



# South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4182  
(909) 396-2000 • www.aqmd.gov

**SUBJECT: NOTICE OF PREPARATION OF DRAFT  
ENVIRONMENTAL IMPACT REPORT**

**PROJECT TITLE: CONOCOPHILLIPS LOS ANGELES REFINERY  
PM10 AND NO<sub>x</sub> REDUCTION PROJECTS**

In accordance with the California Environmental Quality Act (CEQA), the South Coast Air Quality Management District (SCAQMD) is the Lead Agency and will prepare a Draft Environmental Impact Report (EIR) for the projects identified above. The purpose of this Notice of Preparation (NOP) is to solicit comments on the environmental analysis to be contained in the EIR.

In conjunction with the development of the proposed projects, it is necessary to address the potential adverse effects of the proposed projects on the environment. The SCAQMD is preparing the appropriate environmental analysis consistent with CEQA. The Notice of Preparation (NOP) serves two purposes: to solicit information on the scope of the environmental analysis for the proposed projects and notify the public that the SCAQMD will prepare a Draft EIR to further assess potential adverse environmental impacts that may result from implementing the proposed projects. The Draft EIR will further analyze environmental topics identified in the Initial Study as being potentially significantly affected by the proposed project.

The NOP and the attached Initial Study are not SCAQMD applications or forms requiring a response from you. Their purpose is simply to provide information to you on the above projects. If the proposed projects have no bearing on you or your organization, no action on your part is necessary. The projects' descriptions, locations, and potential environmental impacts are described in the NOP and the Initial Study.

Comments focusing on your area of expertise, your agency's area of jurisdiction, or issues relative to the environmental analysis should be addressed to Mr. Michael Krause at the address shown above, sent by FAX to (909) 396-3324 or e-mailed to [http://www.mkrause@aqmd.gov](mailto:http://www.mkrause@aqmd.gov). Comments must be received no later than 5:00 p.m on December 29, 2006. Please include the name and phone number of the contact person for your organization.

**Project Applicant:** ConocoPhillips Los Angeles Refinery

**Date:** November 30, 2006

**Signature:** \_\_\_\_\_

*Steve Smith*

Steve Smith, Ph.D.  
Program Supervisor  
Planning, Rules, and Area Sources

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT  
21865 Copley Drive, Diamond Bar, California 91765-4182**

**NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT**

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**Project Title:**

ConocoPhillips Los Angeles Refinery PM10 and NOx Reduction Projects

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**Project Location:**

The ConocoPhillips Los Angeles Refinery is comprised of both a Wilmington and a Carson plant. The Wilmington Plant is located at 1660 West Anaheim Street, Wilmington (Los Angeles), California. The Carson Plant is located at 1520 East Sepulveda Boulevard, Carson, California.

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**Description of Nature, Purpose, and Beneficiaries of Project:**

ConocoPhillips is proposing PM10 and NOx Reduction projects at its Los Angeles Refinery for both its Wilmington and Carson Plants to comply with SCAQMD rule requirements to reduce PM10 and NOx emissions. The projects include modifications at both Plants designed to comply with SCAQMD Rules 1105.1 and Regulation XX (RECLAIM). Proposed changes at the Wilmington Plant include a new Wet Gas Scrubber and a new Selective Catalytic Reduction (SCR) unit. Changes to the Carson Plant include one new SCR unit.

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**Lead Agency:**

South Coast Air Quality Management District  
Sources

**Division:**

Planning, Rule Development and Area

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**Initial Study and all Supporting Documentation are Available at:**

SCAQMD Headquarters  
21865 Copley Drive  
Diamond Bar, CA 91765

Or by Calling:  
(909) 396-2039

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The Initial Study is available by Accessing:

<http://aqmd.gov/ceqa/nonaqmd.html>

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The proposed projects will not have a statewide, regional and area-wide significance, therefore, a CEQA scoping meeting is not required (pursuant to Public Resources Code §21083.9(a)(2)) and, thus, will not be held for the proposed projects.

