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| <i>SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT</i> <i>ENGINEERING AND COMPLIANCE</i> <i>APPLICATION PROCESSING AND CALCULATIONS</i> | TOTAL PAGES: 6 | PAGE NO.: 1 |
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PERMIT TO CONSTRUCT

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| APPLICANT | Plains West Coast Terminals LLC; ID 800417 |
| MAILING ADDRESS | 5900 Cherry Avenue Long Beach, CA 90805 |
| EQUIPMENT LOCATION | 2500 E. Victoria Street Compton, CA 90220 |

EQUIPMENT DESCRIPTION

SEE SAMPLE PERMIT

BACKGROUND

Plains West Coast Terminals (PWCT) owns and operates several terminal facilities that stores and distributes (primarily via pipeline) various petroleum products. This terminal (ID 800417) is known as the Dominguez Hills Facility and is both a Reclaim and Title V facility. The initial Title V permit was issued on April 1, 2009 and became effective on April 20, 2009. The Dominguez facility consists of storage tanks, loading/unloading racks, an oil water separation system, and tank degassing oxidizers.

This application (A/N 506095) is for an external floating roof tank (Tank No. 12, Device 15) and A/N 504128 is the Title V revision application. Tank 12 is currently operating under a Permit to Construct in Section H of the facility permit (A/N 450652). The tank is allowed to stores petroleum products/fuel oils such as gas oils, bunker oils, cycle oils, etc., and such products are not to exceed a true vapor pressure of 0.025 psia and the current throughput is limited to 460,000 barrels per calendar month.

PWCT is proposing to physically modify and simultaneously change the operating conditions of this storage tank. The physical modification constitutes the addition of a geodesic dome, thus making the tank a “domed external floating roof tank”. No change in tank fittings or fugitive components will occur by doming the tank. PWCT has also proposed remove specific fuel oil products currently specified on the permit and use the more generic commodity designation of “partially refined petroleum products” and to also include the storing of crude oils and proposes that no commodity would exceed a true vapor pressure of 11 psia. Historically, traditional crudes from the Middle East would have vapor pressures ranging from RVP 3.5 to 5.5 (the Tanks Program default vapor pressure for crude oil is RVP 5). Current market conditions have resulted in some crude stocks coming from South America, and these

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crudes on occasion tend to be higher in vapor pressure, reaching the RVPs of 7 or 8, and is why PWCT is seeking the max VP of 11 as a compliance cushion.

In addition to changing the commodities allowed for Tank 12, PWCT has requested that the current throughput limitation be removed. In place of a throughput limitation, PWCT is requesting a monthly emissions cap for the tank where emissions will be calculated and recorded to meet the specified emissions cap. These changes will allow the tank the flexibility to store both higher and lower vapor pressure products by varying the product throughput in a manner as not to exceed the monthly emissions cap.

COMPLIANCE HISTORY

In the past two years, one Notice to Comply and one Notice of Violation have been issued (both in July 2009). Both of these enforcement actions have been resolved and the company is currently in compliance.

PROCESS DESCRIPTION

Petroleum products are received and directed to the storage tank where they are stored until needed by a customer. Fuel oils (low vapor pressure heavy distillates) may enter or exit the facility via pipeline or through the facility's permitted loading/unloading racks. Crude oils are primarily received via pipeline and distributed solely by pipeline.

EMISSION CALCULATIONS

The baseline emissions for Tank 12 are determined by running the Tanks Program inputting the appropriate tank dimensions, volume, and fitting characteristics and the following permitted throughput and vapor pressure:

460,000 bbls/month

TVP = .025 psi

The max monthly baseline emissions from spreadsheet = 47.4 lbs per month (April)

$47.4 \text{ lbs/mo} \times \text{mo}/30 \text{ d} \times 24 \text{ hrs/d} = .07 \text{ lbs/hr}$

(This value is slightly different than what currently exists for the previous P/C (.06 lbs/hr) and will be NSR updated to reflect baseline emissions).

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PWCT will provide 8 pounds of ERCs to accommodate and emission increase over the baseline emissions of 47.4 pounds per month. The maximum monthly emission cap (MMEC) equating to 30-day average increase of 8 lbs per day is:

$$[(MMEC - 47.4)/30] \times 1.2 = 8.49$$

$$MMEC = [(8.49 \times 30)/1.2] + 47.4$$

$$MMEC = 259.65 \text{ lbs/mo (conservatively round down to 259 lbs/mo)}$$

$$259 \text{ lbs/mo} \times \text{mo}/30 \text{ d} \times 24 \text{ hrs/d} = .36 \text{ lbs/hr} = R1 = R2$$

AEIS: Assume Average Emissions are 1/2 of Max = 0.18 lbs/hr

Though taking an emission cap in lieu of product throughput, PWCT does not expect to exceed the currently permitted throughput of 460,000 barrels per month (though the new permit will allow them to exceed that throughput number provided they don't exceed the emissions cap). As a check, this current maximum throughput was ran in the Tanks Program with an RVP 11.5 product (approximately correlating to a worst case commodity with true vapor pressure of 11 psi) for a domed external floating roof tank with the appropriate dimensions, volume, and fittings. The maximum monthly emissions occurred in August at 252.2 pounds per month, less than the maximum monthly emission cap of 259 pounds per month. Thus, it is reasonable to expect PWCT to be able to comply with the emission cap.

Fugitives

No new fugitive components are required to be installed as a result of doming this external floating roof tank, therefore there are no fugitive emission increases.

