

South Coast Air Quality Management District

Statement of Basis

Proposed Title V Permit

(Issued for Public Notice: 6/8/09)

Facility Name: Tesoro Refining and Marketing Co.
Los Angeles Refinery
Facility ID: 800436
SIC Code: 2911
Facility Address: 2101 East Pacific Coast Highway
Wilmington, CA 90744-6121

Application Number: 470316
Application Submittal Date: 5-11-07

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1. Introduction and Scope of Permit

Title V is a national operating permit program for air pollution sources. Facilities subject to Title V must obtain a Title V permit and comply with specific Title V procedures to modify the permit. This permit replaces the facility's other existing permits. Title V does not necessarily include any new requirements for reducing emissions. It does, however, include new permitting, noticing, recordkeeping, and reporting requirements.

The South Coast Air Quality Management District (AQMD) implements Title V through Regulation XXX – Title V Permits, adopted by the AQMD Governing Board in order to comply with EPA's requirement that local air permitting authorities develop a Title V program. Regulation XXX was developed with the participation of the public and affected facilities through a series of public workshops, working group meetings, public hearings and other meetings. AQMD also has published a draft Technical Guidance Document for Title V (March 2005, Version 4.0), a copy of which is available on the AQMD website at <http://www.aqmd.gov/titlev/TGD.html>.

The Title V major source threshold for a particular pollutant depends on the attainment status of the pollutant in the South Coast Air Basin. The Basin is in attainment with National Ambient

Air Quality Standards (NAAQS) for NO₂, SO₂, CO, and lead. The status for CO was redesignated from non-attainment to attainment in June 2007 (72 FR 26718). The status for PM-2.5 and PM-10 is currently nonattainment and serious nonattainment, respectively. The status for ozone is currently extreme non-attainment.

The AQMD proposes to issue an initial Title V permit for the Tesoro Los Angeles Refinery (LAR) located at 2101 E. Pacific Coast Highway, Wilmington, CA 90744. This refinery is subject to Title V requirements because the operations at this location, along with its non-contiguous sulfur recovery plant located at 23208 S. Alameda St., Carson 90810, as an aggregate facility, are a major source of criteria air pollutants as defined in Title V and the facility is subject to certain NSPS (New Source Performance Standards) and NESHAP (National Emission Standards for Hazardous Air Pollutants) requirements. The Tesoro Sulfur Recovery Plant (SRP) (ID 151798) processes rich Diethanolamine (DEA) solutions and sour water generated from the refinery and has applied for a separate Title V permit. The initial Title V permit for Tesoro LAR and SRP are being proposed concurrently for EPA and public review.

2. Facility Description

Tesoro LAR is owned and operated by Tesoro Refining and Marketing Company. Prior to May 11, 2007, the refinery was owned and operated by Equilon Enterprises LLC, Shell Oil Products. The refinery processes crude oil into various petroleum products such as gasoline, diesel, jet fuel, distillate fuels, liquid petroleum gases (LPG) and petroleum coke. Currently, the refinery has the capacity to process approximately 100,000 barrels of crude oil per day. The refinery utilizes several processes to separate petroleum components in crude oil and to convert heavy components into lighter hydrocarbon compounds. These hydrocarbon compounds are used as blending components for the products mentioned above.

Operations at the refinery include the following major processes:

Atmospheric Crude Distillation Unit

This unit is the first major processing unit in the refinery flow process. It is used to separate crude oil by distillation into various fractions according to boiling points. The products from this unit are gases (butanes and lighter products), light naphtha, heavy naphtha, kerosene, diesel, gas oil and reduced crude.

Vacuum Distillation and Delayed Coking Units

The vacuum tower separates light and heavy vacuum gas oils from feed to the delayed coking unit (DCU). The DCU upgrades reduced crude to lighter hydrocarbons and manufactures petroleum coke. Petroleum coke is transferred via conveyors to the coke barn for further processing and distribution.

Fluid Catalytic Cracking Unit (FCCU)

The FCCU converts heavy gas oil into lighter hydrocarbon compounds. The 'catalytic cracking' process involves mixing gas oil feedstock with fluidized catalyst in a reactor under high temperature and pressure. Large quantities of gasoline blending components and feed stocks for the Alkylation process are produced at the FCCU.

Alkylation Unit

This process unit produces a high octane gasoline blend stock called alkylate by allowing olefin feed stock, such as butylenes, to react with isobutanes in the presence of sulfuric acid.

Hydrogen Plant and Hydrocracker

The Hydrogen plant produces hydrogen for use in the hydrocracking process to convert heavy, high molecular weight compounds into smaller, lower molecular weight compounds for use as blending stocks for gasoline and other products. Hydrogen is also used in other hydrotreating processes.

Catalytic Reforming Unit (CRU)

The CRU upgrades low octane naphthas to high octane gasoline blending stocks. The feed stock to these units comes from the Hydrocracker and Hydrotreater.

Bensat Unit

The purpose of the Bensat (benzene saturation) unit is to reduce the benzene content of gasoline blending stock (reformate) into cyclohexane. The feed to this unit is composed of light reformate from the CRU #2 and light naphtha from the Hydrocracker. The product is used as gasoline blend stock. Hydrogen is used in this saturation process.

Blending

The various process units create blend stocks for gasoline, jet fuel and diesel. The blending process combines these blend stocks to assure that all finished products meet their specifications.

In addition to the above major processes, the refinery operates other distillation and separation processes, refinery flares, wastewater treatment systems and numerous combustion units such as cogeneration facilities, heaters and boilers that are utilized in many of the above processes. Also, the refinery uses fixed roof, internal floating roof and external floating roof storage tanks to store crude oil, intermediate and finished products. As discussed earlier, rich amine solution and sour water from various refining processes are pipelined to the Tesoro SRP for sulfur recovery and regenerated (lean) amine solution is routed back to the refinery for reuse.

3. Construction and Permitting History

The refinery has been in continual operations since 1928 and several ownership changes have occurred since then, with the most recent on May 11, 2007 to Tesoro Refining and Marketing Company. Numerous permits to construct and permits to operate have been issued to the refinery since the formation of the Los Angeles County Air Pollution Control District in 1947. The current permit to operate and/or permit to construct for each permit unit located at the refinery is contained in the Title V permit.

4. Regulatory Applicability Determinations

Applicable determinations (i.e., determinations made by the District with respect to what legal requirements apply to a specific piece of equipment, process, or operation) for this facility have been completed. Applicable legal requirements with which this facility must comply have been identified in the Title V permit (for example, Sections D, E, H, and J of the Title V permit). Federal NSPS requirements of 40 CFR Part 60 apply to certain units at the facility and the permit terms and conditions have been added to Sections D and H of the Title V permit. Federal NESHAP requirements of 40 CFR Part 63 apply to certain units at the facility and the permit terms and conditions have been added to Sections D, H, and J of the Title V permit

Standards of Performance for New Stationary Sources (NSPS) (40 CFR 60)

Applicability Determinations

All of the equipment in the Title V permit have been reviewed to determine whether they are subject to any of the NSPSs. With exception to the equipment specified in Table 4.1 to 4.3 below, the refinery is generally subject to the following NSPSs:

- 40 CFR 60 Subpart A – General Provisions
- 40 CFR 60 Subpart Db – Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units;
- 40 CFR 60 Subpart J – Standards of Performance for Petroleum Refineries;
- 40 CFR 60 Subpart Ja – Standards of Performance for Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After May 14, 2007.
- 40 CFR 60 Subpart K – Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973 and Prior to May 19, 1978;
- 40 CFR 60 Subpart Ka – Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978 and Prior to July 23, 1984;
- 40 CFR 60 Subpart Kb – Standards of Performance for Volatile Organic Storage Vessels (Including Petroleum Liquids Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced July 23, 1984;
- 40 CFR 60 Subpart GG – Standards of Performance for Stationary Gas Turbines;
- 40 CFR 60 Subpart GGG – Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for which Construction, Reconstruction, or Modification Commenced After January 14, 1983 and on or before November 7, 2006;
- 40 CFR 60 Subpart GGGa – Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for which Construction, Reconstruction, or Modification Commenced After November 7, 2006;
- 40 CFR 60 Subpart QQQ – Standards of Performance for VOC Emissions from Petroleum Refinery Wastewater Systems.

The above regulations specify standards for applicable equipment within the facility based on construction date or subsequent modifications that resulted in an emission increase as defined by 40 CFR 60.14(a) or reconstruction with a capital cost of the new components exceeding 50 percent of the fixed capital cost that would be required to construct a comparable entirely new facility as defined in 40 CFR 60.15(a) and (b). The applicability of the above rules is based on information contained in the permit application files or through refinery responses to information requests.

All of the equipment in the Title V Permit has been reviewed to determine whether they are subject to any of the NSPSs. Each of the standards listed above, as applicable to Tesoro LAR, is incorporated into the Title V permit.

Alternative Monitoring Plans (AMPs)

EPA allows facilities to apply for an alternative monitoring plan (AMP) in lieu of meeting the monitoring requirements specified under an individual NSPS. NSPS Subpart A, section 60.13(i) states that “[a]fter receipt and consideration of written application, the administrator may approve alternative procedures to any monitoring procedures or requirements of [Part 60] ...”. EPA, which retains delegation of the authority to approve these AMPs, approves AMPs that include adequate monitoring to verify compliance with the emission standard(s) of an NSPS.

The refinery has received EPA approval of several AMPs for their fuel gas combustion devices (FGCDs). These AMPs are for monitoring requirements for the fuel gas H₂S as specified at §60.104(a)(1) and 60.105(a)(3)(i-iv) of NSPS Subpart J. Specifically, the following FGCDs have received EPA approved AMPs:

- Cogeneration Turbine A (D810)
- Cogeneration Turbine B (D812)
- Steam Methane Reformer Furnace (D777)
- Steam Methane Reformer Furnace (D1122)
- Steam Generation Boiler (D722)
- Steam Generation Boiler (D723)
- Steam Generation Boiler (D724)
- Steam Generation Boiler (D725)

Copies of the EPA approved AMPs for these FGCDs are contained in Attachment 1 of this Statement of Basis. Note that some of these plans may cover more than one of the subject FGCDs. Each of these FGCDs is tagged with a condition that specifies Tesoro LAR must comply with the requirements of the approved AMP for the device.

Non-Applicability Determinations

Tables 4.1 to 4.3 below contain tabulated summaries of selected negative determinations regarding NSPS applicability.

Table 4.1 Combustion Sources Not Subject to NSPS Requirements

Device ID	Equipment	Regulation	Summary of Non-Applicability Determination
D112	Boiler	40 CFR 60, Subpart D	Boiler was constructed prior to August 17, 1971 with no subsequent modification or reconstruction.
D112, D722, D723, D724, D725	Boiler	40 CFR 60, Subpart Db	Boilers were constructed prior to June 19, 1984 with no subsequent modification or reconstruction.
D112, D722, D723, D724, D725	Boiler	40 CFR 60, Subpart Dc	The maximum design heat input capacity for these units is greater than 100 MMBtu/hr.
C747, C748	Flare	40 CFR 60 Subpart J	Equipment was constructed prior to June 11, 1973 and has not been modified or reconstructed since then.
All Fuel Gas Combustion Devices		40 CFR 60 Subpart Ja	None of the fuel gas combustion devices at the refinery have been constructed, modified, or reconstructed since May 14, 2007.