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**The Public Notice of Preparation is provided through the following:**

Los Angeles Times (November 30, 2006)     AQMD Website     AQMD Mailing List

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**Review Period:**

November 30, 2006 through December 29, 2006

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**CEQA Contact Person:**

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**E-Mail Address**

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**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

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**Notice of Preparation/Initial Study  
ConocoPhillips Los Angeles Refinery  
PM10 and NOx Reduction Projects**

**SCH No. TBD**

**November 30, 2006**

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**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

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## **CHAPTER 1**

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### **PROJECT DESCRIPTION**

Introduction  
Agency Authority  
Project Background  
Project Location  
Proposed Project Modifications to the Refinery  
    Wilmington Plant Modifications  
    Carson Plant Modification  
Construction Schedule

## **1.0 PROJECT DESCRIPTION**

### **1.1 INTRODUCTION**

ConocoPhillips Los Angeles Refinery (Refinery) is proposing particulate matter less than 10 microns diameter (PM10) and nitrogen oxide (NOx) reduction projects at its Wilmington and Carson Plants. The projects include modifications to Refinery units at both the Wilmington and Carson Plants. Modifications to the Wilmington Plant include the installation of a Wet Gas Scrubber (WGS), to comply with South Coast Air Quality Management District (SCAQMD) Rule 1105.1 – Reduction of PM10 and Ammonia Emissions from Fluid Catalytic Cracking Units (FCCUs), and a Selective Catalytic Reduction (SCR) unit on Boiler 7 to comply with the NOx reduction requirements of SCAQMD Regulation XX - Regional Clean Air Incentives Market (RECLAIM). The Refinery also plans to install a new SCR on Boiler 11 at its Carson Plant to comply with RECLAIM requirements.

### **1.2 AGENCY AUTHORITY**

The California Environmental Quality Act (CEQA), Public Resources Code Section 21000 et seq., requires that the environmental impacts of proposed projects be evaluated and that feasible methods to reduce, avoid or eliminate significant adverse impacts of these projects be identified and implemented. To fulfill the purpose and intent of CEQA, the SCAQMD is the lead agency for the projects and has prepared this Notice of Preparation and Initial Study (NOP/IS) to address the potential environmental impacts associated with the Refinery's environmental compliance projects.

The lead agency is the public agency that has the principal responsibility for carrying out or approving a project that may have a significant effect upon the environment (Public Resources Code Section 21067). It was determined that the SCAQMD has the primary responsibility for supervising or approving the projects as a whole and is the most appropriate public agency to act as lead agency (CEQA Guidelines Section 15051(b)). The proposed projects require discretionary approvals from the SCAQMD for modifications to existing stationary source equipment and installation of new stationary source equipment.

### **1.3 PROJECT BACKGROUND**

#### **1.3.1 RULE 1105.1 BACKGROUND**

On November 7, 2003, the SCAQMD Governing Board adopted Rule 1105.1, which requires affected refineries to reduce PM10 and ammonia emissions. In connection with promulgating Rule 1105.1, the SCAQMD prepared a Final Environmental Assessment (2003 Final EA), as a substitute document for an environmental impact report (EIR) under CEQA Guidelines §15252. The 2003 Final EA included a comprehensive project description, a description of the existing setting that could be adversely affect by the



proposed project, analysis of the potential adverse environmental impacts (air quality and hazards/hazardous materials), cumulative impacts, mitigation measures, project alternatives and all other relevant topics required by CEQA. The 2003 Final EA analyzed refinery-specific impacts as well as impacts from the rule as a whole. It was concluded in the 2003 Final EA that implementation of Rule 1105.1 would result in potential significant adverse impacts to air quality during construction for the installation of new air pollution control devices. Hazards/hazardous materials impacts were concluded to be insignificant. Although mitigation measures to reduce construction emissions were incorporated into the 2003 Final EA, construction air quality impacts would not be reduced to less than significant. As a result, a Statement of Findings and a Statement of Overriding Considerations for the implementation of Rule 1105.1 were also adopted. The 2003 Final EA was certified by the SCAQMD Governing Board on November 7, 2003. The 2003 Final EA, which includes comment letters relative to the Draft EA and their responses (which are archived in Appendix E), the NOP/IS (which is archived in Appendix C), and comment letters relative to the NOP/IS and their responses (which are archived in Appendix D) can be obtained by contacting the SCAQMD's Public Information Center at (909) 396-2039 or by visiting following website at: [http://www.aqmd.gov/ceqa/documents/2003/aqmd/finalEA/FEA\\_1105.doc](http://www.aqmd.gov/ceqa/documents/2003/aqmd/finalEA/FEA_1105.doc).

