



SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

ENGINEERING AND COMPLIANCE DIVISION

APPLICATION PROCESSING AND CALCULATIONS

PAGES
12

PAGE
1

APPL. NO.
SEE PG BELOW

DATE
04/11/2011

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PERMIT TO CONSTRUCT / OPERATE

COMPANY NAME

TESORO REFINING AND MARKETING CO
P.O. BOX 817,
WILMINGTON, CA 90748-0817

EQUIPMENT LOCATION

2101 E. PACIFIC COAST HIGHWAY
WILMINGTON, CA 90744
Facility ID#: 800436
Facility Type: NOx & SOx RECLAIM (Cycle 1), Title V

EQUIPMENT DESCRIPTION

Section D: Permit to Construct/ Permit to Operate

Equipment	ID No.	Connect ed To	RECLAIM Source Type / Monitoring Unit	Emissions and Requirements	Conditions
PROCESS 15 : STORAGE TANKS					P13.1
SYSTEM 6 : STORAGE TANKS, OTHERS					
STORAGE TANK, FIXED ROOF, TANK 80089, 80,000 BBL; DIAMETER:110FT; HEIGHT:48FT, STORM WATER WITH LIFT STATION A/N: 520256	DXXXX				B59.10

- * (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.

COMPLIANCE RECORD REVIEW

The facility's compliance history for the past 2 years indicates one NOV (P52842) is still pending (see Attachment 1). P52842 was issued to Tesoro on 4-27-10 for multiple violations of Rule 1189(c)(3) on the HGU #2 unit. An emergency hearing was conducted at the AQMD Hearing Board on 4-28-10 and the facility was denied a variance. Tesoro is expected to be placed under an abatement order by the District to have this compliance issue resolved. Note that the HGU-2 unit has been shutdown since 4-6-10 and is not expected to operate until a variance or order of abatement is granted. The details of this NOV are in Attachment 1.

 <p>SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT</p> <p>ENGINEERING AND COMPLIANCE DIVISION</p> <p>APPLICATION PROCESSING AND CALCULATIONS</p>	PAGES 12	PAGE 2
	APPL. NO. SEE PG BELOW	DATE 04/11/2011
	PROCESSED BY SAAndrewis	CHECKED BY

FEE ANALYSIS

All fees shown in Table 1 have been paid by the applicant.

Table 1 – Summary of Fee Analysis

A/N	Equipment Description	BCAT/CCAT	Fee Schedule	Fee Type	Fee	XPP Fee	Total Fee
520256	Storage tank	300900	B	P/O	\$2,094.60	\$1047.30	\$3,141.90
520257	Permit Amendment	555009 (BCAT)		RECLAIM/ Title V Significant Amendment	\$1,723.07		\$1,723.07
						Total	\$4,864.97

BACKGROUND

Tesoro operates two waste water treatment systems at their refinery. They are referred as the high chemical oxygen demand (HCOD) system and low chemical oxygen demand (LCOD) system. The HCOD treating unit treats the contaminated process water or spent water with high VOC content while LCOD is only used for all washed water with VOC content lower than 5 mg/liter. In 1994, Tesoro replaced two in-ground Air flotation units, AFU #1 and AFU#2 with above ground equipment. Ponds 7, 8, and 9 which used to provide storage capacity for the LCOD waste water system were decommissioned.

