

# *South Coast Air Quality Management District*

## *Statement of Basis*

### *Proposed Title V Permit*

(Issued for Public Notice: 03/09/09)

**Facility Name:** Chevron Products Company  
**Facility ID:** 800030  
**SIC Code:** 2911  
**Facility Address:** 324 W El Segundo Blvd  
El Segundo, CA 90245-3680

**Application Number:** 338501  
**Application Submittal Date:** 3/13/98

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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 of the Technical Guidance Document for Title V Permit Program (March 2005, Version 4.0) 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 NO<sub>2</sub>, SO<sub>2</sub>, 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 is non-attainment. The status for PM-10 is serious non-attainment. The status for ozone is extreme non-attainment.

The AQMD proposes to issue an initial Title V permit for the refinery operations of Chevron Products Company, which are located at 324 W El Segundo Blvd, El Segundo, CA 90245-3680. The refinery is subject to Title V requirements because the company's operations at this location as an aggregate are a major source of pollution 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 refinery receives crude oil via barge, pipeline, rail, truck, and ship. Crude oil received via barges and ships are unloaded through the refinery's marine terminal. The marine terminal is comprised of both land and sea-based components. The sea-based components include three loading/unloading berths that are located 1 ½ mile offshore from the refinery and pipelines that run from the berths to the refinery. The land-based components, which are located within the refinery, include two sumps and multiple pumps. Since portions of the marine terminal are located within the refinery, the permit for the terminal is included in the refinery Title V permit.

## **2. Facility Description**

This refinery is owned and operated by Chevron Products Company. The refinery processes crude oil into various petroleum products such as gasoline, diesel, jet fuel, fuel oil, Liquefied Petroleum Gases (LPG), and coke. Currently, the Chevron El Segundo refinery has a capacity to process approximately 260,000 barrels of crude oil per day, on an annual average. 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 discussed above.

Operation at Chevron El Segundo refinery includes the following major processes:

### Crude and Vacuum Distillation Units

These units are the first major processing units in the refinery flow. They are used to separate the crude oil by distillation into fractions according to boiling points. The products from these units are gases (propane, butane, etc), gasoline, naphtha, diesel, gasoil, and straight run resid.

### Fluid Catalytic Cracking Unit (FCCU)

The FCCU converts gasoil into lighter hydrocarbon compounds. The process is called "cracking process." It involves mixing gasoil feed with fluidized catalyst in a reactor under appropriate temperature and pressure. The FCCU produces a large quantity of gasoline blending components and feed stocks for the alkylation and polymerization operations.

### Isomerization Unit

The isomerization unit changes straight-chain hydrocarbon molecules into branched-chain hydrocarbons with higher octane rating. The product, isomerate, is a gasoline blending stock that is extremely low in benzene.

### Reforming

Reforming converts naphtha fractions to products of higher octane value. Thermal reforming is a light cracking process applied to heavy naphthas to produce increased yields of hydrocarbons in the gasoline boiling range. Catalytic reforming is applied to various naphtha fractions, and primarily consists of the conversion of naphthenes and paraffins to aromatics. Hydrogen is an important byproduct of this process.

### Hydrocracking

Heavy gas oil is cracked under high pressure in the presence of hydrogen and a catalyst into lighter components which are used as blending stocks for gasoline and other products.

### Alkylation Unit

This unit produces alkylate, a high octane gasoline component by allowing olefin feed stock, such as butylenes, to combine with isobutane in the presence of sulfuric acid.

### Hydrogen Plants

Two onsite hydrogen plants produce hydrogen for use in various hydrotreating processes. One of these hydrogen plants is owned and operated by Air Liquide Large Industries U.S., LP. The Air Liquide Hydrogen Plant has received its own Title V permit.

### Hydrotreating

Petroleum products are catalytically stabilized and impurities are removed from products or feedstocks by reacting them with hydrogen. Impurities removed by hydrotreating include sulfur, nitrogen, and oxygen. Hydrotreating is applied to a wide range of feedstocks, from naphtha to reduced crude oil.

### Blending

The various process units create blend stocks for gasoline, jet fuel and diesel. For example, alkylate, reformate, and FCC gasoline are all gasoline blend stocks. The blending process combines these blend stocks to ensure that all finished products meet their specifications.

### Coking

Heavy residual oil and recovered oil are thermally cracked at a high temperature to produce light hydrocarbons and petroleum coke. Petroleum coke can be transferred via conveyors to the coke barn for further distribution. However, most of times coke is transported offsite via trucks for sale without being stored at the barn.

In addition to the above major processes, the facility operates other distillation and separation processes, numerous combustion units such as cogeneration facilities, heaters and boilers that are utilized in many of the above processes, sulfur plants, refinery flares, aqueous ammonia blending, and wastewater treatment systems. Also, the facility uses fixed roof tanks, internal storage tanks, external storage tanks, and pressurized storage tanks to store crude oil, intermediate and finished products.

### 3. Construction and Permitting History

The refinery has been in continual operation since 1911. 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

Applicability 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 refinery 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 the exception of the equipment specified in Tables 4.1 to 4.3 below, the refinery is generally subject to the following NSPS's:

- 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 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; and
- 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 refinery 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. Each of the standards listed above, as applicable to the Chevron refinery, 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 “After 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 Chevron refinery has received EPA approval of several AMPs for their fuel gas combustion devices (FGCDs). These AMPs are for the monitoring requirements of the fuel gas H<sub>2</sub>S 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:

- Process Heater F-501B (D160)
- Process Heater F-501C (D161)
- Thermal Oxidizer F-707 (C2158)
- Thermal Oxidizer F-807 (C3493)
- El Porto Soil Vapor Incinerator F-6230 (C3805)
- El Segundo Soil Vapor Incinerator F-6220 (C3806)
- Unit 9 Soil Vapor Incinerator F-1005 (C3148)
- Process Heater F-410 (D471)
- Process Heater F-410 (D3031)
- Process Heater F-410 (D472)
- Process Heater F-410 (D473)

A copy of the EPA approved AMPs for these FGCDs are contained as Attachment 1 to this Statement of Basis. Note that some of these plans cover more than one of the subject FGCDs. Each of these FGCDs is tagged with a condition that specifies that Chevron 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
D2199, D2208, D3054	Cogen Duct Burners	40 CFR 60, Subparts Db	<i>PM:</i> Units are not subject to the PM standard since they were constructed after June 19, 1984 and prior to Feb. 28, 2005 and combust only gaseous fuel. <i>SO2:</i> Units are not subject to the SO2 standard since they are instead subject to the fuel H2S standards of 40CFR60 Subpart J.
D2216	Boiler		
D2199, D2208, D3054	Cogen Duct Burners	40 CFR 60, Subparts Dc	The maximum design heat input capacity for these units is greater than 100 MMBtu/hr.
D2216	Boiler		
D2198, D2207, D3053	Gas Turbines	40 CFR 60, Subpart GG	<i>NOx:</i> Units are not electric utility stationary turbines [60.332(b)]; do have a heat input capacity greater than 10 MMBtu/hr [60.332(c)]; and do have a manufacturer's base load rating of greater than 30MW [60.332(d)].
D3053	Gas Turbine	40 CFR 60, Subpart J	Permitted to combust only commercial natural gas.
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 Wastewater Systems Not Subject to NSPS Requirements**

Device ID	Equipment	Regulation	Summary of Non-Applicability Determination
D1686, D2177, D2183, D2186, D3141, D3144	Storage Tank	40 CFR 60, Subpart K/Ka/Kb	Storage capacity below threshold for the subject NSPSs.
D1294, D1295, D1310	Storage Tank	40 CFR 60, Subpart K/Ka/Kb	Tanks are permitted to store inorganic liquids only.

Device ID	Equipment	Regulation	Summary of Non-Applicability Determination
D1270, D1277, D1278, D1279, D1280, D1285, D1286, D1287, D1288, D1290, D1291, D1292, D1293, D1300, D1301, D1303, D1417, D1419, D1464, D1874, D3944	Storage Tank	40 CFR 60, Subpart K/Ka/Kb	Vapor pressure of permitted commodities is below the vapor pressure threshold of the subject NSPSs.
D1476, D1477, D1478, D1479, D1480, D1481, D1482, D1483, D1484, D3011, D3774	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.
D1314, D1315, D1316, D1317, D1318, D1321, D1324, D1325, D1326, D1332, D1343, D1345, D1349, D1350, D1351, D1354, D1355, D1356, D1357, D1359, D1360, D1362, D1363, D1364, D1365, D1366, D1367, D1369, D1370, D1372, D1378, D1379, D1380, D1381, D1383, D1385, D1387, D1388, D1391, D1392, D1393, D1396, D1397, D1398, D1400, D1403, D1404, D1405, D1406, D1407, D1408, D1409, D1421, D1422,	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.

Device ID	Equipment	Regulation	Summary of Non-Applicability Determination
D1424, D1425, D1426, D1427, D1428, D1430, D1431, D1433, D1434, D1435, D1436, D1437, D1438, D1439, D1440, D1442, D1443, D1444, D1445, D1446, D1447, D1448, D1451, D1455, D1456, D1458, D1461, D1472, D1474, D2164			
Process 15, Systems 1 - 4	Wastewater Treatment System	40 CFR 60, Subpart QQQ	Wastewater treatment system is not required to comply with 40CFR60 Subpart QQQ because it is subject to 40CFR63 Subpart CC as a Group 1 Wastewater Stream [§63.640(o)].