Table 4.2 Storage Tanks, Loading Racks, and Waste Water Systems Not Subject to NSPS Requirements

Device ID	Equipment	Regulation	Summary of Non-Applicability Determination
D453, D467, D471, D520, D523, D640, D709, D728, D1120, D1121, D1305, D1306, D1307, D1308, D1321, D1500, D1533	Storage Tank	40 CFR 60, Subpart K/Ka/Kb	Storage capacity below threshold for the subject NSPSs.
D527, D528, D1306, D1308	Storage Tank	40 CFR 60 Subpart K/Ka/Kb	Tanks are permitted to store inorganic liquids only.
D543, D548, D549, D582, D583, D587, D588, D605, D609, D612, D632, D635, D647, D657, D1555	Storage Tank	40 CFR 60, Subpart K/Ka/Kb	Vapor pressure of permitted commodities is below the vapor pressure threshold of the subject NSPSs.
D60, D394, D395, D396, D397, D406, D407, D416, D417, D462, D464, D465, D466, D467, D471, D709, D1080, D1217, D1305, D1307, D1292, D1484, D1504, D1506, D1508, D1519, D1521	Storage Tank	40 CFR 60, Subpart K/Ka/Kb	Tanks do not meet the definition of a storage vessel as defined in §60.111, §60.111a, §60.111b

Device ID	Equipment	Regulation	Summary of Non-Applicability Determination
D662, D663, D664, D665, D666, D667, D669, D670, D671, D672, D673, D674, D675, D676, D677, D678, D679, D680, D681, D682, D683, D684, D685, D686, D1502	Storage Tank	40 CFR 60, Subpart K/Ka/Kb	These tanks are pressure vessels designed to operate in excess of 204.9 kPa (15 psig) without emissions to the atmosphere except under emergency conditions.
D521, D531, D533, D534, D544, D546, D547, D550, D551, D552, D553, D554, D555, D556, D557, D558, D559, D560, D565, D566, D567, D568, D569, D571, D572, D573, D574, D575, D576, D577, D578, D579, D584, D585, D586, D589, D591, D592, D593, D594, D595, D596, D597, D599, D600, D602, D603, D604, D606, D607, D608, D611, D613, D614, D615, D616, D617, D618, D619, D620, D621, D622, D623, D624, D625, D626, D627, D628, D629, D631, D636, D637, D649, D650, D651, D652, D653, D654, D655, D656, D658, D660, D688	Storage Tank	40 CFR 60 Subpart K/Ka/Kb	Tanks were constructed prior to June 11, 1973 and have not been modified or reconstructed since then.
D546, D562, D563, D581, D639	Storage Tank	40 CFR 60 Subpart QQQ	Tanks were constructed prior to May 4, 1987 and have not been modified or reconstructed since then.
Process 12, Systems 2, 3, 4	Wastewater System	40 CFR 60 Subpart QQQ	Wastewater treatment system and oil/water separators were constructed prior to May 4, 1987 and have not been modified or reconstructed since then.
Process 12, System 1	Wastewater System	40 CFR 60 Subpart QQQ	Wastewater treatment system is not required to comply with 40CFR 60 Subpart QQQ because it is subject to 40CFR 63 Subpart CC as a Group 1 Wastewater stream [§63.640(o)]

Table 4.3 Compressors and Fugitive Components Not Subject to NSPS Requirements

Device ID	Equipment	Regulation	Summary of Non-Applicability Determination		
D1465	Fug. Comp. (P14S2)	40 CFR 60 Subpart GGG	Components associated with material loading, unloading, and/or transportation. Not part of a process unit.		
D1466	Fug. Comp. (P14S3)				
D1467	Fug. Comp. (P14S4)				
D1469	Fug. Comp. (P14S9)				
D1553	Fug. Comp. (P14S5)				
D1415	Fug. Comp. (P17S2)	40 CFR 60 Subpart GGG	Components associated with electricity production. Not part of a process unit.		
D1425	Fug. Comp. (P17S3)				
D1416	Fug. Comp. (P18)	40 CFR 60 Subpart GGG	Component associated with steam production. Not part of a process unit.		
D1423	Fug. Comp. (P19S2)	40 CFR 60 Subpart GGG	Components associated with fuel storage and dispensing. Not part of a process unit.		
D1473	Fug. Comp. (P19S1)				
D1556	Fug. Comp. (P19S3)	40 CFR 60 Subpart GGG	Component associated with fuel gas blending system. Not part of a process unit.		
D1354	Fug. Comp. (P1S1)	40 CFR 60 Subpart GGG	Process unit was constructed prior to January 4, 1983, and has not been modified or reconstructed since then.		
D1355	Fug. Comp. (P1S2)				
D1359	Fug. Comp. (P2S3)				
D1361	Fug. Comp. (P2S6)				
D1366	Fug. Comp. (P3S2)				
D1367	Fug. Comp. (P2S7)				
D1443	Fug. Comp. (P3S4)				
D1444	Fug. Comp. (P3S5)				
D1451	Fug. Comp. (P5S3)				
D1477	Fug. Comp. (P21S3)				
D1557	Fug. Comp. (P2S10)				
D1561	Fug. Comp. (P12S8)				
D1399	Fug. Comp. (P12S3)			40 CFR 60 Subpart GGG	Components associated with wastewater treatment and/or waste oil recovery systems. Not part of a process unit.
D1459	Fug. Comp. (P12S1)				
D1460	Fug. Comp. (P12S2)				
D1461	Fug. Comp. (P12S4)				
D1572	Fug. Comp. (P19S4)				
D1470	Fug. Comp. (P15S1)	40 CFR 60 Subpart GGG	Components associated with storage tanks. Not part of a process unit.		
D1471	Fug. Comp. (P15S2)				
D1472	Fug. Comp. (P15S3)				
D1362	Fug. Comp (P15S5)				
D1363	Fug. Comp (P15S7)				
D1419	Fug. Comp. (P21S1)	40 CFR 60 Subpart GGG	Components associated with flare. Not part of a process unit.		
D87	Compressor (P3S1)	40 CFR 60 Subpart GGG	Compressor was installed/constructed prior to January 4, 1983, and has not been modified or reconstructed since then.		
D209	Compressor (P5S3)				
D229	Compressor (P5S5)				
D364	Compressor (P8S1)				

Device ID	Equipment	Regulation	Summary of Non-Applicability Determination
D641	Compressor (P21S3)		
D643	Compressor (P21S3)		
D644	Compressor (P21S3)		
D922	Compressor (P6S1)		
D923	Compressor (P6S1)		
D930	Compressor (P8S1)		
D973	Compressor (P17S2,3)		
D969	Compressor (P2S1)		
D1509	Compressor (P9S1)		
D102	Compressor (P8S1)	40 CFR 60 Subpart GGG	Compressor or equipment is not in VOC service.
D245	Compressor (P8S1)		
D305	Compressor (P6S1)		
D335	Compressor (P6S3)		
Fugitive components in P3S6, P3S8, P6S1 and P14S1			
Fugitive components in all permit units except P21/S4 (D1608) and all compressors except devices D1600, D1601, D1602, D1603 and D1604 in P21/S4.		40 CFR 60 Subpart GGGa	Process unit/compressor was constructed prior to November 7, 2006, and has not been modified or reconstructed since then.

None of the equipment in this refinery is subject to the NSPSs listed below:

- 40 CFR 60 Subpart D – Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced after August 17, 1971. This facility does not operate any steam generator that is subject to this NSPS.
- 40 CFR 60 Subpart Da – Standards of Performance for Electric Utility Steam Generating Units for Which Construction is Commenced After September 18, 1978. This facility does not meet the definition of an electric utility.
- 40 CFR 60 Subpart Dc – Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units. This refinery does not operate equipment that is subject to this NSPS.
- 40 CFR 60 Subpart III – Standards of Performance for Volatile Organic Compound (VOC) Emissions from the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Air Oxidation Unit Processes. This facility does not conduct any SOCMI operations.
- 40 CFR 60 Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines. This refinery does not operate any engines that are subject to this NSPS.

- 40 CFR 60 Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines. This refinery does not operate any engines that are subject to this NSPS.
- 40 CFR 60 Subpart KKKK – Standards of Performance for Stationary Combustion Turbines. The turbines at the facility are subject to 40 CFR 60 Subpart GG instead of this NSPS based on construction date with no subsequent modification.
- 40 CFR 60 Subpart NNN – Standards of Performance for Volatile Organic Compound (VOC) Emissions from the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations. The refinery does not conduct any SOCMI operations.
- 40 CFR 60 Subpart RRR – Standards of Performance for Volatile Organic Compound Emissions from Synthetic Organic Chemical. This facility does not conduct any SOCMI operations.
- 40 CFR 60 Subpart UU – Standards of Performance for Asphalt Processing and Asphalt Roofing Manufacture. This facility does not conduct any asphalt processing or manufacturing.
- 40 CFR 60 Subpart VV – Standards of Performance for Equipment Leaks of VOC in the SOCMI for Which Construction, Reconstruction, or Modification Commenced After January 5, 1981 and on or Before November 7, 2006. This facility does not conduct any SOCMI operations.
- 40 CFR 60 Subpart VVa - Standards of Performance for Equipment Leaks of VOC in the SOCMI for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006. This facility does not conduct any SOCMI operations.
- 40 CFR 60 Subpart XX – Standards of Performance for Bulk Gasoline Terminals. This facility does not have any bulk gasoline terminals.

National Emissions Standard for Hazardous Air Pollutants (NESHAP) (40 CFR 61 and 63)

Applicability Determinations

All of the equipment in the Title V permit has been reviewed to determine whether they are subject to any of the NESHAPs. With exception to the equipment listed in Table 4.4 to 4.14 , this refinery is generally subject to the following NESHAPs:

- 40 CFR 61 Subpart FF – National Emission Standards for Benzene Waste Operation
- 40 CFR 63 Subpart CC - National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries
- 40 CFR 63 Subpart UUU – National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units
- 40 CFR 63 Subpart EEEE – National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution (Non-Gasoline)
- 40 CFR 63 Subpart GGGGG – National Emission Standards for Hazardous Air Pollutants: Site Remediation

Each of these standards, as applicable to the Tesoro refinery, is incorporated into the Title V permit. Provided below is a brief description of the requirements for each of the above NESHAP

regulations. Discussed within each section are the non-applicability determinations for each NESHAP as they pertain to the Tesoro refinery.

40 CFR 61 Subpart FF

40 CFR 61 Subpart FF – National Emission Standard for Benzene Waste Operations (Benzene Waste NESHAP) defines a major source as any chemical manufacturing plant, coke by-product recovery plant, or petroleum refinery with 10 megagram per year (Mg/yr) (11 tons/yr) or more of benzene in the waste streams. Tesoro LAR is a major source subject to the control requirements of this regulation.

Summary of Requirements

This regulation requires a major source to control benzene in non-exempt waste streams that contain 10 parts per million by weight (ppmw) or more of benzene. It requires the removal or destruction of benzene in the waste using a treatment process that either a) removes benzene from the waste stream to a level less than 10 ppmw on a flow-weighted annual average basis, b) removes benzene from the waste stream by 99 percent or more on a mass basis, or c) destroys benzene in the waste stream by incinerating the waste in a combustion unit that achieves a destruction efficiency of 99 percent or greater for benzene.

This regulation allows a facility to exempt some waste streams from control requirements. The quantity and type of streams a facility may exempt depends on the compliance option selected. Tesoro LAR has chosen the “6 BQ” compliance option at §61.342(e) of this NESHAP. This alternative option requires the refinery to meet or comply with the following requirements:

- §61.342(e)(1): The operator shall manage and treat all waste streams, with a flow-weighted annual average water content of less than 10 percent, in accordance with the requirements specified in §61.342(c)(1). It is specified in §61.342(c)(1) that the waste stream must be recycled back to a process or the benzene contained in the waste stream must be removed or destroyed using a treatment process or wastewater treatment system that complies with the standards specified in §61.348.
- §61.342(e)(2): The operator shall manage and treat all waste streams (including remediation and process turnaround waste), with a flow-weighted annual average water content of 10 percent or greater, in such a manner that the total quantity of benzene in the treated and untreated aqueous waste streams is less than 6.0 Mg/yr. The benzene in each waste stream shall be quantified in accordance with §61.355(k)(6).