Subsequent to the adoption of Rule 1105.1 and certification of the 2003 Final EA, the Western States Petroleum Association (WSPA) filed a lawsuit against the SCAQMD challenging the certification of the 2003 Final EA and approval of Rule 1105.1 (WSPA vs. SCAQMD et al, Superior Court of California, County of Los Angeles, Case No. BS087190). The lawsuit asserted, among other things, that emission reductions to be achieved from implementing Rule 1105.1 were over-estimated, implementation of Rule 1105.1 would not be cost effective, and that the CEQA document failed to consider all environmental impacts of available emissions control technologies to comply with the emission limits. The judge found that all the contentions made by WSPA were without merit. WSPA filed an appeal of this judgment (WSPA vs. SCAQMD et al, Court of Appeal of the State of California, Second Appellate District, Division Seven, Case No. B181303) and the court once again concluded that WSPA's arguments were without merit. Further, the court concluded that the SCAQMD met its obligation under CEQA to conduct an environmental assessment of Rule 1105.1. Therefore, in accordance with Public Resources Code (PRC) §21167.3(b), the 2003 Final EA has been determined to comply with CEQA.

To comply with Rule 1105.1, the 2003 Final EA assumed that all of the existing electrostatic precipitators (ESPs) at five of the six refineries in the Basin would either be replaced with new models or rebuilt by December 31, 2006, or by December 31, 2008, if a requested extension was approved. Construction emissions in the Final EA assumed that control equipment at two different refineries would be under construction at any one time between 2004 and 2008, because of the lead time allowed by the rule. However, because of the lawsuit, refineries did not begin construction until 2006 and most refineries will be under construction during 2007 and 2008, so that construction activities at four refineries are expected to overlap (rather than the two analyzed in the 2003 Final EA). Therefore, although the SCAQMD shall utilize the Final EA in its review of the

WGS project pursuant to PRC §21159.2(a), there is a need to re-evaluate the cumulative impacts of construction activities required to comply with Rule 1105.1 at four refineries, rather than two. In addition, cumulative impacts of any other projects at the refineries not previously considered in the 2003 Final EA (PRC § 21159.2(b)) will be evaluated. Finally, there is also the need to evaluate the impacts associated with the Wet Gas Scrubber technology, which was not evaluated in detail in the 2003 Final EA, such as possible aesthetic, water demand, and wastewater impacts.

### **1.3.2 REGULATION XX BACKGROUND**

The Final 2003 Air Quality Management Plan (AQMP) demonstrated that substantial NO<sub>x</sub> and volatile organic compounds (VOC) emission reductions are necessary to attain the state and federal ambient air quality standards. The 2003 AQMP included control measure 2003 CMB-10, which seeks additional NO<sub>x</sub> emission reductions from NO<sub>x</sub> RECLAIM facilities. CMB-10 identified a series of control approaches to achieve additional NO<sub>x</sub> emission reductions from affected facilities. In order to implement CMB-10, the SCAQMD proposed amendments to Regulation XX – RECLAIM, which were adopted by the SCAQMD Governing Board in January 2005. The SCAQMD prepared a Final Environmental Assessment (2004 Final EA) for proposed amendments to Regulation XX – RECLAIM (SCAQMD, 2004). CMB-10 and the 2004 Final EA assumed that refinery heaters, boilers and fluid catalytic cracking units would use SCRs to comply with the amendments to Regulation XX.