**Table 4.3 Fugitive Components Not Subject to NSPS Requirements**

Device ID	Equipment	Regulation	Summary of Non-Applicability Determination
D3657	Fug. Comp. (P14S5)	40 CFR 60, Subpart GGG	Components associated with material loading, unloading, and/or transportation. Not part of a process unit.
D3659	Fug. Comp. (P14S25)		
D3671	Fug. Comp. (P17S1)	40 CFR 60, Subpart GGG	Components associated with electricity production. Not part of a process unit.
D3672	Fug. Comp. (P17S2)		
D3673	Fug. Comp. (P17S3)		
D3660	Fug. Comp. (P15S1)	40 CFR 60, Subpart GGG	Components associated with wastewater treatment systems. Not part of a process unit.
D3661	Fug. Comp. (P15S2)		
D3662	Fug. Comp. (P15S3)		
D3663	Fug. Comp. (P15S4)		
D3664	Fug. Comp. (P15S5)		
D3665	Fug. Comp. (P16S1)	40 CFR 60, Subpart GGG	Components associated with storage tanks. Not part of a process unit.
D3666	Fug. Comp. (P16S2)		
D3667	Fug. Comp. (P16S3)		
D3668	Fug. Comp. (P16S7)		

Device ID	Equipment	Regulation	Summary of Non-Applicability Determination
D3669	Fug. Comp. (P16S5)		
D3670	Fug. Comp. (P16S6)		
D3802	Fug. Comp. (P16S4)		
Fugitive components in P20S32,33		40 CFR 60, Subpart GGG	Components associated with soil vapor extraction system. Not part of a process unit.
D3595	Fug. Comp. (P3S4)	40 CFR 60, Subpart GGG	Equipment or compressor is not in VOC service.
D982	Compressor (P13S6)		
D2200	Compressor (P17S1)		
D2201	Compressor (P17S1)		
D3447	Compressor (P12S12)		
D3471	Compressor (P13S5)		
Fugitive components in P8S6 and P14S24			
D78	Compressor (P1S5)	40 CFR 60, Subpart GGG	Process unit or compressor was installed/constructed prior to January 4, 1983, and has not been modified or reconstructed since then.
D79	Compressor (P1S5)		
D80	Compressor (P1S5)		
D81	Compressor (P1S5)		
D341	Compressor (P4S1)		
D342	Compressor (P4S1)		
D377	Compressor (P4S3)		
D378	Compressor (P4S3)		
D421	Compressor (P4S7)		
D422	Compressor (P4S7)		
D423	Compressor (P4S7)		
D424	Compressor (P4S7)		
D445	Compressor (P4S9)		
D446	Compressor (P4S9)		
D494	Compressor (P4S13)		
D497	Compressor (P4S13)		
D500	Compressor (P4S13)		
D610	Compressor (P6S4)		
D611	Compressor (P6S4)		
D612	Compressor (P6S4)		
D1747	Compressor (P20S34)		
D1748	Compressor (P20S34)		
D1753	Compressor (P20S4)		

<b>Device ID</b>	<b>Equipment</b>	<b>Regulation</b>	<b>Summary of Non-Applicability Determination</b>
D1754	Compressor (P20S4)		
D1782	Compressor (P20S10)		
D1783	Compressor (P20S10)		
D1784	Compressor (P20S10)		
D1815	Compressor (P20S34)		
D1816	Compressor (P20S34)		
D1922	Compressor (P5S1)		
D3130	Compressor (P7S4)		
D3131	Compressor (P7S4)		
D3132	Compressor (P7S4)		
D3303	Compressor (P4S5)		
D3304	Compressor (P4S5)		
D3311	Compressor (P4S11)		
D3379	Compressor (P7S4)		
D3380	Compressor (P7S4)		
D3381	Compressor (P7S4)		
D3382	Compressor (P7S4)		
D3383	Compressor (P7S4)		
D3489	Compressor (P20S19)		
D3566	Compressor (P20S19)		
D3576	Fug. Comp. (P2S3)		
D3584	Fug. Comp. (P4S1)		
D3586	Fug. Comp. (P4S5)		
D3588	Fug. Comp. (P4S9)		
D3610	Fug. Comp. (P4S13)		
D3631	Fug. Comp. (P7S4)		
D3635	Fug. Comp. (P8S2)		
D3640	Fug. Comp. (P10S1)		
D3643	Fug. Comp. (P12S7)		
D3649	Fug. Comp. (P12S16)		
D3650	Fug. Comp. (P12S17)		
D3651	Fug. Comp. (P12S18)		
D3860	Fug. Comp. (P12S19)		
D3654	Fug. Comp. (P13S1)		
D3655	Fug. Comp. (P13S1)		
D3656	Fug. Comp. (P13S2)		

Device ID	Equipment	Regulation	Summary of Non-Applicability Determination
D3678	Fug. Comp. (P20S7)		
D3684	Fug. Comp. (P20S18)		
D3685	Fug. Comp. (P20S19)		
D3691	Fug. Comp. (P21S13)		
D3692	Fug. Comp. (P21S14)		
D3693	Fug. Comp. (P21S16)		
D3694	Fug. Comp. (P21S18)		
D3866	Fug. Comp. (P21S22)		
D4086	Fug. Comp. (P13S7)		
D4087	Fug. Comp. (P13S8)		
D4088	Fug. Comp. (P13S9)		
Fugitive components in P7S2		40 CFR 60, Subpart GGG	Process unit or compressor was installed/constructed prior to January 4, 1983, and has not been modified or reconstructed since then.
Fugitive components in all permit units except Process 20, System 37 (D4208) and all compressors except devices D4205, D4206, D4211, D4212 and D4213.		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 following NSPSs:

- 40 CFR 60 Subpart Cd – Emissions Guidelines and Compliance Times for Sulfuric Acid Production Units. This refinery does not operate any sulfuric acid production units.
- 40 CFR 60 Subpart Da - Standards of Performance for Electric Utility Steam Generating Units for Which Construction is Commenced After September 18, 1978. This refinery does not meet the definition of an electric utility.
- 40 CFR 60 Subpart UU – Standards of Performance for Asphalt Processing and Asphalt Roofing Manufacture. The refinery does not produce asphalt.
- 40 CFR 60 Subpart XX - Standards of Performance for Bulk Gasoline Terminals. There are no gasoline loading or unloading racks at the refinery.
- 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 refinery does not conduct any SOCMI operations.
- 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 refinery does not conduct any SOCOMI operations.

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

Applicability Determinations

All of the equipment in the Title V Permit have been reviewed to determine whether they are subject to any of the NESHAPs. With the exception of the equipment specified in Tables 4.4 to 4.13 below, this refinery is generally subject to the following NESHAPs:

- 40 CFR 61 Subpart FF - National Emission Standard 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 Standard for Hazardous Air Pollutants for Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units, and
- 40 CFR 63 Subpart GGGGG – National Emission Standard for Hazardous Air Pollutants for Site Remediation.

Each of these standards, as applicable to the Chevron refinery, is incorporated into the Title V permit. Provided below is a brief description of requirements for each of the above NESHAP regulations. Discussed within each section are the non-applicability determinations for each NESHAP as pertaining to the Chevron 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 its waste streams. The Chevron refinery is a major source that is subject to the control requirements of this regulation.

Summary of Requirements

Under this regulation, a major source must 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 the benzene contained in the waste using a treatment process or waste water treatment system 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.

Chevron has currently chosen to comply with the “2 Mg” compliance option at §61.342(c) of this NESHAP. This option allows the exemption of the following benzene containing wastes from the waste management and control requirements:

- waste streams with a flow-rated annual average benzene concentration of less than 10 ppmw [§61.342(c)(2)]; and
- process wastewater streams with a flow rate less than 0.02 liters per minute or an annual quantity of less than 10 Mg/year [§61.342(c)(3)(i)]; or
- waste streams with a total annual benzene quantity of 2.0 Mg/yr or less if the operator does not exempt process wastewater streams with a flow rate less than 0.02 liters per minute or an annual quantity of less than 10 Mg/year as allowed at §61.342(c)(3)(i) [§61.342(c)(3)(ii)].

For waste management units, which are used to handle or treat waste streams that are treated as specified in §61.348 and/or recycled to a process, the operator must 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 40 CFR 61.356 and 61.357, 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 S13.7 to the permit unit at a system level or condition H23.1, H23.8, H23.11, H23.16, H23.17 in the “Conditions” column of an individual device.

Additionally, for all equipment at the refinery that is subject to the individual standards of this NESHAP, “Benzene: (10) [40CFR 61 Subpart FF\_02, 12-4-2003]” is listed in the “Emissions and Requirements” column for that equipment. 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\_02, 12-4-2003” in their headers. As an artifact of the Title V permit software design, “40CFR 61 Subpart FF\_02, 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 emission 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 “40CFR61, Subpart FF”.

#### Non-Applicability Determinations

Determinations for equipment that is not subject to this NESHAP are discussed in this section.

### *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 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 store crude oil, intermediate products, final products or other materials that are not waste streams as defined in this regulation. Therefore, they are not subject to the control requirements of this regulation.

Table 4.4 below shows tanks that store waste streams but are not subject to this NESHAP because they store waste streams that are exempt from the control requirements of this regulation.

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

<b>Emission Unit</b>	<b>Summary of Non-Applicability Determination</b>
D2151, D2152, D1686, D2177, D2183, D2186	Storage tanks that store benzene wastes that are subject to Subpart FF but exempted from control requirements per §61.342(c)(2) or §61.342(c)(3).

### *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. This refinery does not have any surface impoundments.

### *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, tank cars, dump trucks, barges, and ships are not covered by the Title V permit. Portable containers, such as barrels and dumpsters, are not utilized to store benzene wastes, 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 grouped together in the AQMD's Title V permit as a single "drain system component" device. Table 4.5 below contains non-applicability determinations for individual drain systems at the refinery.

**Table 4.5 Benzene Waste NESHAP Non-Applicability Determinations for Individual Drain Systems**

Emission Unit	Summary of Non-Applicability Determination
D3712	Individual drain systems that collect and transport benzene wastes that are subject to Subpart FF but exempted from control requirements per §61.342(c)(2) or §61.342(c)(3).

