

South Coast Air Quality Management District

Statement of Basis

Proposed Title V Permit

(Proposed for Public Review: 6/6/08)

Facility Name:	ConocoPhillips Company, Carson Refinery
Facility ID:	800362
SIC Code:	2911
Facility Address:	1520 E. Sepulveda Blvd. Carson, CA 90745
Application Number:	337522
Application Submittal Date:	2/5/98
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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 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 (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 NO₂, SO₂, CO, and lead. The status for CO has been redesignated from nonattainment to attainment in June 2007 (72 FR 26718). The status for PM-10 is currently in serious nonattainment. The status for ozone is currently in extreme nonattainment.

The AQMD proposes to issue a Title V permit to cover the Carson refinery operations that is owned and operated by ConocoPhillips Company and is located at 1520 E. Sepulveda Blvd, Carson, CA 90745. At this location, operations include initial separation, conversion, and some treating of the crude oil. These operations are subject to Title V requirements because this facility is a major source and is subject to certain New Source Performance Standards (NSPS) and National Emission Standards for Hazardous Air Pollutants (NESHAP) requirements. However, final processing and blending of the blendstocks into finished products (after further conversion and treating) is completed at the Wilmington refinery (Facility ID 800363). The Wilmington operation is also owned and operated by ConocoPhillips Company and is located at 1660 W. Anaheim St, Wilmington, CA 90744. As required, ConocoPhillips Company has already applied for a separate Title V permit for the Wilmington portion of refinery. The Title V permit for the Wilmington refinery will be proposed for issuance at a later date. Thus, the subject of this Statement of Basis and the proposed Title V permit consist of the Carson refinery only.

ConocoPhillips also operates a Marine Terminal (LARMT) (Facility I.D. 111642) in support of both refinery operations, located at Berths 148-151 Pier A Street, Wilmington, CA 90744. Raw, intermediate, and finished materials are transferred between LARMT and the two refineries primarily by pipelines. The LARMT received an exemption from Title V permitting requirements by accepting federally enforceable permit conditions that limit the facilities potential to emit below the Title V applicability emission thresholds specified in AQMD Rule 3001.

Finished products such as gasoline, diesel and other products produced at the refinery are transferred via the ConocoPhillips Torrance Tank Farm (Facility ID 111814) to three bulk loading terminals. The Torrance Tank Farm is located at 2650 Lomita Blvd, Torrance, CA 90505. This facility was issued its own separate initial Title V permit on April 16, 2001, and has applied for a renewal of its Title V permit on October 18, 2005 (which is currently under review).

Finally, gasoline, diesel, and other products produced at the refinery are distributed via three bulk loading terminals including ConocoPhillips Colton Terminal - West (Facility ID 800364), located at 2301 S. Riverside Ave, Bloomington, CA 92316; the ConocoPhillips LA Terminal (Facility I.D. 800365) located at 13500 S. Broadway Ave., Los Angeles, CA 90061; and the ConocoPhillips Colton Terminal – East located at 271 E. Slover Ave., Rialto, CA 92376. The Colton Terminal - West was issued its own separate initial Title V permit on April 16, 2001. The LA Terminal and the Colton Terminal – East have separately applied for their Title V permits in 1999 and 2002, respectively. These Title V permits for these terminals will be issued at a later date.

2. Facility Description

ConocoPhillips Los Angeles Refinery is owned and operated by ConocoPhillips Company and is located in Carson and Wilmington. It processes crude oil into various petroleum products such as gasoline, diesel, jet fuel, fuel oil, cutter stock, liquefied petroleum gases (LPG), and coke. Currently, the ConocoPhillips Carson refinery has a capacity to process approximately 138,700

barrels of crude oil per day. The refinery utilizes several processes to separate petroleum components within crude oil and to convert heavy components into lighter hydrocarbon compounds. These hydrocarbon compounds are used as blending components for gasoline, diesel, and other products. At the Carson refinery, crude oil is separated into LPG, kerosene, diesel, naphtha, and gas oil. A portion of the gas oil is hydrotreated to remove sulfur and other impurities. The intermediate products (naphtha and treated/untreated gas oil) are then sent to the Wilmington refinery via pipeline for further refining including conversion, treating and blending to produce finished products such as gasoline, diesel, jet fuel and cutter stock which are sold to the general public and industry as transportation fuels. The cutter stock is sold to industry for blending into fuel oil, which is utilized as transportation and heating fuels. The refinery also produces four co-products: petroleum coke, hydrogen, carbon dioxide, and sulfur.