The 2004 Final EA included a comprehensive project description, a description of the existing setting that could be adversely affect by the proposed project, analysis of the potential adverse environmental impacts (air quality and hazards/hazardous materials), cumulative impacts, mitigation measures, project alternatives and all other relevant topics required by CEQA. The 2004 Final EA analyzed facility-specific impacts as well as impacts from the rule as a whole. It was concluded in the 2004 Final EA that implementation of the amendments to Regulation XX would result in potential significant adverse impacts to air quality during construction for the installation of new air pollution control devices. The only other environmental topic area required to be evaluated in the 2004 Final EA, hazards/hazardous materials impacts, was concluded to be less than significant. Although mitigation measures to reduce construction emissions were incorporated into the 2004 Final EA, construction air quality impacts would not be reduced to less than significant. As a result, a Statement of Findings and a Statement of Overriding Considerations for the implementation of Regulation XX were also adopted. The 2004 Final EA was certified by the SCAQMD Governing Board on January 7, 2005. The 2004 Final EA, which includes comment letters relative to the Draft EA and their responses (which are archived in Appendix E), the NOP/IS (which is archived in Appendix C), and comment letters relative to the NOP/IS and their responses (which are archived in Appendix D) can be obtained by contacting the SCAQMD's Public Information Center at (909) 396-2039 or by visiting following website at: [http://www.aqmd.gov/ceqa/documents/2005/aqmd/finalEA/FEA\\_RegXX.doc](http://www.aqmd.gov/ceqa/documents/2005/aqmd/finalEA/FEA_RegXX.doc).

To comply with the amendments to Regulation XX, the 2004 Final EA assumed that additional SCR units would be required on refinery heaters, boilers and fluid catalytic cracking units at refineries in the Basin. Construction emissions in the Final EA assumed that the refinery operators would be constructing SCR units during a three-year period beginning January 1, 2007, and ending December 31, 2009, because of the requirement to comply with the Regulation XX amendments by 2010. The 2004 Final EA made a conservative assumption that up to 16 SCR projects could be under construction at any one time. Therefore, although the SCAQMD shall utilize the 2004 Final EA in its review of the SCR project pursuant to PRC § 21159.2(a), there is a need to evaluate the cumulative impacts of construction activities required to comply with Regulation XX, and Rule 1105.1, as well as the cumulative impacts of any other projects at the refineries not previously considered in the 2004 Final EA (PRC § 21159.2(b)).