*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 4.6 below contains non-applicability determinations for potentially subject waste stream handling equipment at the refinery.

**Table 4.6 Benzene Waste NESHAP Non-Applicability Determinations for Oil-Water Separators**

Emission Unit	Summary of Non-Applicability Determination
D1327, D1335, D1346, D1347, D1367, D1372, D1401, D1402, D1608 – D1617, D4119 – D4197 (odds), D4235, D4236, D4237	Storage tanks that store wastewater or recovered oil but do not meet the definition of an oil-water separator at §61.341.
None	Oil-water separators as defined at §61.341 that process waste streams that are exempted from control requirements per §61.342(c)(2) or §61.342(c)(3).

**40 CFR 63 Subpart CC**

This refinery is also a major source under the definition of 40 CFR 63 Subpart CC (NESHAP for 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. The refinery does not contain any equipment that is subject to the new source standards of this regulation.

### Summary of Requirements

The Refinery MACT includes requirements for the following emission sources:

- *Storage vessel. {§63.646}*
- *Wastewater management and treatment equipment {§63.647}*
- *Equipment leak (fugitive) components {§63.648 & §63.649}*
- *Miscellaneous process vents {§63.643 - §63.645}*
- *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,5-25-2001]” 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,5-25-2001” in their headers. “40CFR 63 Subpart CC, #3A,5-25-2001” appears in the table of applicable rules and regulations in Section K of the permit but this listing does not denote that the facility is subject to any requirements beyond those specified in 40 CFR 63 Subpart CC.

### Non-applicability Determinations

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 §63.346. Group 1 storage vessels at existing facilities are defined as vessels that have a design capacity greater than or equal to 177 cubic meters (m<sup>3</sup>) (46763 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 m<sup>3</sup> (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, #2,5-25-2001]. 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. Per the definition of storage vessel under §63.641, the following storage vessels are not subject to the requirements this regulation as storage vessels:

- pressure storage vessels designed to operate in excess of 204.9 kPa without emissions to the atmosphere,
- tanks with a design capacity less than 40m<sup>3</sup>,

- tanks not storing an organic liquid,
- storage tanks used to store wastewater, and
- storage tanks used as a bottoms receiver tank.

Note that storage tanks that store wastewater may be subject to the requirements for equipment that manages a wastewater stream. Table 4.7 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 4.7 Refinery MACT Non-Applicability Determinations for Storage Vessels**

Emission Unit	Summary of Non-Applicability Determination
D1476, D1477, D1478, D1479, D1480, D1481, D1482, D1483, D1484, D3011, D3774	Storage vessel is a pressure storage vessel designed to operate in excess of 204.9 kPa without emissions to the atmosphere.
D1294, D1295, D1310	Storage vessel stores inorganic liquids only.
D886, D1871, D1875, D2151, D2152, D2177, D2186	Design storage capacity is less than 40 m <sup>3</sup> (10,566 gallons).
D1237, D1239, D1240, D1241, D1242, D1245, D1248, D1249, D1250, D1251, D1260, D1269, D1318, D1323, D1326, D1327, D1335, D1338, D1343, D1345, D1346, D1347, D1348, D1352, D1354, D1364, D1365, D1367, D1368, D1369, D1374, D1376, D1379, D1380, D1381, D1383, D1385, D1388, D1394, D1396, D1401, D1402, D1406, D1407, D1413, D1414, D1415, D1427, D1434, D1457, D1459, D1465, D1473, D4119, D4121, D4123, D4125, D4127, D4129, D4131, D4133, D4135, D4137, D4139, D4141, D4143, D4145, D4147, D4149, D4151, D4153, D4155, D4157, D4159, D4161, D4163, D4165, D4167, D4169, D4171, D4173, D4175, D4177, D4179, D4181, D4183, D4185, D4187, D4189, D4191, D4193, D4195, D4197, D1608, D1609, D1610, D1611, D1612, D1613, D1614, D1615, D1616, D1617, D1686, D2177, D2183, D2186, D3141, D3144	Storage vessel is used to store wastewater, as defined in this regulation.

<b>Emission Unit</b>	<b>Summary of Non-Applicability Determination</b>
None	Storage vessel is used as a bottoms receiver tank
D1314, D1319, D1321, D1332, D1337, D1398, D1399, D1400, D1409, D1431, D1461, D1464, and D1472. Note: These tanks are currently out of service. They will be subject to this MACT if they are put back in service storing organic liquids that contain one of the subject HAPS.	Storage vessel does not store an organic liquid.
None	Storage vessel is vented to a fuel gas system [§63.640(d)(5)]

### *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 ppmw 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, #4,5-25-2001] and HAP: (10) [40CFR 63 Subpart CC, #2,5-25-2001].

Tables 4.8 below contains non-applicability determinations for equipment that manages wastewater streams that are not identified in the Title V permits as Group 1 or Group 2 wastewater streams.

**Table 4.8 Refinery MACT Non-Applicability Determinations for Equipment that Manages Wastewater Streams**

<b>Emission Unit</b>	<b>Summary of Non-Applicability Determination</b>
Rule 219 exempt tanks used to store water	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.

Emission Unit	Summary of Non-Applicability Determination
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 in the Refinery MACT 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 HAP's. There is only one category of equipment leak components in this regulation. Unlike storage vessels, wastewater stream, and miscellaneous process vents, equipment leak components are not categorized by Group 1 and 2.

The refinery contains more than 200,000 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 components 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, #5A,5-25-2001]” in the “Emissions and Requirements” column for the “fugitive emissions, miscellaneous” device for the permit unit.

Table 4.9 below contains non-applicability determinations for equipment leak (fugitive) components at the refinery

**Table 4.9 Refinery MACT Non-Applicability Determinations for Equipment Leak (Fugitive) Components**

Emission Unit	Summary of Non-Applicability Determination
D3586, D3587, D3595, D3637, D3643, D3644, D3649, D3650, D3652, D3654, D3655, D3656, D3657, D3660, D3661, D3662, D3663, D3664, D3668, D3671, D3672, D3673, D3680, D3682, D3685, D3687, D3692, D3693, D3694, D3760, D3802, D3860, D3866, D3921, D3969, D4085, D4086, D4087, D4088, D4107	Permit unit does not contain any fugitive leak components that are in “organic HAP service” as defined at §63.641 of this regulation.

Emission Unit	Summary of Non-Applicability Determination
Fugitive components in P7S2, P8S6, P14S24 and P20S32,33	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 these 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 4.10, make up the vast majority of the atmospheric vents at a 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, #1,5-25-2001] and HAP: (10) [40CFR 63 Subpart CC, #2,5-25-2001]. The following table 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 4.10 Refinery MACT Non-Applicability Determinations for Miscellaneous Process Vent**

<b>Emission Unit</b>	<b>Summary of Non-Applicability Determination</b>
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, S15.9, S15.10, S15.18, and S15.21.	Gaseous streams routed to a fuel gas system.
Emergency relief valves are too numerous to list individually in the permit. Emergency vents are permitted through following system conditions: S15.4, S15.5, S15.7, S15.8, S15.12, S15.13, S15.14, and S15.19.	Relief valve discharge stream.
D3576, D3577, D3579, D3580, D3581, D3583, D3584, D3585, D3588, D3589, D3610, D3613, D3622, D3631, D3634, D3635, D3636, D3638, D3639, D3640, D3642, D3645, D3646, D3651, D3653, D3659, D3665, D3666, D3667, D3669, D3670, D3675, D3676, D3678, D3679, D3681, D3684, D3686, D3688, D3691, D3803, D4208, D4269	Leak from equipment regulated under §63.648.
Vents from certain pumps, heat exchangers, recycle compressors (D341, D342, D1922, D1929, D1930), vessels (D369, D371, D374, D592, D598, D1899, D1919, D1937, D1944, D2049, D2089, D3273, D3349), pilot gas headers and fuel gas headers for cogen duct burners, fuel gas lines, condensers, steam lines.	Episodic or nonroutine releases such as those associated with startup, shutdown, malfunction, maintenance, depressuring, and catalyst transfer operations.
Onstream analyzers. This equipment is not listed in the permit.	In situ sampling systems (onstream analyzers).
D203	Catalytic cracking unit catalyst regeneration vent
D1915, D1916, D1917, D1918,	Catalytic reforming regeneration vent

<b>Emission Unit</b>	<b>Summary of Non-Applicability Determination</b>
D1964, D3330	
D3715, D3718, D3721	Sulfur plant vent
Flares (C1749, C1785); Vents from sulfur tanks through control devices (C1770, C1771); Vents from Sulfur Loading Rack through scrubber (C3752); Vents from Caustic Treating Plant through thermal oxidizer (C3493)	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.
None	Vent from a stripping operation that was installed to comply with the wastewater provisions of 40CFR63 Subpart CC and/or 40CFR61 Subpart FF.
D141, D142, D143, D144, D145, D146	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.
D3712, D3722, D3723, D3724 [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.
D595, D3371, D3372, D3373	Hydrogen production plant vents through which CO <sub>2</sub> is removed from process streams or through which steam condensate produced or treated within the hydrogen plant is degassed or deaerated.
Vents from the Merox Plant through carbon units (C884, C885)	Other process vent streams that have a total organic HAP content of less than 20 ppmv.

*Gasoline Loading Operations*

Gasoline is defined at §63.641 in 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 4.11 below contains non-applicability determinations for loading racks at the refinery.

**Table 4.11 Refinery MACT Non-Applicability Determinations for Loading Racks**

<b>Emission Unit</b>	<b>Summary of Non-Applicability Determination</b>
All loading racks listed in Process 14 of the Title V permit.	Loading rack does not load gasoline as defined at §63.641 of 40 CFR 63 Subpart CC.

### *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”. An offshore loading terminal is defined as “a location that has at least one loading berth that is 0.81 km (0.5 miles) or more from the shore that is used for mooring a marine tank vessel and loading liquids from shore”.