Operation at the Carson 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, kerosene, diesel, gasoil, and straight run and vacuum residual.

Coking

Heavy residual oil and recovered oil are thermally cracked at a high temperature to produce light hydrocarbons and petroleum coke. Petroleum coke is transferred via a slurry system to the coke barn for further processing and distribution.

Hydrogen Plant and Hydrotreating

The hydrogen plant at Carson produces hydrogen for use in various hydrotreating processes. Gas oil produced from the crude units and coking unit is catalytically stabilized and impurities are removed 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. Carbon dioxide is generated in the hydrogen plant as a co-product. The carbon dioxide is removed and recovered for sale to a distribution company for various use.

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

3. Construction and Permitting History

The Carson portion of the refinery has been in continuous operation since 1921. Numerous permits to construct and permits to operate have been issued to the refinery since the formation of the Los Angeles County Air Pollution Control District in 1947. The current permit to operate

and/or permit to construct for each permit unit located at the refinery is contained in the Title V permit.

4. Regulatory Applicability Determinations

Applicable legal requirements with which this refinery must comply have been identified in the Title V permit (for example, Section D, E, and H of the proposed Title V permit). Device level condition H23.x denote applicability of federal regulations and source specific AQMD Rules to permitted equipment. 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. NSPS requirements of 40 CFR Part 60 apply to certain units at the facility and the permit terms and conditions may be found in Sections D and H of the Title V permit. NESHAP requirements of 40 CFR Parts 61 and 63 apply to certain units at the facility and the permit terms and conditions may be found in Sections D, H, and J of the Title V permit. Determinations of federal regulations that do not apply can be found in this section of the Statement of Basis.

This section contains a discussion of complex regulatory applicability determinations. This section also summarizes the NSPS and NESHAP applicability determinations for permitted equipment at this facility.

Federal Regulations

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

With the exception of certain specific equipment as further explained in Tables 4.1 to 4.3 below, the refinery is generally subject to the following NSPSs:

- 40 CFR 60 Subpart J – Standards of Performance for Petroleum Refineries
- 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,
- 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.

All of the equipment in the Title V Permit have been reviewed to determine whether they are subject to any of the NSPSs. 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
D429 D430	Boiler	40 CFR 60, Subpart D/Db ¹	Original construction in 1969. No subsequent modification or reconstruction.
D713	Heater	40 CFR 60, Subpart J	Permitted to combust only commercial natural gas.

¹ 40 CFR 60 Subpart D – Standards of Performance for Fossil-Fuel Fired Steam Generators for Which Construction Commenced after August 17, 1971 & 40 CFR 60 Subpart Db – Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units.

Table 4.2 Storage Tanks and Wastewater Systems Not Subject to NSPS Requirements

Device ID	Equipment	Regulation	Summary of Non-Applicability Determination
D86 D359 D360 D752 D915 D917	Storage Tank	40 CFR 60, Subpart K/Ka/Kb	Tank is permitted to store inorganic liquids only.
D363 D759 D761	Storage Tank	40 CFR 60, Subpart K/Ka/Kb	Storage capacity below threshold for the subject NSPSs.
D352 D353 D354 D426	Storage Tank	40 CFR 60, Subpart K/Ka/Kb	Vapor pressure of permitted commodities is below the vapor pressure threshold of the subject NSPSs.
D422 D423 D424 D425	Storage Tank	40 CFR 60, Subpart K/Ka/Kb	Pressure vessels designed to operate in excess of 15 psig without emissions to the atm. except under emergency conditions.