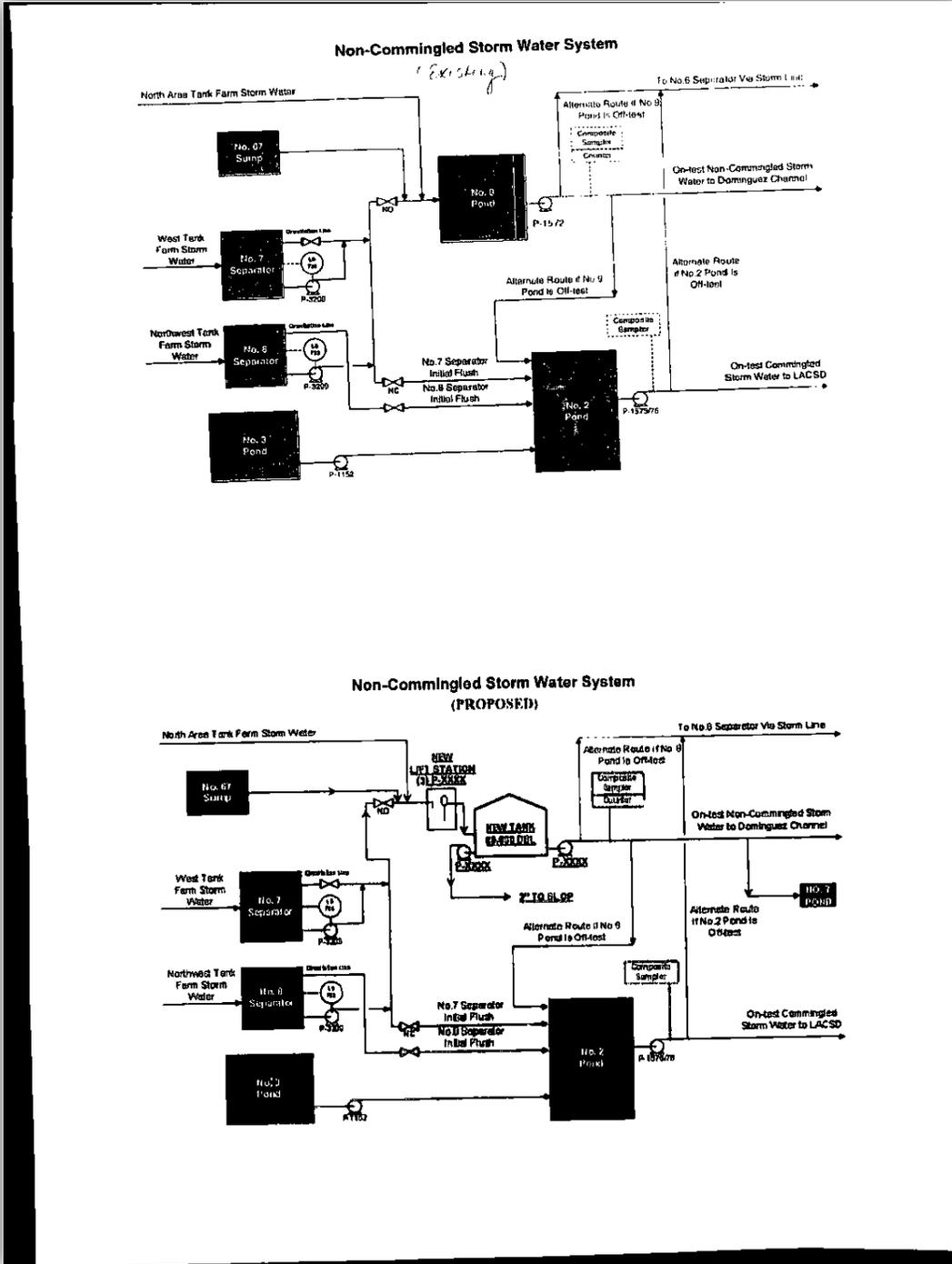
Tesoro submitted this application on 4/1/2011 to construct tank 80009 to fulfill an agreement between Shell and Tesoro from the change of ownership. This project will back fill no.8 and 9 pond area, construct 80,000 barrel storm water tank, install an associated storm water lift station and install area paving and drainage. The tank will receive North Area tank farm storm water. When the refinery was sold to Tesoro, Shell was in the process of closing Ponds no.8 and 9 with the Department of Toxic Substances Control (DTSC), the overseeing agency(see the attached memo from Royann Winchester dated 4/5/2011). During the change of ownership, it was agreed that the ponds would be closed (back filled) and 80,0000 bbl storage tank would be built on the site, thus retaining the lost storm water capacity. In fact, the DTSC permit requires that an 80,000 bbl storage tank be built on the site. Tesoro is responsible to DTSC for the post closure report of No.8 & 9 ponds.