Since the loading berths for the refinery are located 1 ½ miles offshore, Chevron’s “Marine Terminal” is considered an offshore loading terminal under this regulation. As specified at §63.560(d)(6), marine vessel loading operations at existing offshore loading terminals are not subject to this regulation. Therefore, Chevron’s “Marine Terminal” is not subject to this regulation.

### ***40 CFR 63 Subpart UUU***

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, FCCU, 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 a CRU, FCCU, or SRU.

### ***40 CFR 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 4.12 below contains non-applicability determinations for potentially applicable emission units at the refinery.

**Table 4.12 Organic Liquid Distribution MACT Non-Applicability Determinations**

Emission Unit	Summary of Non-Applicability Determination
All loading/unloading racks listed in Process 14 of the Title V permit.	Transfer operation does not load or unload organic liquid as defined at §63.2406.
All storage tanks and equipment leak components that are specified in the Title V 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 applies 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. Affected sources include: remediation process vents, remediation material management units (tanks, containers, oil-water separators, transfer systems, etc.), and equipment leak components.

The only stationary sources in the refinery’s Title V permit that are involved in site remediation activities are the following soil vapor extraction units:

- Unit 9 Vapor Skid (Process 20, System 25)
- El Porto Soil Vapor Extraction and Control System (Process 20, System 32)
- El Segundo Soil Vapor Extraction and Control System (Process 20, System 33)

These sources are subject to this NESHAP.

***Other NESHAP Non-applicability Determinations***

This refinery is not subject to the NESHAPs listed below.

- 40 CFR 61 Subpart J - National Emission Standard 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 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 ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines. This subpart does not apply because this refinery 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 4/20/98. Chevron submitted the application for this initial TV permit on March 13, 1998 and the application was deemed complete by the District on April 14, 1998. No CAM plans are required at this time.

### **5. Periodic Monitoring Requirements**

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

This refinery 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<sub>x</sub> and SO<sub>x</sub> RECLAIM facilities. Finally, Compliance Assurance Monitoring (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 Title V permit includes periodic monitoring conditions for equipment that is subject to SIP-approved, federally enforceable rules, which do not require sufficient monitoring to assure compliance with emission limitations or other requirements of the rules. 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 1997. A public consultation was held to solicit public input. The final Periodic Monitoring Guideline Document was published by the AQMD in November 1997. 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 CAPCOA/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 consists of 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<sub>x</sub> and SO<sub>x</sub> allocations for the facility. This facility is subject to both the NO<sub>x</sub> and SO<sub>x</sub> requirements of RECLAIM.

### **Section C Facility Plot Plan**

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

### **Section D Facility Description and Equipment Specific Conditions**

This section describes equipment at the refinery that has been issued permits to operate. 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, etc.. This section also lists the equipment application number (A/N). The A/N is an identification number issued by the AQMD to the application submitted by the applicant for a Permit to Construct or Permit to Operate for 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 A/N 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 refinery. Process connections in the refinery are not shown in this column.

### 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 Rule 2012. The equipment classification is assigned to NO<sub>x</sub> and SO<sub>x</sub> 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 from 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 from which the requirements in the condition were derived. If AQMD adopted a rule that has not yet been approved into the SIP, emission limits 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 Title V 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 an artifact of the AQMD’s permit software, the names for the NESHAP templates (40CFR 63 Subpart CC # 1, 2 3A, 4 and 5A; 40 CFR 63 Subpart UUU # 1, 2 and 4; and 40CFR 61 Subpart FF\_02) 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 facilities 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 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 AQMD Rule 3004 (c). This facility has not applied for a permit shield for any of the equipment at the refinery.

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 AQMD Rule 3005 (j). This facility has not applied for an AOS for any of the equipment at the refinery.

Emissions Trading

This facility is subject to the NOx and SOx 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 SCAQMD is classified as in attainment with the National Ambient Air Quality Standards (NAAQS). The facility has not been issued a PSD permit by either the EPA or the SCAQMD. This Title V permit, however, contains conditions for two gas turbines and one heater limiting the annual NOx and/or SOx emissions from the units to a level not to exceed PSD applicability threshold. Condition A63.11 limits the NOx emissions to 46.42 and SOx emissions to 10.75 tons per year from gas turbine D2198, condition A63.12 limits the NOx emissions to 48.44 and SOx emissions to 10.87 tons per year from gas turbine D2207, and condition A63.26 limits the SOx emissions to 38,726 lbs per year from heater D453.

EPA New Source Review (NSR) Permits

NSR is a federal program for permitting new and modified sources that emit air pollutants for which the SCAQMD is classified as in Non-attainment with NAAQS. Before SIP-approval of the SCAQMD NSR Rule in 1978, EPA issued NSR permits for new construction and/or equipment modifications in the SCAQMD. A check of the records indicates that the refinery was issued NSR permits for 45 pieces of equipment or processes by EPA between 1974 and 1978. This includes 24 external floating roof tanks, 7 fixed roof tank, 2 heaters, 1 steam generator, 2 flares, and 9 processes used in the production of the Low Sulfur Fuel Oil project (LSFO).

Since the issuance of the above EPA NSR permits, the majority of the equipment were modified and issued a subsequent permit by the SCAQMD under the District’s SIP-approved NSR program. The permits issued under the SIP-approved NSR program supersede permits issued under EPA NSR program. Since the terms of the SCAQMD NSR permits are solely applicable to the modified equipment, no further elaboration is necessary here. The following table contains a status of the permit for this equipment.

**Table 7.1 Permit Status for Equipment That Was Issued an NSR Permit by EPA**

<b>EPA Project No</b>	<b>Equipment</b>	<b>Equipment ID No.</b>	<b>Superseded by SCAQMD Permit(s)</b>
LA 74-01	Tank 483	D1386	421262
LA 74-01	Tank 485	D1387	286000
LA 74-02	Tank 489	D1388	485090
LA 74-03	Tank 425	D1313	No
LA 74-03	Tank 426	D1282	No

<b>EPA Project No</b>	<b>Equipment</b>	<b>Equipment ID No.</b>	<b>Superseded by SCAQMD Permit(s)</b>
LA 74-04	Crude Unit plt 11	Process 1, System 5	448251
LA 74-04	Naphtha Hydrotreater plt 12	Process 4, System 1	296502
LA 74-04	Hydrogen Plant plt 13	Process 6, System 4	457257
LA 74-04	Vacuum Residuum Desulfurizer plt 15	Process 4, System 11	274713
LA 74-04	Vacuum Gas Oil Desulfurizer plt 16	Process 4, System 9	297426
LA 74-04	H2S Recovery Plant plt18	Process 12, System 11	414157
LA 74-04	Sulfur Plant plt 70	Process 13, System 4	454963
LA 74-04	Sour Water Stripper plt 80	Process 12, System 7	388732
LA 74-04	Tail Gas Scrubbing Plant	Process 13, System 4	457644
LA 74-04	Ground Flare	Has Been Removed	No
LA 74-04	Elevated Flare	Process 20, System 7	454964
LA 74-04	Tank 428	D1376	121130
LA 74-04	Tank 430	D1283	394003
LA 74-04	Tank 603	Unknown	No
LA 74-04	Tank 957	Unknown	No
LA 74-04	Tank 958	Unknown	No
LA 74-04	Tank 1015	D2164	297844
LA 74-04	Tank 2280	Unknown	No
LA 74-04	Tank 2281	Unknown	No
LA 74-05	Tank 952	D1418	170809
LA 74-05	Tank 953	D1419	390397
LA 74-05	Tank 954	Unknown	No
LA 74-05	Tank 955	Unknown	No
LA 74-05	Tank 956	Unknown	No
LA 75-03	Tank, 200,000 bbl	D1416	124127
LA 75-5	Tank, 150,000 bbl	Unknown	No
LA 76-01	Tank T-780	Unknown	No
LA 76-01	Steam Generator F-310	Removed from Service	No
LA 76-01	Furnace F-720	D641	345242
LA 76-01	Furnace F-731	D643	345241
LA 76-37	Tank, 150,000 bbl	Unknown	No
LA 78-15/77-05	Tank 121	D1346	432946
LA 78-15/77-05	Tank 9459	D1460	485086
LA 78-15/77-05	Tank 439	D1284	No
LA 78-15/77-05	Tank 469	D1382	484515
LA 78-15/77-05	Tank 1008	D1452	470891
LA 78-15/77-05	Tank 1009	D1453	470890
LA 78-15/77-05	Tank 1012	D1454	447419
LA 78-15/77-05	Tank 865	D1300	No
LA 78-15/77-05	Tank 9453	D1457	414227

For the non-modified equipment however, additional analysis of the EPA NSR permit is warranted. There are four (4) tanks that have not been modified since the issuance of the EPA NSR permit. They are: a) Tanks D1313 (Tank 425) and Tank D1282 (Tank 426) and are required to be vented to a vapor recovery system. Further, the facility must obtain EPA approval before any modification that results in an emission increase. The two tanks are vented to a caustic scrubber and the Title V permit reflects this operating condition. In addition current SCAQMD rules require the applicant to submit applications prior to any changes to the equipment. Therefore, the permit requirements are satisfied. b) Tank D1284 (Tank 439) and Tank D1300 (Tank 865) are uncontrolled fixed roof tanks storing materials with a low vapor pressure. The permit requires the facility to obtain EPA approval before any modification that results in an emission increase. Current SCAQMD rules require the applicant to submit applications prior to any changes to the equipment. Therefore, the permit requirements are satisfied.

In addition, Tanks 603, 957, 958, 2280, 2281, 954, 955, 956, T780, and a 150,000 bbl tank with no identification number on the EPA NSR permit could not be identified on the Chevron permit. After reviewing their records, Chevron could not identify the equipment with the above tank numbers. This could be due to changes in the tanks' identification numbers, removal of the equipment from service, or the equipment was not installed.