Device ID	Equipment	Regulation	Summary of Non-Applicability Determination
D365 D366 D367 D369 D370 D372 D373 D374 D376 D377 D378 D379 D382 D384 D388 D389 D403 D404 D409 D410 D414 D415 D416 D417 D418 D419	Storage Tank	40 CFR 60, Subpart K/Ka/Kb	Tank was constructed prior to June 11, 1973, and has not been modified or reconstructed since then.
D426	Portable Storage Tank	40 CFR 60, Subpart QQQ	Stores sludge removed from the wastewater treatment system. Exempt as storage tank per section 60.692-3(d).

Table 4.3 Fugitive Components Not Subject to NSPS Requirements

Device ID	Equipment	Regulation	Summary of Non-Applicability Determination
D861	Fug. Components (P8S1)	40 CFR 60, Subpart GGG	Components associated with material loading or unloading. Not part of a process unit.
D862	Fug. Comp. (P8S3)		
D868	Fug. Comp. (P9S1)	40 CFR 60, Subpart GGG	Components associated with wastewater treatment systems. Not part of a process unit.
D869	Fug. Comp. (P9S3)		
D944	Fug. Comp. (P9S4)		
D945	Fug. Comp. (P9S5)		
D870	Fug. Comp. (P10S1)	40 CFR 60, Subpart GGG	Components associated with material storage. Not part of a process unit.
D871	Fug. Comp. (P10S2)		
D872	Fug. Comp. (P10S3)		
D873	Fug. Comp. (P10S4)		

The refinery is not subject to the NSPSs listed below.

- 40 CFR 60 Subpart D - Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced after August 17, 1971. The refinery does not operate any steam generators that are subject to this subpart.
- 40 CFR 60 Subpart Da - Standards of Performance for Electric Utility Steam Generating Units for Which Construction is Commenced After September 18, 1978. The refinery does not operate any steam generating units that are subject to this subpart.

- 40 CFR 60 Subpart Dc - Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units. The refinery does not operate any steam generators that are subject to this subpart.
- 40 CFR 60 Subpart XX - Standards of Performance for Bulk Gasoline Terminals. The refinery does not own or operate a bulk gasoline terminal on site.
- 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. The 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. The refinery does not conduct any SOCMI operations.

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

The refinery is 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 EEEE - National Emission Standard for Hazardous Air Pollutants: Organic Liquids Distribution (Non-Gasoline).

Each of these standards, as applicable to the ConocoPhillips refinery, is incorporated into the Title V permit.

40 CFR 61 Subpart FF

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

The regulation also specifies a standard for each waste management unit that receives or manages the waste stream before and during treatment of the waste stream. Waste management unit includes tanks, surface impoundments, containers, individual drain systems, and oil water separators.

Condition P13.2 has been tagged to all processes to indicate the 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. Where applicable, waste management units and waste treatment systems subject to Subpart FF have been identified in the permit by specifying the 500 ppm VOC limit in the "Emissions and Requirements" column and/or condition H23.12, H23.23, and H23.24 in sections D and H of the Title V permit. The emission limit and condition have been tagged with Subpart FF. The listing in the "Emissions and Requirements" column also references Section J of the permit where the applicable Subpart FF requirements are contained.

The following equipment have been identified in the permit as subject to equipment-specific requirements of Subpart FF based on information contained in the individual equipment permit files or based on the refinery's Subpart FF report submitted to EPA as required by 40 CFR 61.357:

Table 4.4 Equipment Subject to Benzene NESHAP

Process No.	System No.	Equipment
6 (Gas & Water Treat.)	1 (Sour Water Stripping Unit)	Sour Water Stripper
7 (Sulfur Production)	1 (Sulfur Recovery Unit No. 1)	SRU Reactor
7 (Sulfur Production)	2 (Sulfur Recovery Unit No. 2)	SRU Reactor
10 (Storage Tanks)	2 (External Floating Roof Tanks)	Storage Tank
1 (Crude Distillation)	7 (Brine Flash (Benzene) Stripper)	Stripper Column

40 CFR 63 Subpart CC

The Carson refinery is also a major source under the definition of 40 CFR 63 Subpart CC (NESHAP from Petroleum Refineries). This rule seeks to reduce the emissions of eleven air toxics, including benzene. The rule requires controls for emissions of air toxics from storage tanks, equipment leaks, process vents, and wastewater collection and treatment system. For each equipment subject to Subpart CC, "HAP" is listed in the "Emissions and Requirements" column of sections D and H of the Title V permit along with a reference to Section J of the permit, which contains the emission limits and requirements for Subpart CC.

