LADWP. Ultramar was granted a change of ownership on 7/9/2001. Therefore, the information that was used to calculate the emissions for the tanks when permitted under LADWP will be used.

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Ultramar had proposed to mitigate potential emissions several ways. They sited Rule 1304 (c)(4) as an offset exemption. Their position is that the MTF is a CARB Phase III project. Integrating it with will OTF will make OTF a part of the CARB Phase III project, which would be exempt from offsets as a project “installed or modified solely to comply with District, State, or Federal air pollution control laws, rules, regulations, or orders.” They also have sited Rule 1304 (a)(1) and (c)(1) as they believe the tanks at OTF will functionally replace the tanks at MTF, thereby making the project exempt from offsets.

The District’s position is that a relocation has not occurred as no tanks have been physically moved from MTF to OTF. Functionally identical would have to occur at the location where the tanks are that the new tanks are replacing. Therefore, the OTF project is not functionally identical. Also, the District does not see where any of the products being stored meet the criteria of CARB Phase III project, however, the project appears to be consistent with the scenario described under Rule 1304 (c)(2), concurrent facility modification.

The project will be processed in the following manner:

1. The emissions from the tanks to be modified will be calculated as originally permitted, without the IFR and primary and secondary seals, and at a vapor pressure of 1.5 psia, which is a condition on the permit. These emissions will establish the previous baseline for the three tanks and the facility. A throughput of one turnover per week will be used based on reasonable information in the records for the storage tanks and pursuant to Rule 1306(d).
2. New emissions calculations will be made based with the three tanks being modified to include an internal floating roof in order to establish a post-modification baseline for the facility. The emissions will be based upon the vapor pressure and annual turnovers requested by the applicant.
3. Emissions will then be calculated from the four new tanks at a requested vapor pressure of 1.5 psia. It is anticipated that the reduction in emissions from the previous tanks by adding the internal floating roofs should be a large enough decrease to mitigate the emission increase from the new tanks.
4. The throughput will be given as a permit condition based upon the spreadsheet data, and will represent the new baseline for future emissions increases.

PROCESS DESCRIPTION

The operation of the tanks is 24 hours/day, 7 days per week, 52 weeks per year.

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CALCULATIONS

See tank spreadsheets.

The original emissions from the three fixed roof tanks based upon fixed roof at 1.5 psia and 1 turnover per week are 954.0 lbs/day (total for all three combined), based upon the worst month. With the installation of internal floating roofs, the emissions will be 4.21 lbs/day (total combined for all three tanks), based upon the worst month. Therefore, there will be a decrease of 949.79 lbs/day total for all three. The installation of the four new tanks, at 1.5 psia, will give 2.21 lb/day of VOC emissions per tank. The fugitives from the components were calculated to be 5.27 lbs/day from the seven tanks. The 5.27 lbs/day was divided between the seven tanks to equal 0.75 lb/day per tank. This gives the four new tanks each an emission increase of 2.96 lbs/day per tank for a total of 11.84 lbs/day. Therefore, the decrease by changing the previous fixed roof tanks to internal floating roof tanks will offset the addition of the four new tanks, and will result in a net emission decrease as required by Rule 1304 (C)(2).

Emission increase = 11.84 lbs/day + (- 949.79 lbs/day) = -937.95 lbs/day (→ decrease).

RULE 212

The equipment is not located within 1000 feet of a school. There will be a net decrease for the three fixed roof tanks that will be modified with internal floating roofs. There will be an increase in emissions from the installation of the four new tanks. The emissions from each tank in the new construction project will be 2.79 lbs/day per tank. The limit is 30 lbs/day per tank for VOC. Therefore, a public notice is not required. The risk is less than 1 in one million for each new tank; the three modified tanks have a decrease in risk.

RULE 401

It is expected that the operation of the OTF project will not cause visible emissions.

RULE 402

The equipment is located in an industrial area. Therefore, no nuisance complaints are expected from this operation.

RULE 463

The storage tanks will have internal floating roofs and the company will submit an Inspection and Maintenance Plan prior to construction as required.

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RULE 1149

The tanks will be cleaned and degassed according to the requirements of this rule. Therefore, compliance is expected.

RULE 1173

OTF is a pipeline transfer station. All fugitive components will operate in compliance with the heavy liquid requirements and will be required as a facility-wide permit condition.

RULE 1178

The requirements of this rule are not applicable. (Historical VOC emissions < 20 tpy)

REG. XIII

The equipment will have internal floating roof tanks and the necessary primary and secondary seals to comply with BACT. Offsets will not be required due to Rule 1304 (c)(2), concurrent facility modification. (Net emission decrease).

RULE 1401

The modification of the three fixed roof tanks constitutes a decrease in emissions, and therefore a decrease in risk. There will be emission increases from the four new internal floating roof tanks, which will result in an increase in risk. The District's CEQA group calculated the risk for each new tank in the project. The risks for tanks 1501-1504 are as follows:

Tank 1501 – 7.28E-08(Worker), 1.85E-07(Residential)

Tank 1502 – 1.02E-07(Worker), 3.45E-07(Residential)

Tank 1503 – 9.13E-08(Worker), 1.49E-07(Residential)

Tank 1504 – 1.41E-07(Worker), 9.71E-08(Residential)

All Hazard Indices are < 1.0

The risk calculated by CEQA was based upon a higher emission rate than what was calculated in this evaluation. Therefore, the risk here is conservative and indicates that compliance is easily achieved.

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Reg. XXX

Title V facility with initial Title V permit issued on 1/26/09. This revision triggers Kb (see below), and is a significant revision and requires a public notice and 45-day EPA review.

CEQA

The AQMD has finalized an addendum to a previously certified EIR for this project (AQMD lead agency). The addendum will be approved/certified by AQMD concurrently with this Title V permit revision at the conclusion of EPA's 45-day review.

40 CFR60 SUBPART Kb

The construction of the four new tanks will trigger Subpart Kb due to emission increase. The internal floating roofs will be constructed according to the design standards of Subpart Kb. They will be added to the Subpart Kb inspection schedule upon startup. A condition requiring compliance with Kb will be imposed on the permits for the new tanks. The modifications made to the three fixed roof tanks will not trigger Subpart Kb. The installation of the IFR's will not cause an increase in emissions.

40 CFR60 SUBPART R

This facility is not a gasoline storage and dispensing facility, therefore, this subpart does not apply.

RECOMMENDATION

Issue conditional Permits to Construct (see sample permits).