For each stream that is treated to comply with §61.342(e)(1) or §61.342(e)(2), the operator shall comply with the treatment process standard specified in §61.348. For waste management units, which are used to treat or handle waste streams that are treated as specified in §61.348 and/or recycled to a process, the operator shall comply with the following standards:

- Tanks standards. *{61.343 and/or 61.351}*
- Surface impoundments standards. *{61.344}*
- Containers standards. *{61.345}*

- Individual drain system standards. {61.346}
- Oil-water separator standards. {61.347}

Condition P13.1 of the Title V permit is tagged to all processes that contain benzene waste streams that are subject to Subpart FF. All of these waste streams are subject to the recordkeeping and reporting requirements of §61.356 and §61.367, respectively. Waste management units and waste treatment systems that are subject to the individual standards of §61.343 through §61.348 are identified in the permit by the tagging of condition P13.1 to the permit unit at a process level or condition H23.10 or H23.40 in the “Conditions” column of an individual device in sections D and H of the Title V permit.

Additionally, for all equipment that is subject to the individual standards of this NESHAP, “Benzene: (10) [40CFR 61 Subpart FF_01, 12-4-2003]” is listed in the “Emissions and Requirements” column. Footnote 10 at the bottom of the permit page directs the permit reader to see Section J of the permit for the NESHAP/MACT requirements. The pages in Section J that contain the requirements for this NESHAP have “40CFR 61 Subpart FF_01, 12-4-2003” in their headers. As part of the Title V permit software design, “40CFR 61 Subpart FF_01, 12-4-2003” also appears in the table of applicable rules and regulations in Section K of the permit.

If equipment is subject to the 500 ppmv VOC limit of one of the individual standards, this limit is also specified in the “Emissions and Requirements” column. Each of the subject conditions, references, and emission limits are tagged with “40CFR 61 Subpart FF”.

Non-Applicability Determination

Determinations for equipment that is not subject to this NESHAP are discussed in this section. The refinery contains many types of facilities that are potentially subject to 40CFR 61 Subpart FF. If 40CFR 61 Subpart FF excludes potentially affected facilities (for example, tanks that do not store waste) then those excluded facilities are not listed in any of the following tables.

Storage Tanks

As mentioned above, storage tanks that handle or treat waste streams that are treated as specified in §61.348 and/or recycled to a process are subject to the standards specified in §61.343 and/or §61.351. Waste stream is defined in this NESHAP as the waste generated by a particular process unit, product tank, or waste management unit. Examples include waste from process wastewater, product tanks drawdown, sludge and slop oil removed from waste management units, and landfill leachate. The vast majority of storage tanks at the refinery are not subject to the control requirements of this regulation because they store crude oil, intermediate products, final products or other materials that are not waste streams as defined in this regulation. Therefore, these tanks are not subject to the control requirements of subpart FF.

Table 4.4 below shows tanks that store waste streams that are subject to Subpart FF but are exempt from the control requirements of this regulation.

Table 4.4 Benzene Waste NESHAP Non-Applicability Determinations for Storage Tanks

Emission Unit	Summary of Non-Applicability Determination
D417, D574, D591, D1001, D1002	Storage tanks that store benzene wastes that are subject to Subpart FF but exempted from control requirements since the associated streams are accounted for under the 6 Mg allowable per §61.342(e)(2) and counted at the point of generation.

Surface Impoundments

A surface impoundment is defined as a natural topographic depression, man-made excavation, or diked area formed primarily of earthen materials, which is designed to hold an accumulation of liquid wastes or waste-containing free liquids. Examples include holding, storage, settling, and aeration pits, ponds, and lagoons.

Table 4.5 Benzene Waste NESHAP Non-Applicability Determinations for Surface Impoundments

Emission Unit	Summary of Non-Applicability Determination
D696, D1022, D1023	Surface impoundments that store benzene wastes that are subject to Subpart FF but exempted from control requirements per §61.342(e)(2).

Containers

Containers are defined as any portable waste management unit in which material is stored, transported, treated, or otherwise handled. Examples include drums, barrels, tank trucks, barges, dumpsters, tank cars, dump trucks, and ships. Mobile sources and marine vessels, such as tank trucks, barges, tank cars, dump trucks and ships, are not covered by the Title V permit. Portable containers, such as barrels and dumpsters, are not utilized to store benzene waste and they are also exempt equipment under District Rule 219, thus are not listed in the Title V permit. Portable drums used meet DOT specifications, are covered and not vented to atmosphere, thus exempt from the monitoring requirements under Subpart FF and are not listed in the Title V permit.

Individual Drain Systems

An individual drain system is defined as the system used to convey waste from a process unit, product storage tank, or waste management unit to a waste management unit. The drain system includes all process drains and common junction boxes, together with their associated sewer lines and other junction boxes, down to the receiving waste management unit. Due to the large number of drain system components at refineries, drain system components are group together in the Title V permit as a single “drain system component” device. Table 4.6 contains non-applicability determinations for individual drain systems at the refinery:

Table 4.6 Benzene Waste NESHAP Non-Applicability Determinations for Individual Drain Systems

Emission Unit	Summary of Non-Applicability Determination
D1495, D1496 and all surface/open drain systems that are connected to Process 12, Systems 2, 3, and 4.	Individual drain systems that collect and transport benzene wastes that are subject to Subpart FF but exempted from control requirements per §61.342(e)(2)

Oil Water Separators

An oil-water separator is defined as a waste management unit, generally a tank or surface impoundment, used to separate oil from water. An oil-water separator consists of the separation unit as well as the forebay and other separator basins, skimmers, weirs, grit chambers, sludge hoppers, and bar screens that are located directly after the individual drain system and prior to additional treatment units such as an air flotation unit, clarifier, or biological treatment unit. Examples include an API separator, parallel-plate interceptor, and corrugated-plate interceptor with associated ancillary equipment.

All of the oil-water separators, as defined in this NESHAP, at the refinery are subject to this NESHAP and are identified in the Title V permit as being subject. Table 4.7 below contains non-applicability determinations for potentially subject waste stream handling equipment at the refinery.

Table 4.7 Benzene Waste NESHAP Non-Applicability Determinations for Oil-Water Separators

Emission Unit	Summary of Non-Applicability Determination
D581, D689, D693, D697, D700, and devices in Process 12, Systems 2, 3 and 4.	Oil-water separators as defined at §61.341 that process waste streams but are exempted from control requirements and are accounted for under the 6 Mg allowable per §61.342(e)(2).

40 CFR 63 Subpart CC

Tesoro LAR is also a major source under the definition of 40 CFR 63 Subpart CC (NESHAP from Petroleum Refineries). This regulation, which is commonly referred to as the Refinery MACT, seeks to reduce the emissions of eleven air toxics, including benzene, by requiring controls for emissions of air toxics from storage tanks, equipment leaks, process vents, and wastewater collection and treatment system. The refinery is an existing source under this regulation since its construction commenced prior to July 14, 1994.

Summary of Requirements

The Refinery MACT includes requirements for the following emission sources:

- Storage vessels. {§63.646}
- Miscellaneous process vents. {§63.643 - §63.645}
- Wastewater management and treatment equipment. {§63.647}
- Equipment leak (fugitive) components. {§63.648 & §63.649}
- Gasoline loading racks. {§63.650}
- Marine tank vessel loading operations. {§63.651}

Equipment that is subject to the Refinery MACT has “HAP” listed in the “Emissions and Requirements” column of the device along with a reference to Section J of the permit. For example, Group 1 storage vessels include “HAP: (10) [40CFR 63 Subpart CC, #3A, 6-23-2003]” in the “Emissions and Requirements” column. The pages in Section J that contain the requirements for Group 1 storage vessels have “40CFR 63 Subpart CC, #3A, 6-23-2003” in their headers. “40CFR 63 Subpart CC, #3A, 6-23-2003” appears in the table of applicable rules and regulations in Section K of the permit.

Non-Applicability Determination

The remainder of this section contains a summary of determinations for equipment that is not subject to this regulation.

Storage Vessels

Group 1 storage vessels are subject to the standards specified in §63.646. Group 1 storage vessels are defined as vessels that have a design capacity greater than 177 cubic meter (m³) (46,763 gallons) and store an organic liquid that meets the following specifications:

- maximum true vapor pressure (TVP) greater than or equal to 10.4 kilopascals, and
- annual-average TVP greater than or equal to 8.3 kilopascals, and
- annual-average total organic HAP concentration greater than 4 percent (by weight).

Under this regulation, any storage vessel with a capacity greater than 40 m³ (10,566 gallons) that stores an organic liquid that does not exceed the vapor pressure and HAP-content thresholds outlined above are Group 2 storage vessels, which are subject to some recordkeeping requirements. Group 2 storage vessels are identified in the permit by the following notation in the “Emissions and Requirements” column: HAP: (10) [40CFR 63 Subpart CC, #2, 6-23-2003]. Storage vessels that are not specified in the permit as Group 1 or Group 2 storage vessels are not subject to any requirements under this regulation. The following storage vessels are exempt from all requirements of this regulation because they don’t meet the definition of storage vessels under §63.641:

- pressure storage vessels designed to operate in excess of 204.9 kPa without emissions to the atmosphere,
- tanks with a design capacity less than 40 m³,
- tanks not storing an organic liquid,
- storage tanks used to store wastewater, and
- storage tanks used as a bottoms receiver tank.

Table 4.8 below contains non-applicability determinations for storage vessels that are not identified in the Title V permit as Group 1 or Group 2 storage vessels:

Table 4.8 Refinery MACT Non-Applicability Determinations for Storage Vessels

Emission Unit	Summary of Non-Applicability Determination
D662, D663, D664, D665, D666, D667, D669, D670, D671, D672, D673, D674, D675, D676, D677, D678, D679, D680, D681, D682, D683, D684, D685, D686, D1502	Storage vessel is a pressure storage vessel designed to operate in excess of 204.9 kPa without emissions to the atmosphere.
D527, D528, D1306, D1308	Storage vessel stores inorganic liquids only.
D453, D467, D471, D523, D640, D709, D728, D1120, D1121, D1292, D1305, D1307, D1321, D1533	Design storage capacity is less than 40 m ³ (10,566 gallons).
D464, D546, D562, D563, D574, D575, D576, D577, D578, D639, D709, D1217, D1484, D1500	Storage vessel is used to store wastewater, as defined in this regulation.
None	Storage vessel is used as a bottoms receiver tank
D520, D521, D531, D533, D534, D544, D546, D547, D548, D550, D551, D552, D553, D554, D555, D556, D557, D558, D559, D560, D561, D562, D563, D564, D565, D566, D567, D569, D591, D572, D573, D574, D575, D576, D577, D578, D579, D581, D584, D585, D589, D591, D592, D593, D594, D595, D596, D597, D598, D599, D600, D602, D603, D604, D606, D607, D608, D611, D613, D614, D615, D616, D617, D618, D619, D620, D621, D622, D623, D624, D625, D626, D627, D628, D631, D633, D634, D636, D637, D639, D640, D982, D1500	Storage vessel is an emission point that is routed to a fuel gas system (vapor recovery system).

Wastewater Streams

In this regulation, wastewater is defined as “water or wastewater that, during production or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product and is discharged into any individual drain system”. The Refinery MACT has requirements for Group 1 and 2 wastewater streams. Group 1 wastewater streams are wastewater streams that have a flow rate of 0.02 liters per minute or greater, a benzene concentration of 10 ppmv or greater, and are not exempt from control requirements under the provisions of 40 CFR 61, Subpart FF. Group 2 wastewater streams are all other waste or wastewater streams that meet the definition of wastewater in this regulation.

As specified at §63.647, Group 1 wastewater streams are subject to the requirements of §61.340 through §61.355 of 40 CFR 61, Subpart FF. Group 2 wastewater streams are subject to recordkeeping requirements only. Group 1 and 2 wastewater streams are identified in the Title V permit with the following notations, respectively, in the “Emissions and Requirements” column of any equipment that manages or treats a wastewater stream that is subject to this regulation: HAP: (10) [40CFR 63 Subpart CC, #4, 6-23-2003] and HAP: (10) [40CFR 63 Subpart CC, #2, 6-23-2003].

Table 4.9 below contains non-applicability determinations for equipment that manages wastewater streams that are not identified in the Title V permit as Group 1 or Group 2 wastewater streams.