The following equipment have been identified in the permit as subject to Subpart CC based on the refinery's Notification of Compliance Status report submitted to EPA as required by 40 CFR 63.654(f) and/or based on a response to additional information requested by the AQMD:

Table 4.5 Group 1 Storage Vessels

(Storage vessels with a capacity of $\geq 177 \text{ m}^3$, and vapor pressure $\geq 10.4 \text{ kPa}$ (maximum) and $\geq 8.3 \text{ kPa}$ (annual average), and Organic Liquid HAP concentration $> 4\%$ by weight (annual average))

Process No.	System No.	Equipment
10 (Storage Tanks)	7 (Domed Ext. Float Roof Tanks)	Storage Tank

Table 4.6 Group 1 Wastewater Streams, Existing/New Source

Process No.	System No.	Equipment
1 (Crude Distillation)	7 (Brine Flash Stripper)	Stripper Column

Table 4.7 Group 1 Process Vents, Existing/New Source

(Process vents containing organic HAP concentration $\geq 20 \text{ ppmv}$, and total VOC emissions $\geq 33 \text{ kg/day}$)

Process No.	System No.	Equipment
None	None	None

Table 4.8 Equipment Leaks, Existing Source

(Equipment containing or contacting fluid that is 5% by weight total organic HAPs)

Process No.	System No.	Equipment
1 (Crude Distillation)	1 (Crude Distillation Unit)	Fugitive Emissions
1 (Crude Distillation)	7 (Brine Flash Stripper)	Fugitive Emissions
2 (Coking & Residual Conditioning)	1 (Delayed Coking Unit)	Fugitive Emissions
3 (Hydrotreating)	1 (FCC Feed Hydrodesulfur Unit DHT-3)	Fugitive Emissions
3 (Hydrotreating)	3 (FCC Feed Hydrodesulfur Unit 120)	Fugitive Emissions
5 (Gas Production)	1 (Debutanizer Unit)	Fugitive Emissions
10 (Storage Tanks)	2 (Ext. Floating Roof Tanks)	Fugitive Emissions
10 (Storage Tanks)	3 (Pressurized Tanks)	Fugitive Emissions

Table 4.9 Group 2 Process Vents /Storage Vessels/ Wastewater Streams

(Storage vessels with a capacity of $\geq 177 \text{ m}^3$, and vapor pressure $\geq 10.4 \text{ kPa}$ (maximum) and $\geq 8.3 \text{ kPa}$ (annual average), and Organic Liquid HAP concentration $< 4\%$ by weight (annual average), and process vents that are not group 1)

Process No.	System No.	Equipment
1 (Crude Distillation)	4 (Vacuum Flash Unit)	Skim Oil Pot
4 (Hyd. Production)	1 (Hydrogen Plant)	Stripper Column
4 (Hyd. Production)	1 (Hydrogen Plant)	DEA Sump

Process No.	System No.	Equipment
4 (Hyd. Production)	1 (Hydrogen Plant)	K.O. Pot
4 (Hyd. Production)	1 (Hydrogen Plant)	Flash Tank
4 (Hyd. Production)	1 (Hydrogen Plant)	Selexol Sump
5 (Gas Production)	4 (Coker LPG Merox Unit)	Separator Vessel
6 (Gas & Water Treat.)	3 (Sour Gas Treating Unit)	DEA Flash Tower
6 (Gas & Water Treat.)	3 (Sour Gas Treating Unit)	DEA BD Sump
6 (Gas & Water Treat.)	4 (Amine Regen. Unit No. 1)	DEA Surge Tank
8 (Loading & Unload.)	1 (Crude Oil Tank Car Unload.)	Oil Surge Tank
9 (Wastewater Treat.)	1 (Storm/Process Unit WWTS)	API Separator
9 (Wastewater Treat.)	1 (Storm/Process Unit WWTS)	Sump
9 (Wastewater Treat.)	1 (Storm/Process Unit WWTS)	Drain System
9 (Wastewater Treat.)	3 (Oil & Water Separation No. 1)	CPI Separator
9 (Wastewater Treat.)	3 (Oil & Water Separation No. 1)	Drain System
9 (Wastewater Treat.)	4 (Oil & Water Separation No. 2)	CPI Separator
9 (Wastewater Treat.)	4 (Oil & Water Separation No. 2)	Drain System
9 (Wastewater Treat.)	5 (Oil & Water Separation No. 3)	CPI Separator
9 (Wastewater Treat.)	5 (Oil & Water Separation No. 3)	Drain System
10 (Storage Tanks)	2 (External Floating Roof Tanks)	Storage Tank
10 (Storage Tanks)	5 (Internal Floating Roof Tanks)	Storage Tank
12 (Miscellaneous)	1 (Sludge Handling)	Settling Tank
12 (Miscellaneous)	4 (Maintenance Drop-Out)	Drop-Out Vessel