PAGES 12	PAGE 3
APPL. NO. SEE PG BELOW	DATE 04/11/2011
PROCESSED BY SAAndrewis	CHECKED BY

PROCESS DESCRIPTION

The new tank 80089 will only store non-commingled storm water. See below the block flow diagram for the existing and proposed non-commingled storm water system that was submitted by Tesoro.



 <p>SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT</p> <p>ENGINEERING AND COMPLIANCE DIVISION</p> <p>APPLICATION PROCESSING AND CALCULATIONS</p>	PAGES 12	PAGE 4
	APPL. NO. SEE PG BELOW	DATE 04/11/2011
	PROCESSED BY SAAndrewis	CHECKED BY

The storm water from the north tank farm can be segregated from refinery generated wastewater. The North Tank Farm can be drained by gravity to the Non-Commingled Storm Water System using a 24” butterfly valve.

The initial storm water run-off from the Northwest Tank Farm area drains to No. 8 Separator and the West Tank Farm area will drain to No. 7 Separator. As a storm water pollution prevention control and to control flow to the storm water system, the drainage from each tank basin area is controlled by a Martin Gate which is normally kept closed. Initial storm water runoff is used to flush through No. 7 and 8 Separators to the No. 2 Pond in the Commingled Storm Water System.

The Tank 80067 drainage area can be pumped to the Non-Commingled Storm Water System.

The drainage from these non-commingled storm water streams will be collected in the new Tank 80009 which will replace No. 9 Pond. Although Non-Commingled Storm Water from Tank 80009 can be discharged to the Dominguez Channel in accordance with NPDES Permit, it will normally be routed either to No. 6 Separator in the LCOD Treatment System or No. 2 Pond in the Commingled Storm Water System and then discharged to the LACSD under Industrial Waste Discharge Permit No. 20098.

Attached email by Royann Winchester dated 4/4/2011 contains the sample results of non-commingled stormwater -representative of storm water which could be stored in new tank 80009 at the Tesoro Los Angeles refinery

The Samples obtained of non-commingled storm water was to provide data to LA Regional Water Quality Control Board to show what constituents could be present in the non-commingled storm water if discharged to the Dominguez Channel. Non-commingled storm water has not been discharged to the Dominguez Channel within the last 10 years. All storm water from Tesoro refinery during that time has been either treated in the LCOD Treatment System prior to discharge to the LACSD or during significant storm events discharged from No. 2 Storm Water Pond directly to LACSD.

Table 2 lists the application submitted along with the equipment description and the proposed Permit Limit.

Table 2

<i>A/N</i>	<i>Equipment Description</i>	<i>Product Stored</i>
520256	Storage tank, No. 80089, Fixed Roof	Storm Water

 <p>SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT</p> <p>ENGINEERING AND COMPLIANCE DIVISION</p> <p>APPLICATION PROCESSING AND CALCULATIONS</p>	PAGES 12	PAGE 5
	APPL. NO. SEE PG BELOW	DATE 04/11/2011
	PROCESSED BY SAAndrewis	CHECKED BY

EMISSIONS CALCULATIONS

The emissions for the stormwater tank were calculated using EPA Tanks 4.0 Program. According to the sample results of non-commingled stormwater that was submitted from Tesoro, there is very low hydrocarbon level. The emissions were based off 500 ppmv which is the limit required in Rule 1176-Sumps and wastewater Separators. Based on the ratio of atmospheric pressure equaling to 1×10^6 ppm, the equivalent vapor pressure at 500 ppmv equals 0.00735 psia. The yearly throughput is 3,360,000 gallons. Thus, the calculated vapor pressure was inputted in the tanks' program and the resulting emissions were 79.15 lbs/year

The detailed results are in attachment 2.

See below for the summary

Table 3: Tank Summary ROG Emissions

A/N	Tank no.	500 ppm hydrocarbons Throughput-3,360,000 Gals/yr	
520256	800089	Lbs/yr	30 day average (lb/day)
		79.15	0.22

RULES EVALUATION

PART 1: SCAQMD REGULATIONS

Regulation II- PERMITS

Rule 212: Standards for approving and Issuing Public Notice (Amended Nov. 14, 1997)

212 (a) The applicant is required to show that the equipment, the use of which may cause the issuance of air contaminants or the use of which may eliminate, reduce, or control the issuance of air contaminants, is so designed, controlled, or equipped with such air pollution control equipment that it may be expected to operate without emitting air contaminants in violation of provisions of Division 26 of the State Health and Safety Code of these rules. The operation of the new storage tank is expected to comply with this requirement.