Table 4.9 Refinery MACT Non-Applicability Determinations for Equipment that Manages Wastewater Streams

Emission Unit	Summary of Non-Applicability Determination
D526	Manages water or wastewater that does not come into direct contact with or result from the production or use of any raw material, intermediate product, finished product, byproduct or waste product.
None	Manages water or wastewater that comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct or waste product but is not discharged into an individual drain system.

Equipment Leak (Fugitive) Components

Equipment leak is defined as emissions of organic HAPs from a pump, compressor, pressure relief device, sampling connection system, open-ended valve or line, valve, or instrumentation system “in organic HAP service”. Vents from wastewater collection and conveyance systems (including, but not limited to wastewater drains, sewer vents, and sump drains), tank mixers, and sample valves on storage tanks are not equipment leaks. “In organic HAP service” means that the equipment either contains or contacts a fluid (liquid or gas) that is at least 5 percent by weight of total organic HAPs. There is only one category of equipment leak components in this regulation. Unlike storage vessels, wastewater systems, and miscellaneous process vents, equipment leak components are not categorized by Group 1 and Group 2.

The refinery contains thousands of individual fugitive components such as valves, connectors, pumps, etc. For this reason, the fugitive components for each permit unit are grouped and identified in the Title V permit by a “fugitive emissions, miscellaneous” device. Grouping the fugitive component into a singular device is a manageable method for identifying regulatory requirements for some or all of the fugitive components in a permit unit. Permit units that contain some fugitive leak components that are subject to Refinery MACT requirements are identified by the notation “HAP: (10) [40CFR 63 Subpart CC, #5, 6-23-2003]” in the “Emissions and Requirements” column for the “fugitive emissions, miscellaneous” device for permit unit.

Table 4.10 below contains non-applicability determinations for equipment leak (fugitive) components at the refinery.

Table 4.10 Refinery MACT Non-Applicability Determinations for Equipment Leak (Fugitive) Components

Emission Unit	Summary of Non-Applicability Determination
D1356, D1380, D1399, D1416, D1419, D1423, D1453, D1459, D1460, D1461, D1465, D1466, D1467, D1469, D1470, D1471, D1472, D1473, D1477, D1553, D1556, D1561, D1562, D1572, and all compressors in the refinery.	Permit unit does not contain any fugitive leak components that are in “organic HAP service” as defined at §63.641 of this regulation.

Miscellaneous Process Vents

A fully integrated refinery, such as the subject refinery, has a number of gas streams that are periodically or continuously vented from process units to the atmosphere. These vents, which are referred to as process vents, include gas streams that are discharged directly to the atmosphere, gas streams that are routed to a control device prior to discharge to the atmosphere, or gas streams that are diverted through a product recovery device prior to control or discharge to the atmosphere. Due to the large number of process vents, requirements for the venting of the majority of these vents are specified in the Title V permit at the system level by S15.x conditions. Routine process vents that are directed to control equipment are specified in the “Connect To” column of the permit.

The Refinery MACT specifies requirements for some of the process vents at a refinery. The regulated vents are called “miscellaneous process vents”. Miscellaneous process vents are defined at §63.641 as gas streams containing greater than 20 ppmv organic HAP that are continuously or periodically discharged during normal operation of a petroleum refining process unit. According to the definition at §63.641, miscellaneous process vents include vent streams from: caustic wash accumulators, distillation tower condensers/accumulators, flash/knockout drums, reactor vessels, scrubber overheads, stripper overheads, vacuum (steam) ejectors, wash tower overheads, water wash accumulators, blowdown condensers/accumulators, and delayed coker vents. This definition also specifies fourteen (14) different vent stream types that are not

miscellaneous process vents. These fourteen (14) vent stream types, which are shown in Table 4.11, make up the vast majority of atmospheric vents at the refinery.

A Group 1 miscellaneous process vent is a miscellaneous process vent for which the total organic HAP concentration is greater than or equal to 20 ppmv, and the total VOC emissions are greater than or equal to 33 kg/day at the outlet of the final recovery device (if any) and prior to any control device and prior to discharge to the atmosphere. A Group 2 miscellaneous process vent has a total organic HAP concentration of greater than or equal to 20 ppmv and total VOC emissions of less than 33 kg/day at the outlet of the final recovery device (if any) and prior to any control device and prior to discharge to the atmosphere.

Group 1 and 2 miscellaneous process vents are identified in the Title V permit with the following notations, respectively, in the “Emissions and Requirements” column of the equipment from which the vent emanates: HAP: (10) [40CFR 63 Subpart CC, #1,6-23-2003] and HAP: (10) [40CFR 63 Subpart CC, #2,6-23-2003]. Table 4.11 below contains non-applicability determinations for process vents that are not identified in the Title V permit as Group 1 or Group 2 miscellaneous process vents. These non-applicability determinations are based on the definition of miscellaneous process vent in §63.641.

Table 4.11 Refinery MACT Non-Applicability Determinations for Miscellaneous Process Vent

Emission Unit	Summary of Non-Applicability Determination
Individual vent streams that vent to the refinery vapor recovery and fuel gas treating systems are too numerous to list individually in the permit. Routine vents are permitted through the following system conditions: S15.3, S15.5, S15.6, S15.9, S15.11, S15.13	Gaseous stream routed to a fuel gas system.
Emergency relief valves are too numerous to list individually in the permit. Emergency vents are permitted through the following system conditions: S15.1, S15.2	Relief valve discharge stream.
D1354, D1355, D1357, D1359, D1361, D1365, D1366, D1367, D1381, D1384, D1392, D1443, D1444, D1446, D1447, D1448, D1449, D1451, D1454, D1455, D1456, D1458, D1557, D1608	Leak from equipment regulated under §63.648.
Emergency relief valves and vents associated with startup, shutdown, malfunction, etc. are too numerous	Episodic or nonroutine releases such as those associated with startup, shutdown, malfunction, maintenance, depressuring, and catalyst transfer

Emission Unit	Summary of Non-Applicability Determination
to list individually in the permit. These vents are permitted through system conditions: S15.1, S15.2, S15.5, and S15.8	operations.
Onstream analyzers. This equipment is not listed in the permit.	In situ sampling systems (onstream analyzers).
D96	Catalytic cracking unit catalyst regeneration vent
D197, D220	Catalytic reforming regeneration vent.
There is no SRP at this refinery	Sulfur plant vent
C1575, C1576, C1577	Vents from control devices such as scrubbers, boilers, incinerators, and electrostatic precipitators applied to catalytic cracking unit catalyst regeneration vents, catalytic reformer regeneration vents, and sulfur plant vents.
D463	Vent from a stripping operation that was installed to comply with the wastewater provisions of 40CFR63 Subpart CC and/or 40CFR61 Subpart FF.
D20	Coking unit vent associated with coke drum depressuring at or below a drum outlet pressure of 15 psig, deheading, draining, decoking (coke cutting, or pressure testing after decoking.
All storage vessels.	Vent from storage vessel.
D1495, D1496, D1095 [Note: Subject wastewater collection and conveyance systems are included in the “Drain System Component” devices in the permit.]	Emissions from wastewater collection and conveyance systems including, but not limited to, wastewater drains, sewer vents, and sump drains.
D319, D713	Hydrogen production plant vents through which CO ₂ is removed from process streams or through which steam condensate produced or treated within the hydrogen plant is degassed or deaerated.
Individual miscellaneous process vent streams < 20 ppmw (non Group 1 and non Group 2) are too numerous to list in the permit.	Other process vent streams that have a total organic HAP content of less than 20 ppmv.

Gasoline Loading Operations

Gasoline is defined in §63.641 of this regulation as “any petroleum distillate or petroleum distillate/alcohol blend having a Reid vapor pressure of 27.6 kilopascals or greater that is used as a fuel for internal combustion engines”. Table 4.12 below contains non-applicability determinations for loading racks at the refinery.

Table 4.12 Refinery MACT Non-Applicability Determinations for Loading Racks

Emission Unit	Summary of Non-Applicability Determination
All loading racks listed in Process 14 of the Title V permit.	Loading rack does not load gasoline as defined at §63.641.

Marine Tank Vessel Loading Operations

Provisions for marine tank vessel loading operations located at petroleum refineries are located at §63.651, which references 40CFR 63 Subpart Y. The applicable definition of marine tank vessel loading operation from 40 CFR 63 Subpart Y is as follows: “any operation under which a commodity is bulk loaded onto a marine tank vessel from a terminal, which may include the loading of multiple marine tank vessels during one loading operation. Marine tank vessel loading operations do not include refueling of marine tank vessels”. There are no marine tank vessel loading operations conducted at the refinery as indicated in Table 4.13.

Table 4.13 Refinery MACT Non-Applicability Determinations for Marine Tank Vessel Loading Operations

Emission Unit	Summary of Non-Applicability Determination
All loading racks listed in Process 14 of the Title V permit.	Loading operation does not bulk load commodities onto marine vessels [§63.561 – Definition: Marine Tank Vessel Loading Operation]

40 CFR 63 Subpart UUU

40 CFR 63 Subpart CC addresses the emissions of air toxics from miscellaneous process vents in petroleum refineries. However, it does not address emissions from process vents on catalytic cracking units, catalytic reforming units, and sulfur recovery units. To address air toxics emissions from these sources, EPA adopted 40 CFR 63 Subpart UUU- National Emission Standard for Hazardous Air Pollutants for Petroleum Refineries: Catalytic Cracking Units (CCUs), Catalytic Reforming Units (CRUs), and Sulfur Recovery Units (SRUs).

For equipment in the CRU, CCU, and SRUs with process vents that are subject Subpart UUU, the regulated pollutant is listed in the “Emissions and Requirements” column. This listing references Section J of the permit, which contains the emission limits and requirements of Subpart UUU. This regulation is not applicable to any process vents in process units other than those from a CRU, FCCU, or SRU. Since Tesoro does not have any contiguous SRUs within the refinery, the applicability this regulation only pertains to the CRUs and CCU at this facility. The applicability of 40CFR 63 Subpart UUU for the Tesoro SRUs has been incorporated in the Tesoro SRP (ID 151798) TV permit separately.

The requirements listed in Section J are separated by equipment type; “40CFR 63 Subpart UUU, #1” lists catalytic reforming unit requirements and catalytic cracking unit requirements are listed in “40CFR 63 Subpart UUU, #2”. In Section K of the permit, the references to Subpart UUU #1 and #2 refer to the Subpart UUU #1 and #2 templates in Section J of the permit.

40CFR 63 Subpart EEEE

This NESHAP applies to Organic Liquid (Non-Gasoline) Distribution operations that are located at or are part of a major source of HAPs and that are not subject to another part 63 standard such as 40 CFR 63 Subpart CC. Organic liquids as defined at §63.2406 are non-crude oil liquids or mixtures that contain at least 5 percent organic HAP and have an annual average true vapor greater than 0.1 psia and all crude oils downstream of the first point of transfer. The standard covers storage tanks, transfer racks, equipment leak components and transport vehicles that handle organic liquids.

Non-applicability Determinations

Table 4.14 below contains non-applicability determinations for potentially applicable emission units at the refinery.

Table 4.14 Organic Liquid Distribution MACT Non-Applicability Determinations

Emission Unit	Summary of Non-Applicability Determination
All loading operations in Process 14 Systems 1, 2, 3, 4, 5 and 9.	Transfer operation does not load or unload organic liquid as defined at §63.2406.
All storage tanks and equipment leak components that store or handle organic liquids as defined in §63.2406 or are identified already in the permit to be subject to 40 CFR 63 Subpart CC.	Equipment is subject to 40 CFR 63 Subpart CC.

40 CFR 63 Subpart GGGGG

This NESHAP is applicable to site remediation activities located at facilities that are a major source of HAP emissions and have at least one other source category that is regulated by a part 63 standard. This standard does not cover site remediation activities performed under CERCLA or RCRA. The affected sources would include remediation process vents, remediation material management units (tanks, containers, oil-water separators, transfer systems, etc.) and equipment leak components.

Non-applicability Determinations

There are no site remediation activities conducted at the Tesoro refinery that are outside the authority of CERCLA or RCRA.