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).

This refinery has two SRUs but does not have a CCU or CRU. The subjectivity of the two SRUs to this regulation is denoted in the Title V permit by the listing of "HAP" in the "Emissions and Requirements" column for the following equipment, which is contained in Section D of the permit. This listing also references Section J of the permit where the applicable Subpart UUU emission limits and/or requirements are contained.

Table 4.10 Sulfur Recovery Unit(s)

Process No.	System No.	Equipment
12 (Sulfur Production)	1 (SRU No. 1)	Final Condenser
12 (Sulfur Production)	2 (SRU No. 2)	Final Condenser

The subject SRUs, which each have a capacity greater than 20 long tons per day, utilize reduction control systems followed by oxidation. Since both SRUs are also subject to 40CFR60 Subpart J, under Subpart UUU they are subject to an SO₂ emission limit of 250 ppmv (dry, 0% excess O₂) as specified in Table 29 to the subpart. As specified in Table 30 to Subpart UUU,

these SRUs and associated control systems are not subject to an operating limit under this regulation.

40 CFR 63 Subpart EEEE

This facility has identified affected sources as defined by this subpart for organic liquid distribution (non-gasoline). All affected sources are storage tanks used for storage of process treatment chemicals. Since all these tanks are less than 5,000 gallons, no controls are required per Table 2 – Emission Limits, and no work practice standards apply per Table 4 – Work Practice Standards.

Per 40 CFR 63.2338(c)(2), all equipment leak components associated with the affected sources are excluded, since all pumps, valves, and piping associated with these sources transfer organic liquids directly to non-tank process unit components.

There are no transfer racks, or transport vehicles subject to 40 CFR 63 Subpart EEEE at this facility.

All storage tanks, transfer racks, and equipment leak components not identified as an affected source under this subpart are generally part of the affected sources under 40 CFR 63 Subpart CC.

NESHAP Non-applicability

The 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. The refinery does not operate any equipment in “benzene service.”
- 40 CFR 61 Subpart Y - National Emission Standards for Benzene Emissions from Benzene Storage Vessels. The refinery does not store or transfer benzene.
- 40 CFR 61 Subpart BB - National Emission Standards for Benzene Emissions from Benzene Transfer Operations. The 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. The refinery does not operate 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. The refinery does not operate any SOCOMI operations.
- 40 CFR 63 Subpart H - National Emission for Organic Hazardous Air Pollutants for Equipment Leaks. The refinery does not operate any SOCOMI operations.
- 40 CFR 63 Subpart Q - National Emission Standards for Hazardous Air Pollutants for Industrial Process Cooling Towers. The 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. The refinery does not own or operate a bulk gasoline terminal or pipeline breakout station.

- 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 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 with a site rating of more than 500 brake horsepower.
- 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 GGGGG - National Emission Standard for Hazardous Air Pollutants for Site Remediation. Per 63.7881(b)(3), the equipment are exempted because the site remediation is performed under a RCRA corrective action conducted at a TSDF and is required by a State program per RCRA section 3006.

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. However, because this application is an initial application and not a renewal application, no CAM plans are required.

5. Periodic Monitoring Requirements

Applicable monitoring and operational requirements for 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 proposed Title V permit).