212(c)(1) Public notification is required if any new or modified permit unit, source under Regulation XX, or equipment under



Regulation XXX may emit air contaminants located within 1000 feet from the outer boundary of a school. The source is not within 1000 feet of a school, public notification is therefore not required.

212(c)(2) Public notification is required if any new or modified facility has on-site increases exceeding any of the daily maximums specified in subdivision (g) of this rule. The increase in emissions with the operation of the new storage tank does not exceed any of the daily maximums specified, public notification is therefore not required.

212(c)(3) Public notification is required if the maximum individual cancer risk (MICR), based on Rule 1401, exceeds one in a million (1×10^{-6}), due to a project's new construction or proposed modification. This new construction does not result in MICR exceeding one in a million, public notification is therefore not required.

212(g) This subdivision sets forth the process for federal public notification and distribution and specifies the daily maximum emissions increase as follows:

<u>Air Contaminant</u>	<u>Daily Maximum in lbs/day</u>
Volatile Organic Compounds	30
Nitrogen Oxides	40
PM10	30
Sulfur Dioxide	60
Carbon Monoxide	220
Lead	3

Since the increase in emissions does not exceed the daily maximum specified, federal public notification is not required.

 <p>SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT</p> <p>ENGINEERING AND COMPLIANCE DIVISION</p> <p>APPLICATION PROCESSING AND CALCULATIONS</p>	PAGES 12	PAGE 7
	APPL. NO. SEE PG BELOW	DATE 04/11/2011
	PROCESSED BY SAAndrewis	CHECKED BY

Regulation IV PROHIBITIONS

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 Rule 402 is expected.

Rule 463 Organic liquid storage

The District Rule 463 requirements only apply to storage tanks with certain capacities and vapor pressure of the tank content. For tanks with a capacity greater than 39,630 gallons, the District's Rule 463 would only have requirements that apply if the liquid content has a vapor pressure greater than 0.5 psia. Tesoro will store stormwater in its storage tank. Therefore, Rule 463 requirements do not apply.

Regulation IX- NEW SOURCE PERFORMANCE STANDARDS

Subpart Kb - Standards of Performance for VOL Storage Vessels for Which Construction, Reconstruction, or Modification.

For which construction, Reconstruction or Modification commenced after July 23, 1984.

The subject of this application is to construct a horizontal tank. Construction is defined in 40 CFR 60 Subpart A §60.2 as "Construction means fabrication, erection, or installation of an affected facility".

§ 60.110b Applicability and designation of affected facility.

- (a) the affected facility to which this subpart applies is each storage vessel with a capacity greater than or equal to 75 cubic meters (m³) that is used to store volatile organic liquids (VOL) for which construction, reconstruction, or modification is commenced after July 23, 1984.

The purpose of the tank is to store stormwater with an oily sheen, not store VOCS. Therefore, the requirements of this regulation do not apply.

Regulation X -NATIONAL EMISSION STANDARD FOR HAZARDOUS AIR POLLUTANTS (NESHAPS)

 <p>SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT</p> <p>ENGINEERING AND COMPLIANCE DIVISION</p> <p>APPLICATION PROCESSING AND CALCULATIONS</p>	PAGES 12	PAGE 8
	APPL. NO. SEE PG BELOW	DATE 04/11/2011
	PROCESSED BY SAAndrewis	CHECKED BY

Subpart CC: National Emissions Standards for Hazardous air Pollutants for Petroleum Refineries

The purpose of the tank is to store stormwater with an oily sheen, not store VOCS, thus the total hazardous air pollutants concentration below 4.0 wt% (see the sample results submitted with application. Therefore, Subpart CC is not applicable.