## 8. Summary of Emissions and Health Risks

### Summary of Refinery Criteria Air Pollutant and Toxic Air Contaminant Emissions

This section contains a summary of the Criteria Air Pollutant (CAP) and Toxic Air Contaminant (TAC) emissions for the refinery as reported in the refinery's Annual Emission Report (AER) for fiscal year 2006-2007.

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

Pollutant	Emissions (tons/year)
NO <sub>x</sub>	902
CO	765
VOC	588
PM	318
SO <sub>x</sub>	388

**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	2542
1,3-Butadiene*	20
Acetaldehyde*	643
Acrolein*	424
Ammonia	135608

The Following TACs Were Reported	Emissions (lbs/yr)
Arsenic*	7.1
Benzene*	1144
Beryllium*	0.6
Cadmium*	34
Carbonyl Sulfide*	29
Chlorine*	158
Chloroform*	0.01
Chromium (VI)*	2.9
Copper	111
Dibenzofurans (chlorinated)*	0.001
Diesel engine exhaust, particulate matter	2375
Ethylbenzene*	1246
Formaldehyde*	3087
Hexane*	3823
Hydrochloric acid*	82
Hydrogen Sulfide*	7587
Lead (inorganic)*	41
Manganese*	95
Mercury*	15.9
Methanol*	1964
Naphthalene*	471
Nickel*	241
PAHs, total, with components not reported*	16.3
Perchloroethylene*	46
Phosphorus*	239
Selenium*	431
Sulfuric Acid	13264
Toluene*	5148
Xylenes*	5118

\*TACs that are also Hazardous Air Pollutants (HAPs). Total HAPs reported are 32,114 lbs/yr.

#### Health Risk from Toxic Air Contaminants

The Chevron refinery is subject to review by the Air Toxics Information and Assessment Act (AB2588). The Final Facility Health Risk was approved in 2001 with the following risk factors.

Cancer Risk	2.73 in one million
Acute Hazard Index	0.29
Chronic Hazard Index	0.13

## 9. Compliance History

The Chevron refinery is subject to the terms of a consent decree entered by U.S. District Court in San Francisco on June 28, 2005 and a Hearing Board Order entered for Case No. 831-343 regarding compliance with District Rule 1118.

### Consent Decree (Civil Action No. C 03-04650 CRB)

In 2000, the United States Environmental Protection Agency (USEPA) initiated a nationwide, broad-based compliance and enforcement initiative involving the petroleum refining industry. As a result of this initiative, the subject Consent Decree is the product of a settlement between Chevron and EPA over alleged violations of certain Clean Air Act and CERCLA/EPCRA provisions. This comprehensive settlement covers Chevron refineries located in Richmond, California, El Segundo, California, Pascagoula, Mississippi, Salt Lake City, Utah, and Kapolei, Hawaii.

As part of the Consent Decree, Chevron agreed to install additional air pollution control equipment and implement other enhancements to air pollution management practices at its refineries to reduce air emissions. Specifically for the El Segundo Refinery, Chevron agreed to the following:

- Establish new CO, PM, NO<sub>x</sub>, and SO<sub>x</sub> emissions limits for the FCCU regenerator.
- Enhancement of the Benzene Waste Operations NESHAP (40CFR61 Subpart FF) program.
- Enhancements of the Leak Detection and Repair (LDAR) program.
- Implementation of new investigative, reporting, and corrective action procedures for flares.
- All heaters, boilers, flares, SRUs, and FCCU, which were not already subject to 40CFR60 Subpart J, became affected sources subject to this NSPS.

Paragraphs 98 – 99 of the Consent Decree specify that Chevron shall submit applications to incorporate the “emission limits and standards” required by the Consent Decree into a federally enforceable NSR permit. Paragraph 100 specifies that these emission limits and standards shall be incorporated into the refinery Title V permit in accordance with local Title V rules. Included in Attachment 2 of this Statement of Basis is a table provided by Chevron that summarizes the refinery’s compliance status with the requirements of paragraphs 98 – 99 of the Consent Decree.

### Variance(s)

*Hearing Board Case No. 831-343:* AQMD Rule 1118 was amended in November of 2005. The Chevron El Segundo Refinery operates the following five General Service Flares that are subject to Rule 1118: FCCU Flare (C1746), Isomax Flare (C1747), LSFO Flare (C1757), Delayed Coking Flare (C1785), and Alkylolation Unit Flare (C3012).

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 in 2005, technical challenges and issues related to feasibility, reliability, maintainability, accuracy, and safety of the HHV and TSC analyzers had the potential to delay implementation of the specified monitoring systems. 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 tested TSC and HHV analyzers on May 20, 2008. Since the analyzer approval was given later than expected, the refineries petitioned for a modification and extension of the variance. The Hearing Board granted an extension of Chevron's variance (Case No. 831-343) until June 24, 2010. Under the increments of progress for the variance, Chevron must install and test the TSC and HHV analyzers on each of the flares according to the following schedule:

- Isomax Flare (C1749)- December 4, 2009
- LSFO Flare (C1757) - February 4, 2010
- Alkylation Unit Flare (C3012) - April 4, 2010
- Delayed Coking Flare (C1785) - May 16, 2010
- FCCU Flare (C1746) - June 24, 2010

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. 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. 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=800030](http://www.aqmd.gov/webappl/fim/prog/hbdisplay.aspx?fac_id=800030)).

#### Order(s) for Abatement

The refinery is not currently subject to any AQMD Orders for Abatement.

#### Notices to Comply and Notices of Violation

As noted, the refinery has been in continuous operation since the 1911. Since the inception of Los Angeles County Air Pollution Control District in 1947, the refinery has been subject to both self-reporting requirements and AQMD inspections. Information regarding Notices to Comply (NCs) and Notices of Violations (NOVs) that have been issued to the facility over the past few years 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=800030](http://www.aqmd.gov/webappl/fim/prog/novnc.aspx?fac_id=800030)). As of March 4, 2009, the refinery had come into 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 Robert Sanford at (909) 396-2660 for assistance in finding the information on the website or to obtain a copy of the CD.

- I. Technical Guidance Document For the Title V Permit Program (March 2005, Version 4.0) (<http://www.aqmd.gov/titlev/TGD.html>)
- 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=800030](http://www.aqmd.gov/webappl/fim/prog/novnc.aspx?fac_id=800030)).
- IV. Variances and Abatement Orders. 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/hbdisplay.aspx?fac\\_id=800030](http://www.aqmd.gov/webappl/fim/prog/hbdisplay.aspx?fac_id=800030)).

# **Attachment 1**

## **Alternative Monitoring Plan Approval Letters**



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

SEP 24 2003

Mr. Tom Hascup  
Regulatory Coordinator  
Chevron Products Company  
324 W. El Segundo Boulevard  
El Segundo, CA 90245

RE: Alternate Monitoring Plans ("AMPs") for the Recovered Soil Vapor Stream to F-201, 1005, and 6230, and the Continuous Catalytic Reforming Unit Regenerator Vent Gas Stream to F-410, 420, 430, and 440.

Dear Mr. Hascup:

This letter is in response to your letter of February 28, 2003, requesting approval of AMPs for two refinery fuel gas streams at the Chevron El Segundo refinery. Chevron Products Company ("Chevron") provided additional information in August and September 2003. The United States Environmental Protection Agency ("USEPA"), Region 9, has reviewed the information and has made the final determination as follows:

**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<sub>2</sub>S") 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 ("SO<sub>2</sub>") 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]...."

**Chevron's Request**

On February 28, 2003, Chevron requested approval of AMPs for the Recovered Soil Vapor Stream to F-201, 1005, and 6230 and for the Continuous Catalytic Regenerator Unit Vent to F-410, 420, 430, and 440. As a follow-up to the original request, Chevron submitted additional information to USEPA in August and September 2003.

Mr. Tom Hascup  
Regulatory Coordinator  
Chevron Products Company  
Page - 2

As part of the review process, USEPA has summarized the proposed AMPs in the enclosure to this letter.

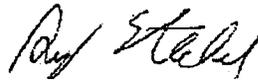
Approval of Chevron's Request

USEPA has determined that 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" and the proposed AMPs for these fuel gas streams are appropriate. Therefore, the Administrator of USEPA, by authority duly-delegated to the undersigned, approves the proposed AMPs.

The approval of the proposed AMPs does not alter any of the other requirements of New Source Performance Standards, Subparts A and J that may apply to the Chevron El Segundo refinery. In addition, USEPA doesn't consider complying with the values of the proposed representative process parameters is equivalent to complying with the NSPS emission standards. As stated in the proposed AMPs, a representative process parameter functions as an indicator of a stable and low H<sub>2</sub>S concentration for the stream. If the measured value of the process parameter is greater than the proposed value, Chevron shall immediately conduct draeger tube sampling at the proposed location and initiate any corrective actions.

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

Sincerely,



for Jack P. Broadbent  
Director, Air Division

Enclosure

cc: Dr. Barry R. Wallerstein, SCAQMD

## Summary of Proposed AMPs

### 1. AMP for Recovered Soil Vapor Stream to Thermal Oxidizers F-201, 1005, and 6230.

Process Unit:	Subsurface Soil Vapor Recovery System
Fuel Gas Stream:	Soil Vapor Streams to the El Segundo Thermal Oxidizer (F-201), the Unit 9 Thermal Oxidizer (F-1005), and the El Porto Thermal Oxidizers (F-6230)
Proposed Sampling Location:	Inlet to F-201, 1005, and 6230
Pollutant Monitored:	H <sub>2</sub> S
Proposed Process Parameter:	H <sub>2</sub> S Concentration
Proposed Value of the Process Parameter:	10 PPM

Chevron currently uses three soil vapor recovery systems, each consisting of recovery wells and transport equipment, to convey the vapor generated by the liquid hydrocarbon pools beneath the refinery into three skid-mounted thermal oxidation units, where the recovered vapor is thermally destroyed. These thermal oxidation units are designated as the El Porto, El Segundo, and Unit 9 skids.