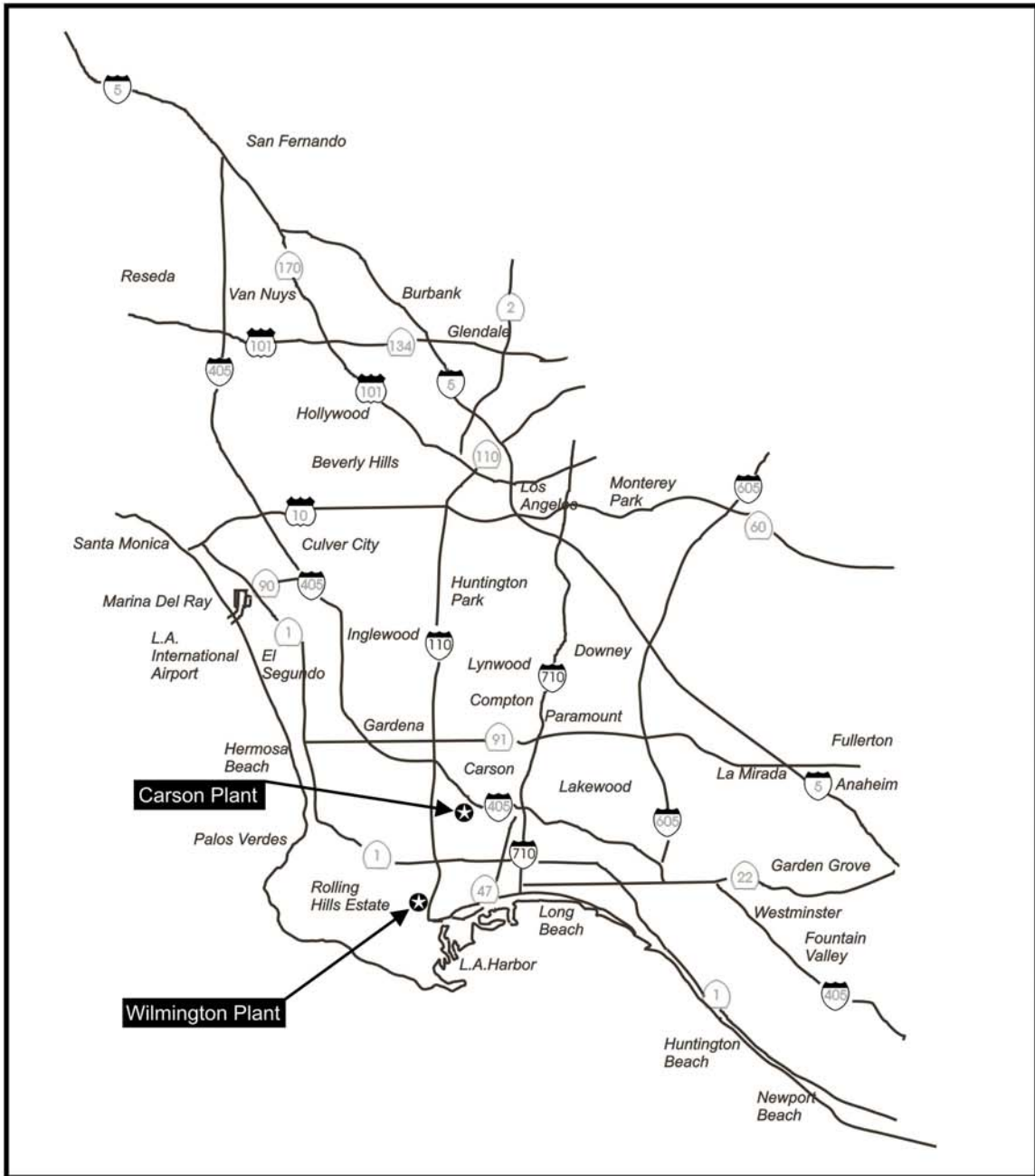
## **1.4 PROJECT LOCATION**

The proposed project will occur at the ConocoPhillips Los Angeles Refinery, which is made up of the Wilmington Plant and the Carson Plant. The Wilmington Plant is located at 1660 West Anaheim Street, Wilmington, California, while the Carson Plant is located at 1520 East Sepulveda Boulevard, Carson, California (Figures 1-1, 1-2, and 1-3). The proposed modifications are entirely within the confines of the existing facilities.

The eastern part of the Wilmington Plant borders a residential area, a roofing materials plant, and a portion of the Harbor 110 Freeway. The northern portion of the site borders Harbor Lake Park, Harbor College, Harbor Golf Course, and a small residential area. The western part of the site borders Gaffey Street including a firing range, vacant fields, recreational fields, and a U.S. Navy fuel storage facility. Finally, the southern portion of the site shares a border with a warehouse facility.

The Carson Plant is bounded on the north by Sepulveda Boulevard, on the west by Wilmington Avenue; on the south by a branch of the Atchison, Topeka and Santa Fe Railroad; and on the east by Alameda Boulevard. Property to the north of the Carson Plant is occupied by the BP Carson Refinery. The western boundary of the plant borders a shipping and container storage facility. Property across Wilmington Boulevard includes a residential neighborhood to the northwest and commercial uses to the southwest. Land uses to the south of the Carson Plant are heavy industrial. Land south of Lomita Avenue is dominated by port-related activities. Land east of Alameda Street is occupied by a storage tank farm and the Shell (formerly Equilon/Texaco) Refinery.