40 CFR 61 Subpart FF: National Emission Standard for Benzene Waste Operations

Tesoro is subject to Benzene Waste NESHAP and control requirements of this Regulation since the total annual benzene (TAB) for the refinery is above the 10 Mg/yr threshold. This regulation contains standards for storage tanks, surface impounds, containers, individual drain systems, oil-water separators, treatment processes and closed vent systems/control devices. See the existing permit condition P13.1. Compliance with this requirements of this regulation will not be impacted by this new construction of the stormwater tank since does not process any benzene waste. The facility is expected to continue to comply.

Regulation XI - SOURCE SPECIFIC STANDARDS

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%. The purpose of the tank is to store stormwater with an oily sheen, not store VOCS. Therefore, the requirements of this rule do not apply.

Rule 1176 Sumps and wastewater Separators

The purpose of this rule is to limit VOC emissions from waste water systems located at petroleum refineries, on shore oil production fields, off-shore oil production platforms, chemical plants and industrial facilities. The rule specifies requirements for wastewater sumps, separators, sewer lines, process drains, junction boxes and air pollution control equipment.

This new Storm water tank is exempt from the requirements of this rule. Under Rule 1176(i)(5)(G) which states Equipment, including catch basins, that exclusively receive, hold, or discharge rainwater, stormwater , or non-contact water are exempt from all the provisions of this rule.

 <p>SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT</p> <p>ENGINEERING AND COMPLIANCE DIVISION</p> <p>APPLICATION PROCESSING AND CALCULATIONS</p>	PAGES 12	PAGE 9
	APPL. NO. SEE PG BELOW	DATE 04/11/2011
	PROCESSED BY SAAndrewis	CHECKED BY

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

This Rule applies to facilities for which VOC emissions exceed 20 tons in their Annual emissions Report (AER) for any year starting with 2000. Tesoro AER for the year 2000 exceeded 20 tons VOC. The rule requires that, no later than January 1, 2007, the operator shall equip each fixed roof tank containing organic liquids with true vapor pressure greater than 0.1 psia with an emission control system meeting the following requirements:

The tank emissions are vented to an emission control system with an overall control efficiency of at least 95% by weight or the tank emissions are vented to a fuel gas system.

The subject tank will only be permitted to store stormwater with vapor pressure below 0.1 psia. Not Applicable.

Regulation XIII: NEW SOURCE REVIEW

RULE1303: REQUIREMENTS

Rule 1303(a):-Best Available Control Technology

Any new or modified source which results in an emission increase of any nonattainment air contaminant, any ozone depleting compound, or ammonia, must employ BACT for the new or relocated source or for the actual modification to an existing source. Per District policy, BACT is required for any increase in emissions that exceeds 1.0 lb per day on a maximum daily basis. Since the subject tank has no increase of emissions, BACT is not required. Not Applicable

Rule 1303(b):-The requirements of this section apply to any new modified source which results in a net emission increase of any non attainment air contaminant. These requirements are not applicable since there is no increase in emissions for the proposed stormwater tank

Rule 1303(b)(1):-Modeling

Modeling is not required for this project. See Rule 1303 Appendix A.

Rule 1303(b)(2):-Emissions Offsets

The subject tank has no increase of emissions. Emissions Offset is not required.

Rule 1303(b)(4) Facility Compliance

Tesoro must be in compliance with all applicable Rules and Regulations of the District. Not Applicable

 <p>SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT</p> <p>ENGINEERING AND COMPLIANCE DIVISION</p> <p>APPLICATION PROCESSING AND CALCULATIONS</p>	PAGES 12	PAGE 10
	APPL. NO. SEE PG BELOW	DATE 04/11/2011
	PROCESSED BY SAAndrewis	CHECKED BY

Regulation XIV - TOXICS AND OTHER NON-CRITERIA POLLUTANTS

Regulation XIV New Source Review of Toxic Air Contaminants June 5, 2009

This rule requires permit applicants to assess the cancer risks due to the cumulative emission impacts of new/modified sources in their facility.