To show the actual concentration H<sub>2</sub>S in the recovered vapor, samples have been collected for the past 2.5 years and analyzed by an independent certified laboratory. None of these samples contained an H<sub>2</sub>S concentration greater than 3 ppm.

Chevron identified the H<sub>2</sub>S concentration of the stream as the indicating parameter. At the time of startup after an unscheduled shutdown of an incinerator, Chevron will sample the vapor stream. If the H<sub>2</sub>S content of the gas, as measured by colorimetric tube, is less than 10 ppm at that time, the normal sampling schedule will be resumed. If the H<sub>2</sub>S concentration exceeds 10 ppm, the stream will be sampled daily, using colorimetric tubes, until the concentration drops below 10 ppm.

Chevron proposed the following initial H<sub>2</sub>S monitoring schedule:

- a. Twice per week for a period of six months (52 samples);
- b. Once per quarter for a period of six quarters (6 samples);
- c. Twice per year; and
- d. Whenever the incinerator experiences an unscheduled shutdown.

Records of the H<sub>2</sub>S detector tube test data and the representative process parameter data will be maintained by Chevron for at least two years and shall be made available upon request from USEPA.

**2. AMP for Continuous Catalytic Reforming Unit # 4 Regenerator Vent to Heaters F-410, 420, 430, and 440**

Process Unit:	Continuous Catalytic Reforming Unit #4 ("CCRU-4")
Fuel Gas Stream:	Regenerator Vent to Heaters F-410, 420, 430, and 440
Proposed Sampling Location:	Vent Drums V-11A, B, C, and D
Pollutant Monitored:	H <sub>2</sub> S
Proposed Process Parameter:	Sulfur Content of the CCRU-4 Feed
Proposed Value of the Process Parameter:	2.0 ppm

The CCRU-4 upgrades low octane gasoline to higher-octane reformate that can be used for gasoline blending. The vaporized low-octane feed is treated in reactors over a catalyst in a hydrogen atmosphere. A fraction of the catalyst is continuously recycled for regeneration. The regeneration, which is conducted in nitrogen atmosphere, is necessary because the catalyst is being deactivated by coke build-up, and the presence of compounds that cause it to lose its activity, as the feed is processed.

The vent gas stream consist of hydrocarbons and hydrogen entrained in the regenerated catalyst stream, along with nitrogen used to convey the catalyst, water vapor and CO<sub>2</sub>. The vent gas stream is typically very stable in composition, consisting primarily of the commercial-grade nitrogen used as a conveying gas. Sulfur in the stream is very low, as the CCRU feed stream is desulfurized by hydrotreating prior to processing it in the CCRU. Proper operation of the CCRU depends on the absence of sulfur compounds in the feed, which would poison the catalyst.

To show the actual concentration H<sub>2</sub>S in the vent gas to the CCRU furnaces (F-410, 420, 430, and 440), Chevron tested consecutive fourteen samples between December 17, 2002, and January 1, 2003. These measurements were taken at one of the Vent Gas Drums 4-V11A, B, C, and D, depending on which drum was accessible at the time. These samples showed 0 ppmv of H<sub>2</sub>S in the vent gas stream. Due to the CCRU feed hydrotreating process described above, the H<sub>2</sub>S sampling results are typical of what would be expected from this fuel gas stream.

Chevron identified the sulfur content of the CCRU feed stream as the representative process parameter of the H<sub>2</sub>S content of the vent gas stream. The maximum allowable sulfur content of the CCRU feed stream is 0.5 ppm. However, Chevron proposed 2.0 ppm as the process parameter limit based on the 2002 measurement data. If the sulfur content of the CCRU feed stream exceeds the limit, Chevron will monitor the regenerator vent gas stream for H<sub>2</sub>S concentration daily basis using colorimetric tubes until the feed measurements return to 0.5 ppm.

Chevron proposed the following H<sub>2</sub>S monitoring schedule:

- a. Twice per week for a period of six months (52 samples);

- b. Once per quarter for a period of six quarters (6 samples);
- c. Twice per year; and
- d. Whenever the sulfur content of the CCRU feed stream exceeds 2.0 ppm.

Sampling and analysis a-c will be done randomly, and the sulfur content of the CCRU feed stream will be measured almost daily.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street  
San Francisco, CA 94105-3901

January 6, 2005

Soli George  
Air Regulatory Specialist  
Chevron Products Company  
324 W. El Segundo Blvd.  
El Segundo, CA 90245

Dear Mr. George:

On December 21, 2004, Chevron Products Company (Chevron) submitted a request for an Alternative Monitoring Plan (AMP) for the vent gas stream from the #3 caustic treating plant that is incinerated in the thermal oxidizer F-807 at the Chevron El Segundo Refinery (Refinery). The AMP proposes that this refinery fuel gas does not need to be continuously monitored for hydrogen sulfide ( $H_2S$ ) content, but instead the caustic alkalinity will be maintained at greater than 5% and samples of the vent gas stream will be collected at least twice per year and analyzed for  $H_2S$  content. For the reasons proposed by Chevron and outlined below, the United States Environmental Protection Agency (EPA) approves the requested AMP with one minor change to the proposed sampling schedule.

Regulatory Background

The Standards of Performance for New Stationary Sources (NSPS) Subpart J (Standards of Performance for Petroleum Refineries) at 40 C.F.R. § 60.104(a)(1) requires the owner or operator of a fuel gas combustion device at a petroleum refinery to burn no refinery fuel gas that contains  $H_2S$  in excess of 230 milligrams per dry standard cubic meter (0.10 grain per dry standard cubic foot). This limit is equivalent to 160 ppm  $H_2S$ . Pursuant to 40 C.F.R. § 60.105(a)(3), the owner or operator of a fuel gas combustion device 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 to the atmosphere. Alternatively, a CMS to monitor and record the  $H_2S$  in fuel gases before being burned in any fuel gas combustion device may be used. Pursuant to 40 C.F.R. § 60.13(i), after receipt and consideration of written application, the Administrator may approve alternative procedures to any monitoring procedures or requirements of [Part 60].

The EPA issued guidance titled "Alternative Monitoring Plan for NSPS Subpart J Refinery Fuel Gas" (RFG Guidance). The RFG Guidance is divided into four subjects: conditions for approval; data requirements; monitoring schedules for approved alternative plans; and general conditions for approved monitoring plans.

Chevron requested an AMP for the vent gas stream from the #3 caustic treating plant at the Refinery. The request for an AMP included the information required by the RFG Guidance. This information was: a description of the gas stream to be considered including submission of the appropriate piping diagrams indicating the boundaries of the gas streams/system, the affected fuel gas combustion device(s) to be considered, and an identification of the proposed sampling point for the alternative monitoring; a statement that there are no sour gas crossover points into the gas stream/system (this should also be shown in the piping diagram); an explanation of the conditions that ensures low amounts of sulfur in the gas stream; and supporting test results using appropriate H<sub>2</sub>S monitoring.

#### Chevron's Request

Chevron submitted supporting information with the AMP request. This information included a statement that the F-807 vent gas stream is generated from the Refinery's V-830 mercaptan oxidizer and a fuel gas system overview drawing indicating the #3 caustic treating plant and the sampling points for caustic alkalinity and H<sub>2</sub>S content. Chevron stated that there are no entry or crossover points which would allow sour gases to be combined with the vent gas that is combusted in the F-807 thermal oxidizer. Chevron stated that if the caustic alkalinity is maintained at 5% or above then H<sub>2</sub>S will not be liberated into the F-807 vent gas stream. Chevron submitted fourteen consecutive daily sample results using Draeger tubes that indicate the H<sub>2</sub>S content of the F-807 vent gas stream never exceeded 0.2 parts per million (ppm) and during these 2 weeks the caustic alkalinity was maintained above 5%. These results are expected to be representative.

Chevron proposed to sample the H<sub>2</sub>S content using Draeger tubes of the F-807 vent gas stream twice weekly for the first three months, then once per quarter for 6 quarters, then twice per year thereafter. If any of these sample results is greater than 81 ppm (one-half of the NSPS Subpart J limit) then Chevron will sample the F-807 vent gas stream on a daily basis for 7 days. If the average plus 3 standard deviations of these 7 samples is less than 81 ppm then Chevron will report the daily average caustic alkalinity and the vent gas sample results to EPA. If the average plus 3 standard deviations of these 7 samples is greater than or equal to 81 ppm then Chevron will notify EPA and test the vent gas stream daily for a two-week period followed by weekly sampling. The weekly sampling will continue until EPA approves a revised sampling schedule or withdraws approval of this AMP.

Approval of Chevron's Alternative Monitoring Plan

EPA has reviewed Chevron's request for an AMP and has determined that it includes all of the required information. The F-807 vent gas from the #3 caustic treating plant at the Refinery is inherently low in H<sub>2</sub>S and Chevron has submitted fourteen consecutive days of sample results to support this conclusion. There are also no crossover or entry points that would allow for sour gas to be introduced into the F-807 vent gas stream. Therefore, the Administrator of the EPA, by authority duly-delegated to the undersigned, approves Chevron's request for an AMP with the following change to the monitoring schedule: Chevron shall conduct the twice weekly sampling for 6 months (52 samples) before moving to the quarterly sampling frequency.

If you have any questions regarding this determination please contact Charles Aldred, Air Enforcement Office, at (415) 972-3986.