1401 HEALTH RISK ASSESSMENT

PWCT ran a health risk assessment using a toxic profile for typical crude oils (the initial HRA was incorrect because it did not include ethylbenzene in the MICR calculation, but was later corrected). The MICRs for the increase in emissions for Tank 12 are as follows:

$$\text{MICR (Residential)} = 3.88 \times 10^{-8}$$

$$\text{MICR (Worker)} = 4.52 \times 10^{-8}$$

Acute and Chronic Hazard Indices are well less than 1. The maximum emissions used to compute the HRA was slightly low due to the initial emissions being determined simply by a Tanks Program run based on a throughput and vapor pressure. Later, the computation of maximum emissions was changed to accommodate the maximum monthly cap based on providing 8 pounds of ERCs. This latter amount is approximately 11% higher, and scaling up the corresponding risks still results in compliance with Rule 1401.

The facility is requesting to be allowed to store partially refined petroleum products with true vapor pressures up to 11 psi. However, this could potentially include gasoline, which is the worst case petroleum product with regards to toxic profile. Therefore, gasoline storage will be prohibited since the risk was based on the toxic profile of crude oil.

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RULES EVALUATION

Rule 212 Standards for Approving Permits and Issuing Public Notice

There is no school within 1000 ft. of this project; the increase risk is less than one in one million, and the emission increase does not exceed 30 lbs/day; therefore, no public notice is required.

Rule 401 Visible Emissions

Visible emissions are not expected under normal operating conditions of the tank.

Rule 402 Nuisance

No nuisance complaints are expected with proper operation of the tank.

Rule 463 Organic Liquid Storage

Continued compliance with this rule is expected; specific permit condition imposed to comply with 11 psi true vapor pressure; generic condition on permit to comply with all applicable requirements of Rule 463.

Rule 1149 Storage Tank Cleaning and Degassing

Facility has on-site oxidizers for degassing; facility expected to continue to comply with rule requirements and compliance with this rule is imposed as a permit condition.

Rule 1173 Fugitive Emissions of Volatile Organic Compounds

Existing permit condition requires compliance with this rule and continued I & M activity expected.

Rule 1178 Further Reductions of VOC Emissions From Storage Tanks

Facility is not subject to this rule (AERs < 20 tpy), but see discussion under Regulation XIII.

Reg. XIII New Source Review

BACT

There is an emission increase for this tank modification; BACT is satisfied by doming the tank, the continued use of Category A seals (primary seal is mechanical shoe and secondary seal is wiper type), and by complying with all 1178 requirements for external

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floating roof tanks and the necessary retro-fitting of the appropriate tank fittings will be done per rule requirements. In addition, the permit will require compliance with Rule 1178, but will not be added to Section K as it will be tagged as a BACT condition.

Offsets

There is a VOC emission increase for this tank. Since the facility's PTE exceeds 4 tpy, ERCs will be required to offset the VOC increase in the amount of 8 pounds per day (includes 1.2 offset factor). ERC certificate AQ006061 (10 lbs ROG) registered to this facility and will be accessed to satisfy the offset requirement.

Modeling

Modeling is not required for VOC.

Facility Compliance

This facility is currently in compliance with all applicable rules and regulations of the AQMD.

Major Polluting Facilities

This project constitutes a major modification at an existing major polluting facility. Since the project complies with CEQA, Alternative Analysis under Rule 1303(b)(5)(A) is not required; since no PM10 or NOx is emitted, compliance with Protection of Visibility pursuant to Rule 1303(b)(5)(C) is not required. However, the facility is required to demonstrate Statewide Compliance pursuant to Rule 1303(b)(5)(B). See file for declaration letter from PWCT that all PWCT facilities are in compliance with all applicable emission limits and standards under the Clean Air Act.

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

There is an increase in toxic air contaminants from this tank. Health risk analysis indicates that the MICR is less than 1 in one million and Acute and Chronic Hazard Indices are less than 1.0, thus complying with the requirements of this rule.

40 CFR 60 **New Source Performance Standards**

This tank meets the vapor pressure and tank volume criteria to be subject to Subpart K (Standards of Performance for Volatile Organic Liquid Storage Vessels). The tank is being modified (has an emission increase), however, that emission increase can be accomplished without incurring a capital expenditure (it ultimately depends on increasing throughput and/or increasing the vapor pressure of the stored commodities

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and is independent of installing the dome, which only lowers the offset burden). By definition in 40 CFR 60, modifications that can be accomplished without such a capital expenditure are in the end not treated as modifications and this regulation does not apply.

40 CFR 63 NESHAPs

This facility is not a major source of HAPs and is therefore not subject to typical NESHAPS (Subpart R and Subpart EEEE) that apply to large HAP emitting petroleum storage and distribution facilities.

Reg XX RECLAIM

This is a Reclaim facility with applicable requirements imposed on their facility permit. Continued compliance is expected.

Reg XXX: Title V Permits

The initial Title V permit was issued for this facility in April of 2009. This revision is being covered under A/N 504128 a “de-minimus significant” revision to the Title V permit and will be sent to the EPA for a 45-day review.

CEQA – California Environment Quality Act.

The CEQA Applicability Form (400-CEQA) indicates that the project does not have any impacts which trigger the preparation of a formal CEQA document. The expected impacts of the project on the environmental are not significant and further CEQA analysis is not required.

RECOMMENDATION

Based the information submitted and the above evaluation, it has been determined that the proposed modification to this equipment will comply with all applicable air quality rules and regulations. Therefore, it is recommended that draft Permit to Construct be sent to EPA for 45-day review. Though this is a Reclaim facility, the draft permit will be done as a word document due to complexities resulting from other projects concurrently being worked on in Facility Permit (FP) Program for this facility. The draft word permit however, will be converted to the FP format for final permit issuance and subject to the following conditions:

SEE SAMPLE PERMIT