The 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_x and SO_x 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 proposed 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 requirement of the rule. Permit conditions in Section D and H of the permit that fulfill Title V periodic monitoring requirements are tagged with the following: *Rule 3004(a)(4)-Periodic Monitoring, 12-12-1997*. These periodic monitoring conditions are also tagged with the underlying rule(s) for which the condition is fulfilling the monitoring requirement. In some cases, existing monitoring conditions that were installed under NSR fulfill the periodic monitoring requirements for other rules or regulations. For these cases, the monitoring condition

was tagged with Rule 3004(a)(4) and the underlying rule(s) for which the condition is fulfilling the monitoring requirement.

A draft Periodic Monitoring Guidance document was published by the AQMD in August 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 comprises eleven sections and two appendices. Each section is devoted to a particular function as summarized below:

Section A Facility Information

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

Section B RECLAIM Annual Emission Allocation

This section applies to RECLAIM facilities only and lists NO_x and SO_x allocations for the facility. This facility is subject to both the NO_x and SO_x requirements of RECLAIM.

Section C Facility Plot Plan

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

Section D Facility Description and Equipment Specific Conditions

This section describes equipment at the 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. This section also lists the equipment application number (A/N). The application number is an identification number issued by the AQMD to the application submitted to the AQMD by the applicant for a Permit to Construct or Permit to Operate a piece of equipment. A facility is required to submit a permit application when it plans to install a new piece of equipment, alter an existing piece of equipment, or modify a permit condition. An application number in the Title V permit changes each time the AQMD approves a new application.

Device Identification (I.D.) Number

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

Connected to

This column is used to identify air pollution control equipment that is connected to a specific piece of equipment at the refinery.

RECLAIM Source Type/Monitoring Unit

This column is used to identify equipment classification pursuant to the RECLAIM program. The classification of major source, large source and process units are defined in Rule 2012. The equipment classification is assigned to NOx and SOx emission sources subject to RECLAIM. Each classification of equipment is subject to a specific monitoring requirement under RECLAIM.

Emissions and Requirements

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

Conditions

This column lists specific permit conditions applicable to the facility, process, system or equipment. A facility level condition applies to the whole facility and

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

Section F RECLAIM Monitoring & Source Testing Requirements

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

Section G RECLAIM Recordkeeping & Reporting Requirements

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

Section H Permit to Construct and Temporary Permit to Operate

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

Section I Compliance Plans & Schedules

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

Section J Air Toxics

This section lists permit conditions pertaining to 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.

Appendix A NO_x and SO_x Emitting Equipment Exempt from Written Permit Pursuant to Rule 219

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

Appendix B Rule Emission Limits

Specific emission limits that cannot be listed in the Emissions and Requirements column of Sections D and H and which were added as emission limit type nine are included in this appendix.

7. Permit Features

Permit Shield

A permit shield is an optional part of a Title V permit that gives the facility an explicit protection from requirements that do not apply to the facility. A permit shield is a provision in a permit that states that compliance with the conditions of the permit shall be deemed compliance with all identified regulatory requirements. To incorporate a permit shield into the Title V permit involves submission of applications for change of conditions for each equipment affected by the permit shield. Permit shields are addressed in 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 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 emissions trading requirements under Regulation XX.

Prevention of Significant Deteriorations (PSD) Permits

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

EPA New Source Review (NSR) Permits

NSR is a federal program for permitting new and modified sources that emit air pollutants for which the AQMD is classified as in Non-attainment with NAAQS. Before SIP-approval of the AQMD NSR Rule in 1978, EPA issued NSR permits for new construction and/or equipment modifications in the AQMD. A check of the records indicates that there are no NSR permits issued by the EPA for the Carson refinery.

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 2005-2006.