Other NESHAP Non-applicability Determinations

This refinery is not subject to the NESHAPs listed below:

- 40 CFR 61 Subpart J - National Emission Standards for Equipment Leaks (Fugitive Emission Sources) of Benzene. This refinery does not operate any equipment in “benzene service.”
- 40 CFR 61 Subpart Y - National Emission Standards for Benzene Emissions from Benzene Storage Vessels. This refinery does not store or transfer benzene.
- 40 CFR 61 Subpart BB - National Emission Standards for Benzene Emissions from Benzene Transfer Operations. This refinery does not store or transfer benzene.
- 40 CFR 63 Subpart F - National Emission Standards for Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry. This refinery does not conduct any SOCOMI operations.
- 40 CFR 63 Subpart G - National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater. This refinery does not conduct any SOCOMI operations.
- 40 CFR 63 Subpart H - National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks. This refinery does not conduct any SOCOMI operations.
- 40 CFR 63 Subpart Q - National Emission Standards for Hazardous Air Pollutants for Industrial Process Cooling Towers. This refinery does not use chromium based water treatment chemicals.
- 40 CFR 63 Subpart R - National Emission Standards for Hazardous Air Pollutants for Gasoline Distribution Facilities. This refinery does not own or operate a bulk gasoline terminal or pipeline breakout station at this location.
- 40 CFR 63 Subpart VV - National Emission Standards for Oil-Water Separators and Organic-Water Separators. This subpart is not applicable because no other subpart of 40 CFR Part 60, 61, or 63 references this subpart, even though this refinery controls emissions from oil-water and organic-water separators.
- 40 CFR 63 Subpart EEE - National Emission Standards for Hazardous Air Pollutants for Hazardous Waste Incinerators. There are no hazardous waste incinerators, cement kilns, or aggregate kilns located at this refinery.
- 40 CFR 63 Subpart YYYY – National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines. Per subsection §63.6090(b)(4), this subpart does not apply because the turbines are existing turbines that commenced construction prior to January 14, 2003.
- 40 CFR 63 Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE). This subpart does not apply because this facility does not own or operate stationary reciprocating internal combustion engines that have to meet any emission limits or standards of this subpart.

Compliance Assurance Monitoring (CAM) (40 CFR 64)

This regulation requires facilities of major sources to submit CAM plans to accompany the application for renewal of their respective Title V permits or for initial Title V applications submitted after April 20, 1998. The initial Title V application for this facility was submitted by Texaco Refining and Marketing, Inc. on March 23, 1998 and was deemed complete on March 24, 1998 under A/N 338981. No CAM plans were required at the time.

Two ownership changes have occurred since the initial submittal of the Title V application by Texaco. On January 20, 2000 and May 11, 2007, Equilon Enterprises, LLC and Tesoro Refining & Marketing Co. submitted a change of ownership for this initial Title V application under A/N 364493 and A/N 470316, respectively, which is considered an administrative process; thus, no CAM plans were required at this time. While a change of ownership has been made strictly for administrative purposes at the District, the primary and basic operations that existed at the time the initial Texaco Title V application had been deemed complete stayed the same.

5. Periodic Monitoring Requirements

Applicable monitoring and operational requirements for which the facility is required to comply are identified in the Title V permit (Section D, F, J, and Appendix B of the proposed Title V permit).

This facility is subject to RECLAIM monitoring, source test requirements, and other monitoring provisions that are required by federal, state or AQMD laws and regulations. Section F of the permit contains the monitoring and source test permit conditions imposed by Regulation XX. More specifically, it summarizes the monitoring and testing requirements for Major, Large and Process units at NO_x and SO_x RECLAIM facilities. Finally, CAM requirements of 40 CFR Part 64 do not currently apply to any of the permitted emission sources at this facility.

As specified in AQMD Rule 3004(a)(4), the proposed permit includes periodic monitoring conditions for equipment that is subject to SIP-approved, federally enforceable rules, which do not require sufficient monitoring to ensure compliance with emission limitations or other requirement of the rule. Permit conditions in Section D and H of the permit that fulfill Title V periodic monitoring requirements are tagged with the following: *Rule 3004(a)(4)-Periodic Monitoring, 12-12-1997*. These periodic monitoring conditions are also tagged with the underlying rule(s) for which the condition is fulfilling the monitoring requirement. In some cases, existing monitoring conditions that were installed under NSR fulfill the periodic monitoring requirements for other rules or regulations. For these cases, the monitoring condition was tagged with Rule 3004(a)(4) and the underlying rule(s) for which the condition is fulfilling the monitoring requirement.

A draft Periodic Monitoring Guidance document was published by the AQMD in August 1977. A public consultation was held to solicit public input. The final Periodic Monitoring Guideline Document was published by the AQMD in November 1977. This guideline was used to establish the periodic monitoring requirements in the Title V permit. In addition, the AQMD used the CAPCOA/CARB/EPA Region IX Recommended Periodic Monitoring for Generally

Applicable Requirements in SIP (June 24, 1999) for applicable opacity limits, grain loading limits for material handling equipment, and for sulfur content of fuels. Furthermore, the AQMD used the CAPCO/ARB/EPA Region IX Recommended Periodic Monitoring for Generally Applicable Grain Loading Standards in the SIP for combustion sources (July 2001). These documents are included in Appendix II.

6. Title V Permit Format

The Title V permit comprises eleven sections and two appendices. Each section is devoted to a particular function as summarized below:

Section A Facility Information

This section contains operator name, facility location and mailing address. It also lists the name of the responsible official and contact person for the facility. Lastly, this section indicates whether Regulation XXX and RECLAIM apply to the facility.

Section B RECLAIM Annual Emission Allocation

This section applies to RECLAIM facilities only and lists NO_x and SO_x allocations for the facility.

Section C Facility Plot Plan

This section is reserved for the development of the facility plot plan in the future.

Section D Facility Description and Equipment Specific Conditions

This section describes equipment at the facility for which permits to operate have been issued. It also includes facility-wide operating conditions, emission limitations, the rules for which the emission limits and permit conditions are derived, and the periodic monitoring requirements as appropriate. The description of the process and equipment is structured in the following manner:

Process

A process is the largest grouping of equipment under the Title V permit, which includes all equipment involved in the making of final product from raw feed. A process can end at an intermediate product if the succeeding process is significantly different.

System

A system is the combination of equipment into a unit which is a logical subsystem of a process. A system can be used to identify individual process lines, or it can separate a long process line into separate functions. The main use of this grouping will be to separate a large process into manageable groups.

Equipment

This column describes equipment contained within a system or a process. It contains information necessary to identify equipment and ensure compliance with

rules and regulations such as dimensions of a tank, heat input of a heater, horsepower of an engine. This section also lists the equipment application number (A/N). The application number is an identification number issued by the AQMD to the application submitted to the AQMD by the applicant for a Permit to Construct or Permit to Operate a piece of equipment. A facility is required to submit a permit application when it plans to install a new piece of equipment, alter an existing piece of equipment, or modify a permit condition. An application number in the Title V permit changes each time the AQMD approves a new application.

Device Identification (I.D.) Number

Each piece of equipment is assigned a unique I.D. number. When a piece of equipment is modified it retains its existing I.D. number. However, when it is removed from service, the I.D. number is retired and will not be used to identify another piece of equipment at this facility.

Connected to

This column is used to identify air pollution control equipment that is connected to a specific piece of equipment at the facility. This column is not intended to show process connections at the refinery.

RECLAIM Source Type/Monitoring Unit

This column is used to identify equipment classification pursuant to the RECLAIM program. The classification of major source, large source and process units are defined in Rules 2011 and 2012. The equipment classification is assigned only to NO_x and/or SO_x emission sources subject to RECLAIM. Each classification of equipment is subject to a specific monitoring requirement under RECLAIM.

Emissions and Requirements

This column lists emission limits applicable to each piece of equipment. It also lists the rules for which the limits were derived. If AQMD adopted a rule that has not yet been approved into the State Implementation Plan (SIP), emission limits established by both the SIP-approved and non SIP-approved versions of the rule are included in the permit.

Conditions

This column lists specific permit conditions applicable to the facility, process, system or equipment. A facility level condition applies to the whole facility and is designated by the letter F. The process conditions apply to the entire process and are designated by the letter P. The system conditions apply to the entire system and are designated by the letter S. The equipment (device) level conditions are designated by other letters depending on the category of conditions such as monitoring, recordkeeping, etc. Each permit condition references the law or rule for which the requirements in the condition were derived. If AQMD adopted a rule that has not yet been approved into the SIP, requirements

established by both the SIP-approved and non SIP-approved versions of the rule are included in the permit. One category of the device level condition is the periodic monitoring condition.

Section E Administrative Conditions

This section contains general administrative permit conditions that apply to all facilities. The conditions listed in this section apply to all permitted equipment at the facility unless superseded by other conditions listed elsewhere in the facility permit.

Section F RECLAIM Monitoring & Source Testing Requirements

This section contains Monitoring and source testing permit conditions imposed by Regulation XX. It summarizes the monitoring and testing requirements for Major, Large and Process units at RECLAIM facilities.

Section G RECLAIM Recordkeeping & Reporting Requirements

This section contains recordkeeping and reporting requirements specified in Regulation XX. It summarizes the recordkeeping and reporting requirements for RECLAIM sources.

Section H Permit to Construct and Temporary Permit to Operate

The permit format in this section is the same as described for Section D above. However, equipment listed in this section has not been issued permits to operate, but were issued a permit to construct and/or a temporary permit to operate.

Section I Compliance Plans & Schedules

This section lists active compliance plans specified in the SIP-approved rules.

Section J Air Toxics

This section lists permit conditions pertaining to Federal NESHAP/MACT requirements.

Section K Title V Administration

This section lists the Title V administrative conditions. They are the same for all Title V facilities, except for the list of applicable rules table at the end of the section. The table at the end of the section lists all applicable rules referenced in Sections D and H (emission limit and conditions) and any rules that are referenced to the facility. This table also indicates which rules are federally enforceable and which are only enforceable by AQMD.

As part of the AQMD's permit software, the names for the NESHAP templates (40CFR 63 Subpart CC #1, 2, 3A, 4 and 5A; 40CFR 63 Subpart UUU #1 and 2; and 40CFR 61 Subpart FF_01) from Section J of the Title V permit also appear in the rules table at the end of this section.

Appendix A NOx and SOx Emitting Equipment Exempt from Written Permit Pursuant to Rule 219

This section lists classes of NOx and SOx emitting Rule 219 exempt equipment present at the facility that are subject to RECLAIM.

Appendix B Rule Emission Limits

Some emission limits that are too complex to be listed in the Emissions and Requirements column of Sections D and H are listed in Appendix B of the Title V permit. Emission limits in this appendix are referenced by an emission type “(9)” in the “Emissions and Requirements” column of the permit.

7. Permit Features

Permit Shield

A permit shield is an optional part of a Title V permit that gives the facility an explicit protection from requirements that do not apply to the facility. A permit shield is a provision in a permit that states that compliance with the conditions of the permit shall be deemed compliance with all identified regulatory requirements. Incorporation of a permit shield into the Title V permit involves submission of applications for change of conditions for each piece of equipment affected by the permit shield. Permit shields are addressed in Rule 3004 (c). The refinery has not applied for a permit shield for any of the equipment at the facility.

Alternate Operating Scenarios

An alternative operating scenario (AOS) is a set of provisions and conditions in a permit that allow the operator to switch back and forth between alternative modes of operation without submitting an application for a permit revision before each switch. However, each AOS must be evaluated for compliance with AQMD rules and regulations and applicable State and Federal requirements. AOS is addressed in Rule 3005 (j). This facility has not applied for an AOS for any of the equipment at the refinery.

Emissions Trading

The refinery is subject to emissions trading requirements under Regulation XX.

Prevention of Significant Deteriorations (PSD) Permits

PSD is a federal program for permitting new and modified sources that emit air pollutants for which the AQMD is classified as in attainment with the National Ambient Air Quality Standards (NAAQS). The refinery has not been issued a PSD permit by either the EPA or the AQMD.