Requirements- Rule 1401 contains the following requirements:

- MICR, without T-BACT: ≤ 1 in 1 million (1.0×10^{-6})
- MICR, with T-BACT: ≤ 10 in 1 million (1.0×10^{-5})
- Cancer Burden: ≤ 0.5
- Maximum Chronic Hazard Index: ≤ 1.0
- Maximum Acute Hazard Index: ≤ 1.0

Since the tank is a new source, a health risk assessment shall be addressed. However, the sample results shows that the stormwater does not contain toxic compounds, therefore, the new tank is not subject to Rule 1401 analysis.

Reg XX: REGIONAL CLEAN AIR INCENTIVES MARKET (RECLAIM)

Tesoro is a RECLAIM facility. Therefore, it is subject to Reg XX. Since this equipment does not emit RECLAIM pollutants, there are no RECLAIM requirements applicable to the storage tank.

Reg XXX Title V Permits March 16, 2001

Rule 3001(a): Applicability (Amended November 14, 1997)

The Tesoro Los Angeles Refinery has been designated as a Title V facility. The initial Title V permit was issued on November 23, 2009. Tesoro Refinery is currently subject to Title V. The permit issued for storm water tank will be issued as a revision of the Title V permit. Permit revisions are categorized into the following four types: administrative, minor, de minimus significant and significant.

As defined in Rule 3000, a De-Minimus Significant title V permit revision is any revision that does include any of the following:

1. The addition of equipment or modification to existing equipment or processes that result in an emission increase of non-RECLAIM pollutants or hazardous air pollutants (HAP) in excess of any of the emission threshold levels
2. A significant change in monitoring terms or conditions in the permit

 <p>SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT</p> <p>ENGINEERING AND COMPLIANCE DIVISION</p> <p>APPLICATION PROCESSING AND CALCULATIONS</p>	PAGES 12	PAGE 11
	APPL. NO. SEE PG BELOW	DATE 04/11/2011
	PROCESSED BY SAAndrewis	CHECKED BY

3. relaxation of any monitoring, recordkeeping, or reporting requirement, term, or condition in the Title V permit;
4. any revision that requires or changes 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;
5. any revision that results in a violation of regulatory requirements;
6. any revision that establishes or changes a permit condition that the facility assumes to avoid an applicable requirement;
7. installation of new equipment 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; or,
8. modification or reconstruction of existing equipment, resulting in an emission increase subject to new or additional NSPS requirements pursuant to 40 CFR Part 60, or to new or additional NESHAP requirements pursuant to 40 CFR Part 61 or 40 CFR Part 63.

Since the proposed applications for the storm water tank has an emission increase of VOC, the Title V permit revision A/N 520256 qualifies as **a De Minimus Significant Revision**, which will be sent to EPA for a 45-day review. Public notice is not required. A final copy of the permit will be submitted to the EPA within 5 working days of its issuance.

RECOMMENDATIONS

Since Tesoro is expected to be placed under a variance or order of Abatement for the NOV (P52842) that was issued for HGU-2 unit and this unit has been shutdown since 4-6-2010 and is not expected to operate till a variance or order of abatement is granted. Thus, the District considers this facility to be in compliance with all the permit requirements, and recommends the issuance of the subject permit to construct/operate.

A permit to construct is recommended subject to the following conditions:

PROCESS CONDITIONS

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



SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

ENGINEERING AND COMPLIANCE DIVISION

APPLICATION PROCESSING AND CALCULATIONS

PAGES

12

PAGE

12

APPL. NO.

SEE PG BELOW

DATE

04/11/2011

PROCESSED BY

SAAndrewis

CHECKED BY

Contaminant	Rule	Rule/Subpart
Benzene	40CFR61, SUBPART	FF

[40CFR 61 Subpart FF, 12-4-2003]

[Processes subject to this condition : 1, 2, 3, 4, 5, 6, 8, 9, 11, 12, 15]

DEVICE CONDITIONS

B. Material/Fuel Type Limits

B59.10 The operator shall only use the following material(s) in this device:

Non-Commingle Storm water

[RULE 1303, 5-10-1996]

[Devices subject to this condition : DXXXX]

Attachments

1.	NOV's and NC's Issued
2.	Emissions Calculations