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

Pollutant	Emissions (tons/year)
NOx	343
CO	448
VOC	123
PM	64
SOx	284

**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	578
1,3-Butadiene	24
Acetaldehyde	448
Acrolein	0.36
Ammonia	943
Arsenic	9.4
Asbestos	< 0.001
Benzene	207
Beryllium	0.10
Cadmium	2.5
Carbonyl sulfide	7576
Chlorine	0.84
Chromium (VI)	0.04
Copper	13
Diesel engine exhaust, particulate matter	67
Diethylene glycol monomethyl ether	57
Ethylbenzene	418
Flurocarb (CL)	82
Formaldehyde	343
Glycol ethers (and their acetates)	28
Hexane	1654
Hexamethylene-1,6-diisocyanate	2.6
Hydrochloric acid	1.0
Hydrogen sulfide	2180

The Following TACs Were Reported	Emissions (lbs/yr)
Lead (inorganic)	5.4
m-Xylene	0.33
Methyl t-Butylether	15
Manganese	26
Mercury	2.4
Methanol	5890
Methyl ethyl ketone	51
Naphthalene	240
Nickel	28
PAHs, total, with components not reported	25
Propylene glycol monomethyl ether	28
Propylene glycol monomethyl ether acetate	16
Selenium	0.02
Styrene	0.44
Sulfuric Acid	7317
Toluene	1375
Trichloroethylene	3230
Xylenes	1944
o-Xylene	0.11

Health Risk from Toxic Air Contaminants

The Carson refinery is subject to review by the Air Toxics Information and Assessment Act (AB2588). The Final Facility Health Risk was approved on February 9, 2001 with the following risk factors.

Cancer Risk	3.1 in one million
Acute Hazard Index	0.67
Chronic Hazard Index	0.26

9. Compliance History

The Carson refinery is subject to the terms of a consent decree entered with the U.S. District Court (Southern District of Texas) on January 27, 2005; and a Hearing Board Order entered for Case No. 4900-80 regarding compliance with District Rule 1118.

Consent Decree (Civil Action No. H-05-0258)

The subject Consent Decree (CD) was filed in U.S. District Court for the Southern District in Texas on January 27, 2005. This Consent Decree is the result of a settlement between ConocoPhillips and EPA over alleged violations of certain Clean Air Act and CERCLA/EPCRA provisions. This comprehensive settlement covers ConocoPhillips refineries located in Belle Chasse, La.; Linden, N.J.; Borger and Sweeny, Texas; Carson and Wilmington, Calif.; Ferndale,

Wash.; Rodco and Santa Maria, Calif.; Trainer, Pa.; and Roxanna and Hartford, Ill. Under this agreement, ConocoPhillips agreed to the following at the Carson Refinery:

- All heaters, boilers, flares, and SRUs, which were not already subject to 40CFR60 Subpart J, became affected sources subject to this NSPS. As required by the consent decree, ConocoPhillips submitted applications to integrate these requirements into the Carson refineries RECLAIM facility permit. These requirements are included in the refineries proposed Title V permit.
- Enhancement of the refineries Benzene Waste Operations NESHAP (40CFR61 Subpart FF) program.
- Enhancements of the refineries Leak Detection and Repair (LDAR) program.
- Implementation of new investigative, reporting, and corrective action procedures for flares.

Variance(s)

Hearing Board Case No. 4900-80: AQMD Rule 1118 was amended in November of 2005. 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, 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.

The ConocoPhillips Carson Refinery contains the following two General Service Flares that are subject to Rule 1118: East Flare (C465) and West Flare (C469). At the time of the rule adoption, technical challenges and issues related to feasibility, reliability, maintainability, accuracy, and safety that had the potential to delay implementation of the specified monitoring systems. 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 members to resolve outstanding issues. Pilot projects for the development of TSC and HHV analyzers was not completed until March 2008 and the AQMD has approved TSC and HHV analyzers since the analyzers have demonstrated compliance with the technical requirements of Rule 1118. Under the variances issued by the Hearing Board, the refineries will have until September 1, 2008, to complete design, acquisition, and installation of the required analyzers.

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 including the submittal of progress reports. A copy of each of the documents related to this regular variance is included in Appendix V to this SOB. The issuance of the regular variance by the AQMD Hearing Board does not affect federal or citizen enforceability of the subject requirements.

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 1921. 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. 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=800362).

Likewise, the compliance documentation for Variances and Abatement Orders is also 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=800362).

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 Andrew Chew at (909) 396-2493 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 (2005 - 2008). 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=800362).
- IV. Variances and Abatement Orders (2005 - 2008). 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=800362).