EPA New Source Review (NSR) Permits

NSR is a federal program for permitting new and modified sources that emit air pollutants for which the AQMD is classified as in Non-attainment with NAAQS. Before SIP-approval of the AQMD NSR Rule in 1978, EPA issued NSR permits for new construction and/or equipment modifications in the AQMD. No NSR permits have been issued to this refinery by the EPA.

8. Summary of Emissions and Health Risk

**Table 8.1 Criteria Pollutant Emissions (tons/year)
Annual Reported Emissions for Reporting Fiscal Year 2006-2007**

Pollutant	Emissions (tons/year)
NO _x	855
CO	206
VOC	221
PM	397
SO _x	352

**Table 8.2 Toxic Air Contaminants Emissions (TAC)
Annual Reported Emissions for Reporting Year 2006 – 2007**

The Following TACs Were Reported	Emissions (lbs/yr)
1,2,4-Trimethylbenzene	772.5
1,3-Butadiene*	517.5
2-Methyl naphthalene [PAH, POM]	0.285
7,12-Dimethylbenz[a]anthracene	0.480
Acenaphthene	0.193
Acenaphthylene	1.098
Anthracene	0.344
Acetaldehyde*	1750.7
Acrolein*	6.3
Ammonia	263458
Arsenic*	7.4
B[GHI]Perylene	0.018
Benz[a]anthracene	1.5
Benzene*	2005.8
Benzo[a]pyrene	0.211
Benzo[b]fluoranthene	0.588
Benzo[e]pyrene[PAH, POM]	0.163
Benzo[k]fluoranthene	1.4
Beryllium*	0.362
Cadmium*	4.6
Carbonyl Sulfide*	3818.7
Chromium (VI)*	1.1
Chrysene	26.2
Copper	22.7
Dibenz[a,h]anthracene	0.186
Diesel engine exhaust, particulate matter	6208.9
Ethylbenzene*	755.3
Ethylene dibromide	0.710
Ethylene Dichloride	0.750
Fluoranthene	14.9
Fluorene	1.6

The Following TACs Were Reported	Emissions (lbs/yr)
Formaldehyde*	9086.9
Hexane*	5761.0
Hydrochloric acid*	11466.1
Hydrogen Sulfide*	2306.1
Indeno[1,2,3-cd]pyrene	0.029
Lead (inorganic)*	309.5
M-Xylene	1179.2
Manganese*	368.3
Mercury*	3.9
Methanol*	631.0
Methyl chloroform	504.3
Methyl ethyl ketone	31.6
Methyl isobutyl ketone {Hexone }	9.2
Naphthalene*	484.6
Nickel*	131.3
P-Xylene	1193.2
PAHs, total, with components not reported*	7.8
Phenanthrene	3.2
Pyrene	0.972
Perchloroethylene*	11.8
Perylene [PAH, POM]	0.009
Selenium*	759.4
Styrene	7.5
Toluene*	5239.4
Xylenes*	3097.7
o-Xylene	1011.9
Total TACs	322,986
Total HAPs	48,532
Maximum Individual HAP (Hydrochloric Acid)	11,466

*TAC that are also Hazardous Air Pollutants (HAPs).

Health Risk from Toxic Air Contaminants

The facility is subject to review by the Air Toxics Information and Assessment Act (AB2588). The Final Facility Health Risk was approved on August 11, 2000 with the following risk factors.

Cancer Risk	7.8 in one million
Acute Hazard Index	0.33
Chronic Hazard Index	0.45

9. Compliance History

Tesoro LAR is subject to the terms of a consent decree entered by the U.S. District Court in the Southern District of Texas on March 21, 2001 and a Hearing Board Order entered for Case No.

4982-77 regarding compliance with District Rule 1118. The issuance of a regular Variance by the AQMD Hearing Board does not affect federal or citizen enforceability of the subject requirements.

Consent Decree (Civil Action No. H-01-0978, 3-21-2001)

In 2000, the United States Environmental Protection Agency (USEPA) initiated a nationwide, broad-based compliance and enforcement initiative involving the petroleum industry. As a result of this initiative, the subject Consent Decree is the product of a settlement between Equilon Enterprises, LLC (the previous facility owner) and EPA over alleged violations of certain Clean Air Act and CERCLA/EPCRA provisions. This comprehensive settlement covered Equilon facilities located in Bakersfield, Los Angeles and Martinez, California, and Puget Sound, Washington. Equilon Enterprises, LLC transferred ownership of this facility to Tesoro Refining and Marketing Company on May 11, 2007. As the current facility owner, Tesoro continues to implement the requirements of the Consent Decree that are applicable to this facility.

As part of the Consent Decree, affected facilities would install additional air pollution control equipment and implement other enhancements to air pollution management practices to reduce air emissions. Specifically for the Tesoro LAR, the following agreement was made:

- Demonstrate performance of NO_x adsorbing catalyst additives and low NO_x combustion promoter at optimized addition rates at the FCCU and incorporate lower NO_x emissions limits into operating permits. Demonstrate compliance with the lower emission limits through the use of CEMS.
- Optimize the use of SO_x adsorbing catalyst additives and incorporate lower SO_x emission limits into operating permits. Demonstrate compliance with the lower emission limits through the use of CEMS.
- Establish new CO, PM, NO_x and SO_x emission limits for the FCCU regenerator.
- Enhancement of the Benzene Waste Operations NESHAP (40CFR 61 Subpart FF) program through comprehensive auditing, regular monitoring and improved emission controls.
- Enhancement of the Leak Detection and Repair (LDAR) program through more frequent monitoring, the use of lower definitions for what is a “leak”, and regular auditing of the program.
- Eliminate all reasonably preventable SO₂ emissions from flaring and implement root cause analysis, reporting and corrective action procedures to prevent upsets that result in significant releases of SO₂ and other gases.
- All heaters, boilers, SRUs, and FCCU, which were not already subject to 40CFR 60 Subpart J, became affected sources subject to this NSPS.

Paragraphs 154-156 of the Consent Decree specify the facility owner shall submit applications to incorporate the emission limits into NSR permits or other permits which are federally enforceable and, upon issuance of such permits, shall file any applications necessary to incorporate the requirements of those permits into the facility’s Title V permit. Included in Attachment 2 of this Statement of Basis are applications submitted by Tesoro to comply with the requirements of the Consent Decree.

Variance(s)

Hearing Board Case No. 4982-77: AQMD Rule 1118 was amended in November of 2005. Tesoro LAR operates two (2) general service flares (C747 and C748) that are subject to Rule 1118. Subsection (g)(3) of the amended rule specifies that owners or operators with flares subject to the rule shall install and operate a flare monitoring system (FMS) by July 1, 2007 to perform monitoring and recording of the parameters specified in the second section of Table 1 of the rule. This monitoring includes gas flow, gas higher heating value (HHV), and total sulfur concentration (TSC) of the gas. Subsections (g)(3) and (j)(1)(C) contain performance specifications for the monitors. Rule 1118(j)(1)(C) also requires that the accuracy of the flow meter be verified annually according to manufacturer specifications. Additionally, Rule 1118 contains reporting requirements that are based on these monitoring requirements.

At the time of the rule adoption, technical challenges and issues related to feasibility, reliability, maintainability, accuracy, and safety that had the potential to delay implementation of the specified monitoring systems were identified. Due to these known issues, the AQMD Governing Board adopted a resolution directing AQMD staff to work with the Western States Petroleum Association and its refiner members to resolve outstanding issues. Due to the analyzer related delays, each of the refineries requested and was granted a variance to the requirement to continuously monitoring TSC and HHV by July 1, 2007. The variances gave the refineries until September 1, 2008, to complete the design, acquisition, and installation of the required analyzers.

Pilot projects for the development of TSC and HHV analyzers were completed in March 2008. Based on a determination that the pilot analyzers demonstrated compliance with the technical requirements of Rule 1118, the AQMD approved the TSC and HHV analyzers on May 20, 2008. Since the analyzer approval was granted later than expected, the refineries petitioned for a modification and extension of the variance. On July 15, 2008, the Hearing Board granted an extension of Tesoro's variance (Case No. 4982-77) until September 30, 2009. Under the increments of progress for the variance, Tesoro must install and test the TSC and HHV analyzers on both flares by August 14, 2009.

As required by Rule 3004(a)(10)(C), condition I1.1 has been added to the affected equipment in section D and H of the permit requiring the operator to comply with all the conditions of the variance. A copy of the documents related to this regular variance is available on the internet under the AQMD's "Facility Information Detail" database (FIND, at http://www.aqmd.gov/webappl/fim/prog/hbdisplay.aspx?fac_id=800436).

The Findings and Decisions pursuant to the modification and extension of this variance entered on July 22, 2008 by the District Hearing Board contain specific target dates for achieving activities, milestones or compliance. Condition I1.1 also establishes a schedule for submission of semi-annual progress reports to document progress toward achieving compliance. The requirement for a compliance schedule pursuant to 40 CFR 70.6 (c)(3) and District Rule 3004(a)(10)(C) is fulfilled by this permit condition.

The issuance of a regular Variance and/or Stipulated Order of Abatement (SOA) by the AQMD Hearing Board does not affect federal or citizen enforceability of the subject requirements.

Notices to Comply and Notices of Violation

The refinery has been in continual operation since 1928. Since the inception of Los Angeles County Air Pollution Control District in 1947, the facility has been subject to both self-reporting requirements and AQMD inspections. Further information regarding the facility's compliance status is available on the internet under the AQMD's "Facility Information Detail" database (FIND, at http://www.aqmd.gov/webappl/fim/prog/novnc.aspx?fac_id=800436). Please note that prior to May 11, 2007, the facility was under the ownership of Equilon Enterprises, LLC (ID# 800370) and the corresponding ID should be used for compliance history search in the FIND database prior to this date. As of May 22, 2009, the refinery is in compliance with the specific rule requirements for which each of the listed NCs and NOVs were issued.

10. Compliance Certification

By virtue of the Title V permit application and issuance of this permit, the reporting frequency for compliance certification for the refinery shall be annual.

11. Appendices

In order to minimize printing, all of the following appendices are available on the AQMD website as shown below. In addition, they will be made available on CDs upon request. Please contact the AQMD contact person identified on the public notice for this facility or call Thomas Lee at (909) 396-3138 for assistance in finding the information on the website or to obtain a copy of the CD.

- I. Technical Guidance Document for Title V (January 1998, Version 2.0).
- II. Periodic Monitoring Guidance Documents:
 - A. AQMD Periodic Monitoring Guidelines for Title V Facilities (November 1997) (<http://www.aqmd.gov/titlev/pdf/PeriodicMonitoringGuidelines-97.pdf>).
 - B. CAPCOA/CARB/EPA Region IX Periodic Monitoring Recommendations for Generally Applicable Requirements in SIP (June 1999) (<http://www.arb.ca.gov/fcaa/tv/tvinfo/pmrec624.pdf>).
 - C. CAPCOA/CARB/EPA Region IX Recommended Periodic Monitoring for Generally Applicable Grain Loading Standards in the SIP: Combustion Sources (July 2001) (<http://www.arb.ca.gov/fcaa/tv/tvinfo/pmrecoms.pdf>).
- III. Summary Report of Notice of Violations. Further information regarding the facility's compliance status is available on the internet under the AQMD's "Facility Information Detail" database (FIND, at http://www.aqmd.gov/webappl/fim/prog/novnc.aspx?fac_id=800436). Please note that prior to May 11, 2007 the facility was under the ownership of Equilon Enterprises, LLC (ID# 800370). As such, this ID should be used to search for compliance history prior to May 11, 2007.