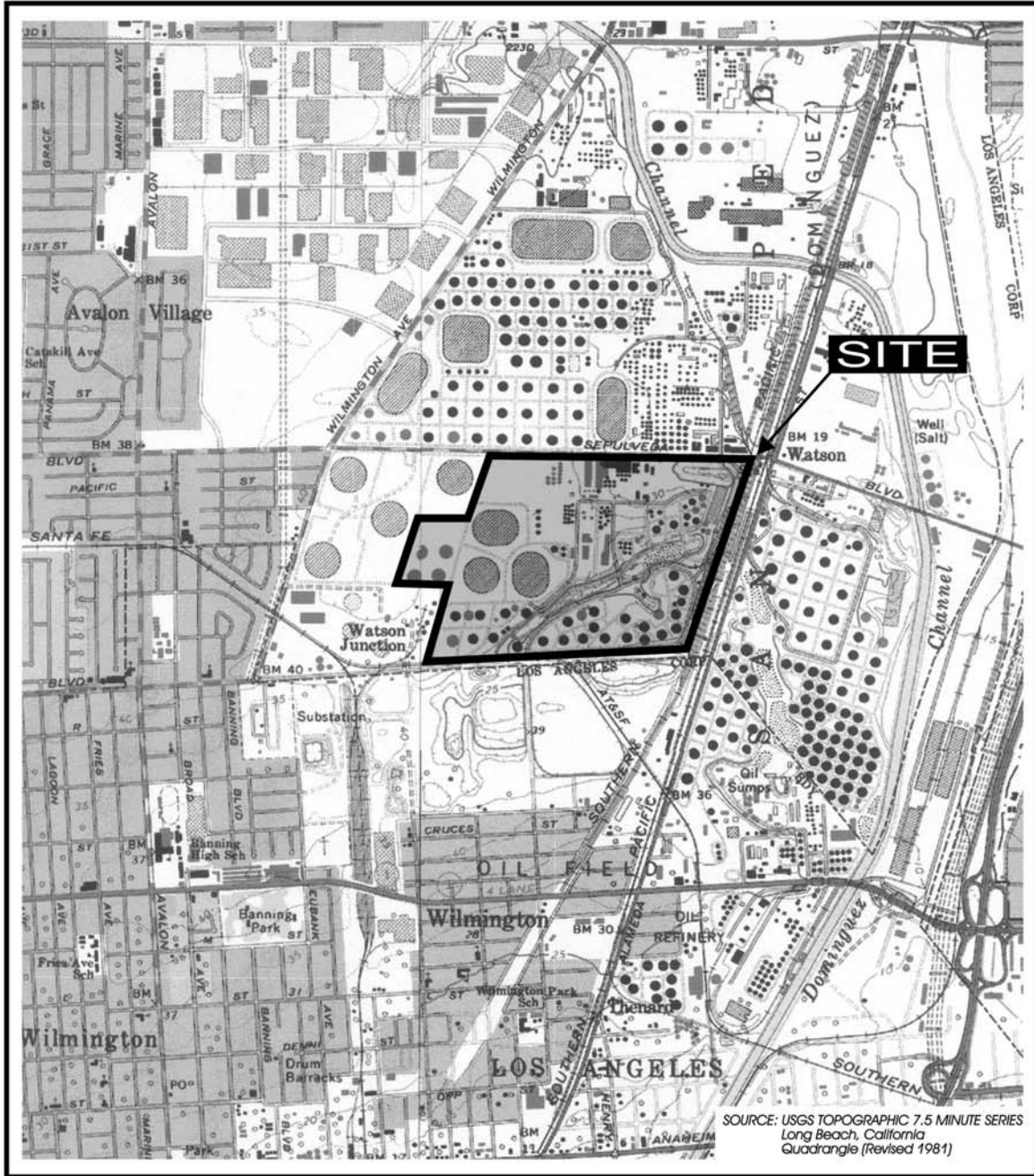
CHAPTER 1: PROJECT DESCRIPTION




Environmental Audit, Inc.