Sincerely,



Deborah Jordan  
Director, Air Division

cc: Ms. Pang Mueller, SCAQMD



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION IX  
75 Hawthorne Street  
San Francisco, CA 94105-3901

September 1, 2005

Ms. Soli George  
Air Regulatory Specialist  
Chevron Products Company  
324 W. El Segundo Blvd.  
El Segundo, CA 90245

Dear Ms. George:

On December 20, 2004, Chevron Products Company (Chevron) submitted to the United States Environmental Protection Agency (EPA) an Alternative Monitoring Plan (AMP) request for the off-gas stream from the Coker Ammonia Stripper, C-550, that is combusted in the furnaces F-501B and F-501C at the Chevron El Segundo Refinery (Refinery). The AMP proposes that the C-550 off-gas does not need to be continuously monitored for hydrogen sulfide ( $H_2S$ ) content; instead the pH of the Coker Ammonia Stripper will be maintained at greater than 8.5. Samples of the C-550 off-gas will be collected at least twice per year and analyzed for  $H_2S$  content with Draeger tubes. For the reasons proposed by Chevron and outlined below, the United States Environmental Protection Agency (EPA) approves the requested AMP.

Regulatory Background

The Standards of Performance for New Stationary Sources (NSPS) Subpart J (Standards of Performance for Petroleum Refineries) at 40 C.F.R. § 60.104(a)(1) requires the owner or operator of a fuel gas combustion device at a petroleum refinery to burn no refinery fuel gas that contains  $H_2S$  in excess of 230 milligrams per dry standard cubic meter (0.10 grain per dry standard cubic foot). This limit is equivalent to 160 parts per million (ppm)  $H_2S$ . Pursuant to 40 C.F.R. § 60.105(a)(3), the owner or operator of a fuel gas combustion device 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 to the atmosphere. Alternatively, a CMS to monitor and record the  $H_2S$  in fuel gases before being burned in any fuel gas combustion device may be used. Pursuant to 40 C.F.R. § 60.13(i), after receipt and consideration of written application, the Administrator may approve alternative procedures to any monitoring procedures or requirements of [Part 60].

The EPA issued guidance titled "Alternative Monitoring Plan for NSPS Subpart J Refinery Fuel Gas" (RFG Guidance). The RFG Guidance is divided into four subjects: conditions for approval; data requirements; monitoring schedules for approved alternative plans; and general conditions for approved monitoring plans. Chevron's request for an AMP included the information required by the RFG Guidance:

- a description of the gas stream to be considered including submission of the

- appropriate piping diagrams indicating the boundaries of the gas streams/system;
- the affected fuel gas combustion device(s) to be considered;
- an identification of the proposed sampling point for the alternative monitoring;
- a statement that there are no sour gas crossover points into the gas stream/system (this should also be shown in the piping diagram);
- an explanation of the conditions that ensures low amounts of sulfur in the gas stream and supporting test results using appropriate H<sub>2</sub>S monitoring.

#### Chevron's Request

Chevron submitted supporting information with the AMP request. This information included a statement that the C-550 off-gas stream is generated from the Refinery's Coker Ammonia stripper and a fuel gas system overview drawing indicating the C-550 off-gas and the sampling points for effluent water pH and C-550 off-gas H<sub>2</sub>S content. The Coker Ammonia Stripper recovers NH<sub>3</sub> from ammonia bearing caustic/sour water. Chevron stated that there are no entry or crossover points which would allow sour gases to be combined with the C-550 off-gas that is combusted in the F-501B and F-501C furnaces. Chevron stated that if the pH of the stripper column (C-550) is maintained at above 8.5 then H<sub>2</sub>S will not be liberated into the C-550 off-gas. Chevron submitted fourteen consecutive daily sample results using Draeger tubes that indicate the H<sub>2</sub>S content of the C-550 off-gas stream never exceeded 0.2 ppm, the detection limit of the Draeger tubes, and during these 2 weeks the pH of the effluent water was greater than 9.3. These results are expected to be representative.

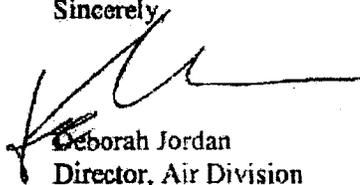
Chevron proposed to sample the H<sub>2</sub>S content of the C-550 off-gas using Draeger tubes twice weekly for the first six months, then once per quarter for 6 quarters, then twice per year thereafter. If any of these sample results is greater than 81 ppm (one-half of the NSPS Subpart I limit) then Chevron will sample the C-550 off-gas on a daily basis for 7 days. If the average plus 3 standard deviations of these 7 samples is less than 81 ppm then Chevron will report the daily average effluent pH and the recovered off-gas sample results to EPA. If the average plus 3 standard deviations of these 7 samples is greater than or equal to 81 ppm then Chevron will notify EPA and test the off-gas stream daily for a two-week period followed by weekly sampling. The weekly sampling will continue until EPA approves a revised sampling schedule or withdraws approval of this AMP. Additionally, Chevron will also sample the C-550 off-gas daily for H<sub>2</sub>S when the pH of the effluent is less than 8.5.

Approval of Chevron's Alternative Monitoring Plan

EPA has reviewed Chevron's request for an AMP and has determined that it includes all of the required information. The C-550 off-gas at the Refinery is inherently low in H<sub>2</sub>S and Chevron has submitted fourteen consecutive days of sample results to support this conclusion. There are also no crossover or entry points that would allow for sour gas to be introduced into the C-550 off-gas stream. Therefore, the Administrator of the EPA, by authority duly-delegated to the undersigned, approves Chevron's request for an AMP.

If you have any questions regarding this approval please contact Charles Aldred, Air Enforcement Office, at (415) 972-3986 or [aldred.charles@epa.gov](mailto:aldred.charles@epa.gov).

Sincerely



Deborah Jordan  
Director, Air Division

cc: Pang Mueller, SCAQMD



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street  
San Francisco, CA 94105-3901

SEP 26 2005

Mr. Rafi Ahmed  
Air Regulatory Specialist  
Chevron Products Company  
324 W. El Segundo Blvd.  
El Segundo, CA 90245

Dear Mr. Ahmed:

On October 21, 2004, Chevron Products Company (Chevron) submitted to the United States Environmental Protection Agency (EPA) an Alternative Monitoring Plan (AMP) request for the vent gas stream from the dissolved air flotation (DAF) unit in the waste water treatment plant that is combusted in the regenerative thermal oxidizer (RTO) F-707 at the Chevron El Segundo Refinery (Refinery). The DAF vent gas is passed through a 2-stage caustic scrubber system, C-717A and C-717B, before it is sent to F-707. The AMP proposes that the DAF vent gas does not need to be continuously monitored for hydrogen sulfide ( $H_2S$ ) content; instead the C-717A/B flow rate will be maintained at greater than or equal to 90 gallons per minute (gpm) on a 3-hour average and the pH will be maintained at greater than or equal to 10. Samples of the DAF vent gas will be collected at least twice per year and analyzed for  $H_2S$  content with Draeger tubes. For the reasons proposed by Chevron and outlined below, EPA approves the requested AMP.

Regulatory Background

The Standards of Performance for New Stationary Sources (NSPS) Subpart J (Standards of Performance for Petroleum Refineries) at 40 C.F.R. § 60.104(a)(1) requires the owner or operator of a fuel gas combustion device at a petroleum refinery to burn no refinery fuel gas that contains  $H_2S$  in excess of 230 milligrams per dry standard cubic meter (0.10 grain per dry standard cubic foot). This limit is equivalent to 160 parts per million (ppm)  $H_2S$ . Pursuant to 40 C.F.R. § 60.105(a)(3), the owner or operator of a fuel gas combustion device 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 to the atmosphere. Alternatively, a CMS to monitor and record the  $H_2S$  in fuel gases before being burned in any fuel gas combustion device may be used. Pursuant to 40 C.F.R. § 60.13(i), after receipt and consideration of written application, the Administrator may approve alternative procedures to any monitoring procedures or requirements of [Part 60].

The EPA issued guidance titled "Alternative Monitoring Plan for NSPS Subpart J Refinery Fuel Gas" (RFG Guidance). The RFG Guidance is divided into four subjects: conditions for approval; data requirements; monitoring schedules for approved alternative plans;

and general conditions for approved monitoring plans. Chevron's request for an AMP included the information required by the RFG Guidance:

- a description of the gas stream to be considered including submission of the appropriate piping diagrams indicating the boundaries of the gas streams/system;
- the affected fuel gas combustion device(s) to be considered;
- an identification of the proposed sampling point for the alternative monitoring;
- a statement that there are no sour gas crossover points into the gas stream/system (this should also be shown in the piping diagram);
- an explanation of the conditions that ensures low amounts of sulfur in the gas stream and supporting test results using appropriate H<sub>2</sub>S monitoring.

#### Chevron's Request

Chevron submitted supporting information with the AMP request. This information included a fuel gas system drawing indicating the DAF vent gas and a statement that there are no entry or crossover points which would allow sour gases to be combined with the DAF vent gas that is combusted in the F-707 RTO. Chevron stated that if the pH of the caustic scrubbers C-717A/B is maintained at greater than or equal to 10 and the caustic flow is greater than or equal to 90 gpm then H<sub>2</sub>S and mercaptans will be removed from the DAF vent gas. Chevron submitted fourteen consecutive daily sample results of the DAF vent gas taken at the inlet to the F-707 RTO using Draeger tubes that indicate the H<sub>2</sub>S content of the DAF vent gas stream was less than 0.2 ppm and during these 2 weeks the caustic flow in each of the scrubbers was greater than 105 gpm and the pH in each scrubber was greater than or equal to 13. These results are expected to be representative. Chevron conducted and proposed sampling of the DAF vent gas stream according to the following schedule:

- These 14 samples are required by step 1 of the RFG Guidance;
- Chevron proposed to sample the H<sub>2</sub>S content of the DAF vent gas using Draeger tubes twice weekly for the first three months, then once per quarter for 6 quarters, then twice per year thereafter. These samples are required by step 2 of the RFG Guidance;
- If any of these sample results in step 2 is greater than or equal to 80 ppm then Chevron will sample the DAF vent gas on a daily basis for 7 days. These 7 samples are required by step 3 of the RFG Guidance;
- If the average plus 3 standard deviations of these 7 samples in step 3 is greater than or equal to 80 ppm then Chevron will sample the DAF vent gas stream daily for 14 days with Draeger tubes and report the results to the South Coast Air Quality Management District (SCAQMD) and EPA. These samples are required by step 4 of the RFG Guidance.