ATTACHMENTS

1. EPA Approved AMPs
2. Consent Decree: Summary of Emission Limits and Standards that are Required to be Added to the Title V Permit

Attachment 1

EPA Approved AMPs



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
 REGION IX
 75 Hawthorne Street
 San Francisco, CA 94105

JUN 23 1998

LOS ANGELES PLANT	
Date 6/29/98	
<input checked="" type="checkbox"/> Plant Manager	Tech. Svcs.
HR	Mainl. Mgr.
<input checked="" type="checkbox"/> EH&S	Accto/Systems
Bus. Planning	Asst. to PM
HPD Asset	Admin. Asst.
CPD Asset	
So. Area Asset	
SRP Asset	

Donald R. Hall
 Plant Manager
 Texaco Refining and Marketing
 Los Angeles Plant
 P.O. Box 817
 Wilmington, CA 90748-0817

Dear Mr. Hall:

This letter is in response to your May 27, 1998 letter requesting approval of the use of South Coast Air Quality Management District ("SCAQMD") certified RECLAIM NO_x and SO_x Continuous Emission Monitors ("CEMS") in place of the fuel monitoring requirements described in 40 CFR Sections 60.330 - 60.335.

We have reviewed your proposed alternative to the Subpart GG requirements and found it to be acceptable. Texaco is approved to use NO_x and SO_x CEMS at both Cogeneration Units A and B. >

If you have any questions regarding this determination please contact Charles Aldred, Air Enforcement Office, at (415) 744-1136.

Sincerely,

David P. Howekamp
 Director, Air Division

cc: Hahn Lee, SCAQMD



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

DEC 04 2002

Mr. James R. Nichols
President
Shell Oil Product US
Shell Wilmington Refinery
P.O. Box 817
Wilmington, CA 90748-0817

RE: Request for Approval of Alternate Monitoring Plan ("AMP") under 40 C.F.R.
§ 60.105(a)(3) for the Hydrogen Generation Unit No. 2 - Steam Methane Reformer
Heater H- 42/ 43.

Dear Mr. Nichols:

This letter is in response to your letter of October 17, 2001, requesting approval of an alternate monitoring method for Steam Methane Reformer Heater H - 42/ 43. The request contains all of the information specified in the policy "Conditions for Approval of [An] Alternative Monitoring Plan for Miscellaneous Refinery Fuel Gas Stream." Equilon Enterprises, LLC d.b.a. Shell Oil Product US ("Shell") also provided additional information through several e-mails in September 2002. The United States Environmental Agency ("USEPA"), Region 9, has reviewed the information and has decided to approve the AMP as submitted on October 17, 2001.

Regulatory Background

The New Source Performance Standards for Petroleum Refineries (Petroleum Refinery NSPS), 40 C.F.R. §§ 60.100 through 60.109, include emission standards and monitoring requirements for fuel gas combustion devices ("FGCDs"). 40 C.F.R. § 60.104(a)(1) requires the owner or operator of a FGCD at a petroleum refinery to burn no refinery fuel gas that contains hydrogen sulfide (H_2S) in excess of 230 milligrams per dry standard cubic meter (0.10 grain per dry standard cubic foot; 162 parts per million by Volume, dry basis). Pursuant to 40 C.F.R. § 60.105(a)(3), the owner or operator of a FGCD subject to 40 C.F.R. § 60.104(a)(1) is required to install, calibrate, maintain, and operate a continuous monitoring system ("CMS") to monitor and record the concentration by volume of sulfur dioxide emitted into the atmosphere. The specifications for the CMS are codified in 40 C.F.R. § 60.105(a)(3)(i-iv).

40 C.F.R. § 60.13(i) also sets forth: "After receipt and consideration of written application, the Administrator may approve alternative procedures to any monitoring procedures or requirements of [Part 60]...."

Mr. James R. Nichols
President
Shell Oil Product US
Page- 2

Shell's Request

On October 17, 2001, Shell requested approval of the AMP for the Steam Methane Reformer Heater H- 42/43 (hereinafter, Heater H-42/43) . Heater H-42/43 combusts the pressure swing absorption ("PSA") purge gas, which is a refinery fuel gas. Under the provisions of a Consent Decree (Civil Case Number H-01-0978, United States v. Equilon Enterprises, LLC), Shell is required to implement the approved AMP for Heater H-42/43 by December 31, 2002.

Shell states that the unpurified feed to the hydrogen plant first goes through two Zinc Oxide absorbent beds in series to have H₂S taken out before entering the steam reforming section. Each Zinc Oxide bed is designed to remove 100 % of H₂S for 1 to 1.5 years. Then, the desulfurized feed stream passes through 12 molecular sieve absorbent beds, called the PSA Unit, which produces PSA purge Gas. This PSA purge gas is combusted in Heater H-42/43 to provide heat for the steam reformer reaction of the hydrogen plant. Shell's proposal of measuring the H₂S concentration with the threshold value of 1 ppm at the outlet of first Zinc Oxide bed will ensure that the PSA purge gas will meet the NSPS limit of 160 ppmv. Because the first Zinc Oxide bed will be replaced upon breakthrough at 1 ppmv, it is highly unlikely that the H₂S concentration at the outlet of the second Zinc Oxide bed will ever exceed 0 ppmv.

To determine the H₂S concentration of the PSA purge gas, Shell conducted several source tests on October 2, 2001. The tests showed that the H₂S concentration of the PSA purge gas was 0 ppmv. The H₂S concentration at the outlet of the first Zinc Oxide also showed between 0 and 1 ppmv.

Shell proposes to conduct annual source testing of the PSA purge gas and daily detector tube sampling at the outlet of the first Zinc Oxide bed to confirm that the concentration of H₂S does not exceed 0-1 ppmv.

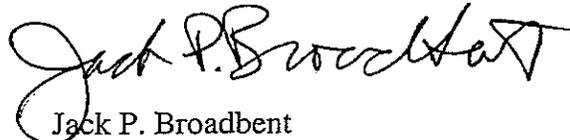
Approval of Shell's Request

USEPA has determined that the proposed AMP for the PSA purge gas stream is appropriate. Therefore, the Administrator of USEPA, by authority duly-delegated to the undersigned, approves Shell's proposed AMP for the Hydrogen Generation Unit No. 2 PSA Purge Gas Stream to Heater 42/43 at the Shell Wilmington refinery. The approval of the proposed AMP does not alter any of the other requirements of New Source Performance Standards, Subparts A and J that may apply to the Shell Wilmington refinery.

Mr. James R. Nichols
President
Shell Oil Product US
Page- 3

If you have any questions regarding this response, please contact John Kim, Air Enforcement Office, at (415) 972-3984.

Sincerely,

A handwritten signature in black ink that reads "Jack P. Broadbent". The signature is written in a cursive style with a large initial "J".

Jack P. Broadbent
Director, Air Division

cc: Dr. Barry R. Wallerstein, SCAQMD



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street
San Francisco, CA 94105-3901

JUN 23 2004

Gwen Taylor
Refinery Manager
Shell Oil Product US
Los Angeles Refinery
P.O. Box 817
Wilmington, CA 90748-0817

RE: Request for Approval of Alternate Monitoring Plan ("AMP") under 40 C.F.R. § 60.105(a)(3) for the Merichem Off -Gas Fuel Stream

Dear Ms. Taylor:

This letter is in response to your letter dated April 6, 2004, requesting approval of an alternate monitoring plan for the Merichem Off-Gas Fuel Stream connected to Boilers 7, 8, 9, and 10 at Shell's Los Angeles Facility. The request contains all of the information specified in the policy "Conditions for Approval of [An] Alternative Monitoring Plan for Miscellaneous Refinery Fuel Gas Stream." The United States Environmental Protection Agency ("USEPA"), Region 9, has reviewed the information and has decided to approve the AMP as submitted on April 6, 2004.

Regulatory Background

The New Source Performance Standards for Petroleum Refineries (Petroleum Refinery NSPS), 40 C.F.R. §§ 60.100 through 60.109, include emission standards and monitoring requirements for fuel gas combustion devices ("FGCDs"). 40 C.F.R. § 60.104(a)(1) requires the owner or operator of a FGCD at a petroleum refinery to burn no refinery fuel gas that contains hydrogen sulfide ("H₂S") in excess of 230 milligrams per dry standard cubic meter (0.10 grain per dry standard cubic foot; 162 parts per million by Volume, dry basis). Pursuant to 40 C.F.R. § 60.105(a)(3), the owner or operator of a FGCD subject to 40 C.F.R. § 60.104(a)(1) is required to install, calibrate, maintain, and operate a continuous monitoring system ("CMS") to monitor and record the concentration by volume of sulfur dioxide emitted into the atmosphere. The specifications for the CMS are codified in 40 C.F.R. § 60.105(a)(3)(i-iv).

40 C.F.R. § 60.13(i) also sets forth: "After receipt and consideration of written application, the Administrator may approve alternative procedures to any monitoring procedures or requirements of [Part 60]...."

Shell's Request

On April 6, 2004, Equilon Enterprises, LLC dba Shell Oil Products, Los Angeles Refinery requested approval of the AMP for the Merichem Off-Gas Stream to Boilers 7, 8, 9,

and 10 at the Shell Wilmington refinery.

The Merichem Off-Gas Stream is defined as the combination of the vent gas streams from the Oxidizer Tower (labelled as V-1692 in the "Alky Feed Prep: Process Flow Diagram: Caustic System") and the DSO / Caustic Separator and Vent Gas Scrubber" (labelled as V-2157 in the "Alky Feed Prep: Process Flow Diagram: Caustic System"). Shell states that the Merichem Off-Gas has "an inherently low concentration of H₂S due to the nature of the materials processed." Shell states that the process consists of three sections: 1. H₂S is removed in the first stage extraction vessels while producing a spent sulfide caustic. 2. Mercaptans are extracted as mercaptides into the circulating caustic in a continuous, two stage THIOLEX extraction system for propylene and butylene, employing a single-pass regenerated caustic. 3. Regenerating the mercaptide bearing caustic stream for re-use by oxidizing the mercaptides to disulfides (DSO) which are subsequently removed from the caustic by solvent and gravity separation. The off-gas from the oxidizer tower and DSO separator is solvent scrubbed to further remove sulfur compounds.

To determine the H₂S concentration of the Merichem Off-Gas Stream, Shell conducted daily drager tube testing H₂S content and process parameter monitoring from March 18, 2004, to April 4, 2004. The tests showed that the H₂S concentration of the Merichem Off-Gas Stream was 0 ppmv for both.

Shell proposes to conduct daily drager tube testing of the Merichem Off-Gas Stream just prior to the point where a fuel gas purge is introduced to the line.

Approval of Shell's Request

USEPA has determined that the proposed AMP for the Merichem Off-Gas Stream is appropriate. Therefore, the Administrator of USEPA, by authority duly-delegated to the undersigned, approves Shell's proposed AMP for the Merichem Off-Gas Stream to Boilers 7, 8, 9, and 10 at the Shell Los Angeles refinery. The approval of the proposed AMP does not alter any of the other requirements of New Source Performance Standards, Subparts A and J that may apply to the Shell Los Angeles refinery.

If you have any questions regarding this response, please contact Matt Salazar, Air Enforcement Office, at (415) 972-3982.

Sincerely,



Deborah Jordan
Director, Air Division

cc: Dr. Barry R. Wallerstein, SCAQMD

Attachment 2

Consent Decree: Summary of Emission Limits and Standards that are Required to be Added to the Title V Permit

Consent Decree Civil Action No. H-01-0978

Emission Unit	Title V Permit Device No.	Process/System	Application Number	Date Application Submitted	Specific Emission Limit and Standard	Standard or limit in proposed Title V Permit?
CO Waste Heat Boiler in the FCCU Unit	D112	3/6	389225 superseded by 470272	7/03/01	Fuel Gas H ₂ S ≤ 160 ppmv NSPS J Section 60.104(a)(1). Incorporated in the draft Title V permit as Section H Conditions B61.1 and H23.3. The conditions will be tagged with Consent Decree 3/21/01.	YES
Heater 31 Hydrotreater Unit no.1	D120	4/2	389226 superseded by 469279	7/03/01	Fuel Gas H ₂ S ≤ 160 ppmv NSPS J Section 60.104(a)(1). Incorporated in the draft Title V permit as Section D Conditions B61.1 and H23.3. The conditions will be tagged with Consent Decree 3/21/01	YES
Heater 500 Hydrotreater Unit no.2	D146	4/4	389227 superseded by 469913	7/03/01	Fuel Gas H ₂ S ≤ 160 ppmv NSPS J Section 60.104(a)(1). Incorporated in the draft Title V permit as Section D Conditions B61.1 and H23.3. The conditions will be tagged with Consent Decree 3/21/01	YES
Heater 502 Catalytic Reforming Unit	D214	5/4	389235 superseded by 469962	7/03/01	Fuel Gas H ₂ S ≤ 160 ppmv NSPS J Section 60.104(a)(1). Incorporated in the draft Title V permit as Section D Conditions B61.1 and H23.3. The conditions will be tagged with Consent Decree 3/21/01.	YES
Heater 503/504 Catalytic Reforming Unit #2	D215	5/4	389236 superseded by 469964	7/03/01	Fuel Gas H ₂ S ≤ 160 ppmv NSPS J Section 60.104(a)(1). Incorporated in the draft Title V permit as Section D Conditions B61.1 and H23.3. The conditions will be tagged with Consent Decree 3/21/01.	YES

Emission Unit	Title V Permit Device No.	Process/System	Application Number	Date Application Submitted	Specific Emission Limit and Standard	Standard or limit in proposed Title V Permit?
Heater 501A Catalytic Reforming Unit #2	D216	5/4	389233 superseded by 470285	7/03/01	Fuel Gas H2S \leq 160 ppmv NSPS J Section 60.104(a)(1). Incorporated in the draft Title V permit as Section H Conditions B61.1 and H23.3. The conditions will be tagged with Consent Decree 3/21/01.	YES
Heater 501B Catalytic Reforming Unit #2	D217	5/4	389234 superseded by 470286	7/03/01	Fuel Gas H2S \leq 160 ppmv NSPS J Section 60.104(a)(1). Incorporated in the draft Title V permit as Section H Conditions B61.1 and H23.3. The conditions will be tagged with Consent Decree 3/21/01.	YES
Heater 510 Catalytic Reforming Unit #2	D218	5/4	389232 superseded by 469960	7/03/01	Fuel Gas H2S \leq 160 ppmv NSPS J Section 60.104(a)(1). Incorporated in the draft Title V permit as Section D Conditions B61.1 and H23.3. The conditions will be tagged with Consent Decree 3/21/01.	YES
Boiler BO-7	D722	18/0	389251 superseded by 470234	7/03/01	Fuel Gas H2S \leq 160 ppmv NSPS J Section 60.104(a)(1). Incorporated in the draft Title V permit as Section D Conditions B61.1 and H23.3. The conditions will be tagged with Consent Decree 3/21/01.	YES
Boiler BO-8	D723	18/0	389252 superseded by 470235	7/03/01	Fuel Gas H2S \leq 160 ppmv NSPS J Section 60.104(a)(1). Incorporated in the draft Title V permit as Section D Conditions B61.1 and H23.3. The conditions will be tagged with Consent Decree 3/21/01.	YES

Emission Unit	Title V Permit Device No.	Process/System	Application Number	Date Application Submitted	Specific Emission Limit and Standard	Standard or limit in proposed Title V Permit?
Boiler BO-9	D724	18/0	389253 superseded by 470240	7/03/01	Fuel Gas H ₂ S ≤ 160 ppmv NSPS J Section 60.104(a)(1). Incorporated in the draft Title V permit as Section D Conditions B61.1 and H23.3. The conditions will be tagged with Consent Decree 3/21/01.	YES
Boiler BO-10	D725	18/0	389254 superseded by 470241	7/03/01	Fuel Gas H ₂ S ≤ 160 ppmv NSPS J Section 60.104(a)(1). Incorporated in the draft Title V permit as Section D Conditions B61.1 and H23.3. The conditions will be tagged with Consent Decree 3/21/01.	YES
Heater H-101, Delayed Coking Unit	D32	2/2	389219 superseded by 470266	7/03/01	Fuel Gas H ₂ S ≤ 160 ppmv NSPS J Section 60.104(a)(1). Incorporated in the draft Title V permit as Section D Conditions B61.1 and H23.3. The conditions will be tagged with Consent Decree 3/21/01.	YES
Heater H-100, Delayed Coking Unit	D33	2/2	389220 superseded by 469243	7/03/01	Fuel Gas H ₂ S ≤ 160 ppmv NSPS J Section 60.104(a)(1). Incorporated in the draft Title V permit as Section D Conditions B61.1 and H23.3. The conditions will be tagged with Consent Decree 3/21/01.	YES
Heater H-2, Fluid Catalytic Cracking Unit	D92	3/3	389221 superseded by 469270	7/03/01	Fuel Gas H ₂ S ≤ 160 ppmv NSPS J Section 60.104(a)(1). Incorporated in the draft Title V permit as Section D Conditions B61.1 and H23.3. The conditions will be tagged with Consent Decree 3/21/01.	YES

Emission Unit	Title V Permit Device No.	Process/System	Application Number	Date Application Submitted	Specific Emission Limit and Standard	Standard or limit in proposed Title V Permit?
Heater H-3, Fluid Catalytic Cracking Unit	D89	3/3	389222/428870 superseded by 470270	7/03/01&4/20/04	Fuel Gas H ₂ S ≤ 160 ppmv NSPS J Section 60.104(a)(1) and Performance Factor Limit Incorporated in the draft Title V permit as Section H Conditions B61.1, H23.3 and A229.1. The conditions will be tagged with Consent Decree 3/21/01.	YES
Heater H-4, Fluid Catalytic Cracking Unit	D90	3/3	389223/428874 superseded by 470271	7/03/01&4/20/04	Fuel Gas H ₂ S ≤ 160 ppmv NSPS J Section 60.104(a)(1) and Performance Factor Limit Incorporated in the draft Title V permit as Section D Conditions B61.1, H23.3 and A229.1. The conditions will be tagged with Consent Decree 3/21/01.	YES
Heater H-5, Fluid Catalytic Cracking Unit	D91	3/3	389224 superseded by 469272	7/03/01	Fuel Gas H ₂ S ≤ 160 ppmv NSPS J Section 60.104(a)(1). Incorporated in the draft Title V permit as Section D Conditions B61.1 and H23.3. The conditions will be tagged with Consent Decree 3/21/01.	YES
Heater H-30 Hydrotreater Unit no.3	D157	4/6	389228 superseded by 469917	7/03/01	Fuel Gas H ₂ S ≤ 160 ppmv NSPS J Section 60.104(a)(1). Incorporated in the draft Title V permit as Section D Conditions B61.1 and H23.3. The conditions will be tagged with Consent Decree 3/21/01.	YES

Emission Unit	Title V Permit Device No.	Process/System	Application Number	Date Application Submitted	Specific Emission Limit and Standard	Standard or limit in proposed Title V Permit?
Heater H-21/H-22 Hydrotreater Unit no.3	D158	4/6	389229 superseded by 469919	7/03/01	Fuel Gas H ₂ S ≤ 160 ppmv NSPS J Section 60.104(a)(1). Incorporated in the draft Title V permit as Section D Conditions B61.1 and H23.3. The conditions will be tagged with Consent Decree 3/21/01.	YES
Heater H-11 Catalytic Reforming Unit #1	D194	5/2	389230 superseded by 469957	7/03/01	Fuel Gas H ₂ S ≤ 160 ppmv NSPS J Section 60.104(a)(1). Incorporated in the draft Title V permit as Section D Conditions B61.1 and H23.3. The conditions will be tagged with Consent Decree 3/21/01.	YES
Heater H-20 Catalytic Reforming Unit #1	D196	5/2	389231 superseded by 469958	7/03/01	Fuel Gas H ₂ S ≤ 160 ppmv NSPS J Section 60.104(a)(1). Incorporated in the draft Title V permit as Section D Conditions B61.1 and H23.3. The conditions will be tagged with Consent Decree 3/21/01.	YES
Heater H-200 Catalytic Reforming Unit #3	D247	5/6	389237 superseded by 469970	7/03/01	Fuel Gas H ₂ S ≤ 160 ppmv NSPS J Section 60.104(a)(1). Incorporated in the draft Title V permit as Section D Conditions B61.1 and H23.3. The conditions will be tagged with Consent Decree 3/21/01.	YES
Heater H-201 Catalytic Reforming Unit #3	D248	5/6	389238 superseded by 469974	7/03/01	Fuel Gas H ₂ S ≤ 160 ppmv NSPS J Section 60.104(a)(1). Incorporated in the draft Title V permit as Section D Conditions B61.1 and H23.3. The conditions will be tagged with Consent Decree 3/21/01.	YES

Emission Unit	Title V Permit Device No.	Process/System	Application Number	Date Application Submitted	Specific Emission Limit and Standard	Standard or limit in proposed Title V Permit?
Heater H-202 Catalytic Reforming Unit #3	D249	5/6	389239 superseded by 469976	7/03/01	Fuel Gas H ₂ S ≤ 160 ppmv NSPS J Section 60.104(a)(1). Incorporated in the draft Title V permit as Section D Conditions B61.1 and H23.3. The conditions will be tagged with Consent Decree 3/21/01.	YES
Heater H-203 Catalytic Reforming Unit #3	D250	5/6	389240 superseded by 469986	7/03/01	Fuel Gas H ₂ S ≤ 160 ppmv NSPS J Section 60.104(a)(1). Incorporated in the draft Title V permit as Section D Conditions B61.1 and H23.3. The conditions will be tagged with Consent Decree 3/21/01.	YES
Heater H-204 Catalytic Reforming Unit #3	D251	5/6	389241 superseded by 469987	7/03/01	Fuel Gas H ₂ S ≤ 160 ppmv NSPS J Section 60.104(a)(1). Incorporated in the draft Title V permit as Section D Conditions B61.1 and H23.3. The conditions will be tagged with Consent Decree 3/21/01.	YES
Heater H-300 Hydrocracking Unit	D384	8/2	389245 superseded by 469994	7/03/01	Fuel Gas H ₂ S ≤ 160 ppmv NSPS J Section 60.104(a)(1). Incorporated in the draft Title V permit as Section D Conditions B61.1 and H23.3. The conditions will be tagged with Consent Decree 3/21/01.	YES
Heater H-301 Hydrocracking Unit	D385	8/2	389246 superseded by 469995	7/03/01	Fuel Gas H ₂ S ≤ 160 ppmv NSPS J Section 60.104(a)(1). Incorporated in the draft Title V permit as Section D Conditions B61.1 and H23.3 The conditions will be tagged with Consent Decree 3/21/01.	YES

Emission Unit	Title V Permit Device No.	Process/System	Application Number	Date Application Submitted	Specific Emission Limit and Standard	Standard or limit in proposed Title V Permit?
Heater H-302 Hydrocracking Unit	D386	8/2	389247 superseded by 469997	7/03/01	Fuel Gas H ₂ S ≤ 160 ppmv NSPS J Section 60.104(a)(1). Incorporated in the draft Title V permit as Section D Conditions B61.1 and H23.3 The conditions will be tagged with Consent Decree 3/21/01.	YES
Heater H-303 Hydrocracking Unit	D387	8/2	389248 superseded by 469998	7/03/01	Fuel Gas H ₂ S ≤ 160 ppmv NSPS J Section 60.104(a)(1). Incorporated in the draft Title V permit as Section D Conditions B61.1 and H23.3 The conditions will be tagged with Consent Decree 3/21/01.	YES
Heater H-304 Hydrocracking Unit	D388	8/2	389249 superseded by 470000	7/03/01	Fuel Gas H ₂ S ≤ 160 ppmv NSPS J Section 60.104(a)(1). Incorporated in the draft Title V permit as Section D Conditions B61.1 and H23.3 The conditions will be tagged with Consent Decree 3/21/01.	YES
Fluid Catalytic Cracking Unit /Cracking Section	D1288	3/2	389141 superseded by 470269	7/03/01	Addition of DeNO _x Catalyst to Fluid Catalytic Cracking Unit Incorporated in the draft Title V permit in Section H Conditions A195.3, A195.4, A195.5, A195.6 and A195.8 will be tagged with Consent Decree 3/21/01.	YES