If the average plus 3 standard deviations of the 7 samples in step 3 is less than 80 ppm then Chevron will report these sample results and the caustic scrubber flow rate and pH values to SCAQMD and EPA. If the average plus 3 standard deviations of the 7 samples in step 3 is greater than 80 ppm then Chevron will notify EPA before the end of the next business day following the last sample day and test the DAF vent gas stream as required in step 4. After the

two week period is complete, the sampling will continue weekly until EPA approves a revised sampling schedule or makes a determination to withdraw approval of the AMP.

Approval of Chevron's Alternative Monitoring Plan

EPA has reviewed Chevron's request for an AMP and has determined that it includes all of the required information. The DAF vent gas at the Refinery is inherently low in H<sub>2</sub>S, and Chevron has submitted fourteen consecutive days of sample results to support this conclusion. There are also no crossover or entry points that would allow for sour gas to be introduced into the DAF vent gas stream. Therefore, the Administrator of the EPA, by authority duly-delegated to the undersigned, approves Chevron's request for an AMP.

If you have any questions regarding this approval please contact Charles Aldred, Air Enforcement Office, at (415) 972-3986 or [aldred.charles@epa.gov](mailto:aldred.charles@epa.gov).

Sincerely,



Deborah Jordan  
Director, Air Division

cc: Pang Mueller, SCAQMD

## **Attachment 2**

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

**Chevron Consent Decree (CD): Summary of Emission Limits and Standards Required to be Added to New Source Review and Title V Permits**

Paragraph in CD	Plant or Equipment	Title V Permit Device No.	Pollutant	Emission Limit or Standard	Specified Compliance Date	Permit Application Due Date	Date Application Submitted to SCAQMD	Standard or Limit in Proposed Title V Permit?
V.A.11.b	FCCU Regenerator	D203	NOx	20 ppmvd @ 0% O <sub>2</sub> ; 365-day avg.	12/31/2008	3/31/2009	3/2/2006	Yes
V.A.11.b	FCCU Regenerator	D203	NOx	40 ppmvd @ 0% O <sub>2</sub> ; 7-day avg.	12/31/2008	3/31/2009	3/2/2006	Yes
V.B.16.a.ii	FCCU Regenerator	D203	SO <sub>2</sub>	25 ppmvd @ 0% O <sub>2</sub> ; 365-day avg.	12/31/2005	3/31/2006	7/6/2005	Yes
V.C.22 & 23A	FCCU Regenerator	D203	PM	0.5 lb/1000 lb coke burn; 3-hr avg.	3/31/2004	7/12/2005	7/6/2005	Yes
V.D.27	FCCU Regenerator	D203	CO	500 ppmvd @ 0% O <sub>2</sub> ; 1-hr avg.	4/10/2005	7/12/2005	7/6/2005	Yes
V.E.31	FCCU Regenerator	D203	SO <sub>2</sub>	NSPS Subpart J	6/30/2004	7/12/2005	7/6/2005	Yes
V.E.31	FCCU Regenerator	D203	PM	NSPS Subpart J	6/30/2004	7/12/2005	7/6/2005	Yes
V.E.31	FCCU Regenerator	D203	CO	NSPS Subpart J	4/10/2005	7/12/2005	7/6/2005	Yes
V.E.31	FCCU Regenerator	D203	Opacity	NSPS Subpart J	4/10/2005	7/12/2005	7/6/2005	Yes
V.F.36	Heater F-301B	D20	NOx	0.045 lb/MMBtu	6/30/2007	9/28/2007	6/26/2007	No
V.G.43.a	Heater F-301A	D18	SO <sub>2</sub>	NSPS Subpart J	6/27/2005	7/12/2005	7/6/2005	Yes
V.G.43.a	Heater F-301B	D20	SO <sub>2</sub>	NSPS Subpart J	6/27/2005	7/12/2005	7/6/2005	Yes
V.G.43.a	Heater F-1100A	D82	SO <sub>2</sub>	NSPS Subpart J	6/27/2005	7/12/2005	7/6/2005	Yes
V.G.43.a	Heater F-1100B	D83	SO <sub>2</sub>	NSPS Subpart J	6/27/2005	7/12/2005	7/6/2005	Yes
V.G.43.a	Heater F-501A	D159	SO <sub>2</sub>	NSPS Subpart J	6/27/2005	7/12/2005	7/6/2005	Yes
V.G.43.a & App. D	Heater F-501B	D160	SO <sub>2</sub>	NSPS Subpart J	6/27/2005	7/12/2005	7/6/2005	Yes
V.G.43.a & App. D	Heater F-501C	D161	SO <sub>2</sub>	NSPS Subpart J	6/27/2005	7/12/2005	7/6/2005	Yes
V.G.43.a	Heater F-1210	D364	SO <sub>2</sub>	NSPS Subpart J	6/27/2005	7/12/2005	7/6/2005	Yes
V.G.43.a	Heater F-4532	D390	SO <sub>2</sub>	NSPS Subpart J	6/27/2005	7/12/2005	7/6/2005	Yes
V.G.43.a	Heater F-130	D398	SO <sub>2</sub>	NSPS Subpart J	6/27/2005	7/12/2005	7/6/2005	Yes
V.G.43.a	Heater F-302	D428	SO <sub>2</sub>	NSPS Subpart J	6/27/2005	7/12/2005	7/6/2005	Yes
V.G.43.a	Heater F-1610	D451	SO <sub>2</sub>	NSPS Subpart J	6/27/2005	7/12/2005	7/6/2005	Yes
V.G.43.a	Heater F-1660	D453	SO <sub>2</sub>	NSPS Subpart J	6/27/2005	7/12/2005	7/6/2005	Yes
V.G.43.a	Heater F-1510	D466	SO <sub>2</sub>	NSPS Subpart J	6/27/2005	7/12/2005	7/6/2005	Yes
V.G.43.a	Heater F-1520	D467	SO <sub>2</sub>	NSPS Subpart J	6/27/2005	7/12/2005	7/6/2005	Yes
V.G.43.a	Heater F-1590	D468	SO <sub>2</sub>	NSPS Subpart J	6/27/2005	7/12/2005	7/6/2005	Yes
V.G.43.a	Heater F-1010	D502	SO <sub>2</sub>	NSPS Subpart J	6/27/2005	7/12/2005	7/6/2005	Yes
V.G.43.a	Heater F-1000	D504	SO <sub>2</sub>	NSPS Subpart J	6/27/2005	7/12/2005	7/6/2005	Yes
V.G.43.a	Heater F-510	D617	SO <sub>2</sub>	NSPS Subpart J	6/27/2005	7/12/2005	7/6/2005	Yes
V.G.43.a	Heater F-520	D618	SO <sub>2</sub>	NSPS Subpart J	6/27/2005	7/12/2005	7/6/2005	Yes
V.G.43.a	Heater F-530	D619	SO <sub>2</sub>	NSPS Subpart J	6/27/2005	7/12/2005	7/6/2005	Yes
V.G.43.a	Heater F-540	D620	SO <sub>2</sub>	NSPS Subpart J	6/27/2005	7/12/2005	7/6/2005	Yes
V.G.43.a	Heater F-610	D623	SO <sub>2</sub>	NSPS Subpart J	6/27/2005	7/12/2005	7/6/2005	Yes
V.G.43.a	Heater F-620	D625	SO <sub>2</sub>	NSPS Subpart J	6/27/2005	7/12/2005	7/6/2005	Yes
V.G.43.a	Heater F-110	D1910	SO <sub>2</sub>	NSPS Subpart J	6/27/2005	7/12/2005	7/6/2005	Yes

Paragraph in CD	Plant or Equipment	Title V Permit Device No.	Pollutant	Emission Limit or Standard	Specified Compliance Date	Permit Application Due Date	Date Application Submitted to SCAQMD	Standard or Limit in Proposed Title V Permit?
V.G.43.a & App. E	Thermal Oxidizer F-707	C2158	SO2	NSPS Subpart J	6/27/2005	7/12/2005	7/6/2005	Yes
V.G.43.a & App. E	Thermal Oxidizer F-807	C3493	SO2	NSPS Subpart J	6/27/2005	7/12/2005	7/6/2005	Yes
V.H.47.a	SRU No. 10	P13S1	SO2	NSPS Subpart J	6/30/2004	7/12/2005	7/6/2005	Yes
V.H.47.a	SRU No. 20	P13S2	SO2	NSPS Subpart J	6/30/2004	7/12/2005	7/6/2005	Yes
V.H.47.a	SRU No. 70	P13S4	SO2	NSPS Subpart J	6/30/2004	7/12/2005	7/6/2005	Yes
V.I.54.a.i	FCC Flare	C1746	SO2	NSPS Subpart J	12/31/2006	3/31/2007	1/25/2007	Yes
V.I.54.a.i	Alky Flare	C3012	SO2	NSPS Subpart J	12/31/2006	3/31/2007	1/25/2007	Yes
V.I.54.a.i	NH3 Flare	N/A	SO2	NSPS Subpart J	Flare has been decommissioned			
V.I.54.a.ii	Coker Flare	C1785	SO2	NSPS Subpart J	12/31/2008	3/31/2009	TBD	No
V.I.54.a.ii	LSFO Flare	C1757	SO2	NSPS Subpart J	12/31/2008	3/31/2009	TBD	No
V.I.54.a.ii	Isomax Flare	C1749	SO2	NSPS Subpart J	12/31/2010	3/31/2011	TBD	No