REGIONAL MAP  
ConocoPhillips  
Los Angeles Refinery





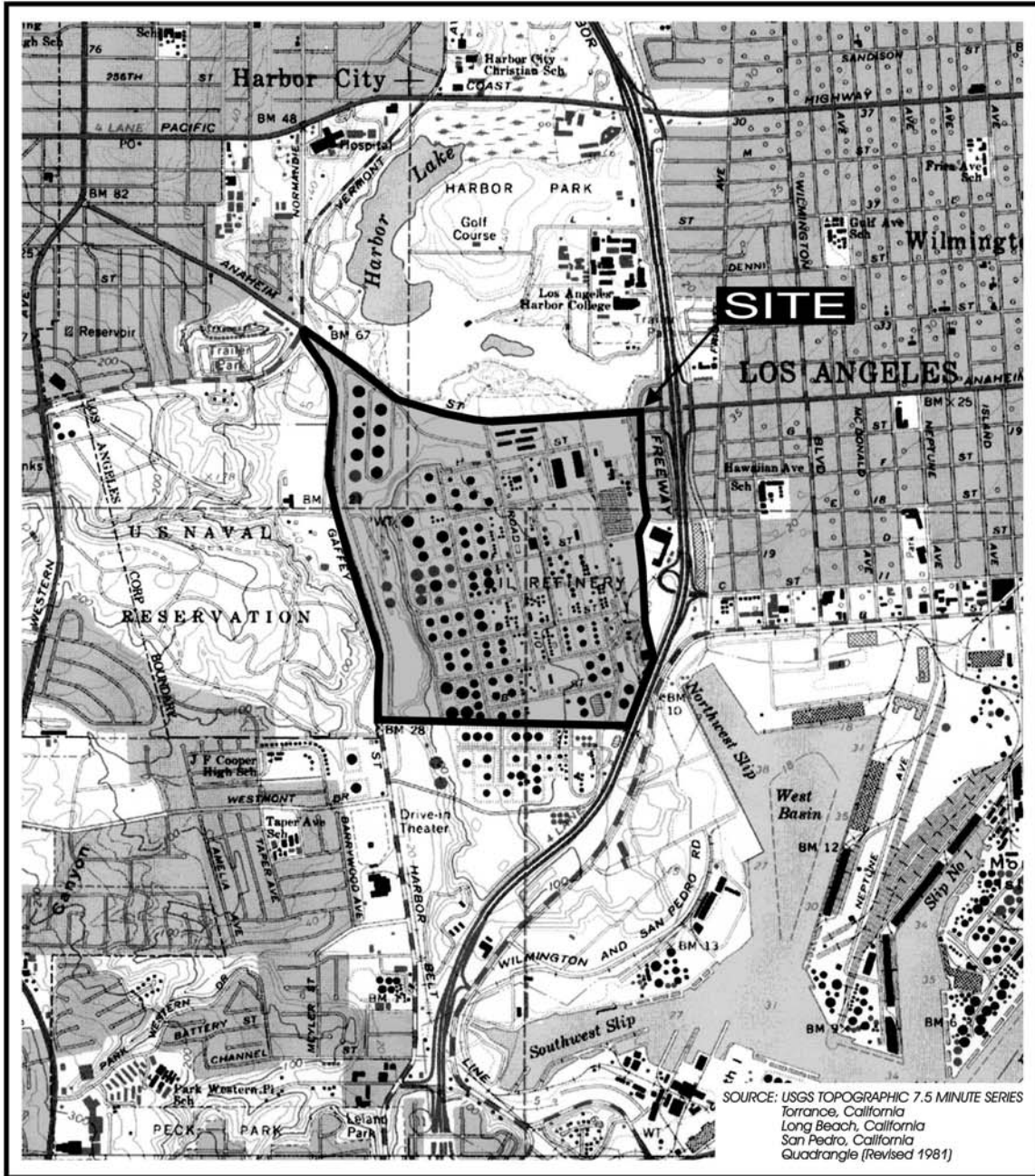
 Environmental Audit, Inc.

**SITE LOCATION MAP**  
ConocoPhillips  
Carson Plant

0 2,000'







 Environmental Audit, Inc.

SITE LOCATION MAP  
ConocoPhillips  
Wilmington Plant

## **1.5 PROPOSED PROJECT MODIFICATIONS TO THE REFINERY**

The proposed projects involve Refinery modifications to both the Wilmington and Carson Plants, and are summarized in this section. The locations of the proposed new and modified units are shown in Figures 1-4 and 1-5. All components of the proposed projects are associated with aiding in compliance of air quality rules and regulations for the existing Refinery. However, the proposed project components represent three independent emission reduction projects that are separate independent projects, none of which is dependent on the other. However, due to similar approval process (e.g., rule compliance, permit evaluation, etc.) of the three projects, the timing of the projects will be similar. Therefore, the projects' components are being evaluated in a single CEQA document because: (1) the construction schedules for the three project components are expected to completely or partially overlap, generating potential cumulative construction impacts; (2) there is the potential for other cumulative impacts during the operation of the three projects; and (3) the compliance schedules overlap. Further, the proposed project components are each designed to comply with the performance standards set forth in SCAQMD Rule 1105.1 and Regulation XX. The SCAQMD will utilize the 2003 Final EA for Rule 1105.1 and the 2004 Final EA for Regulation XX to address only the project-specific impacts related to these projects not already addressed in the prior environmental assessments (PRC § 21159.2).

### **1.5.1 WILMINGTON PLANT MODIFICATIONS**

#### **1.5.1.1 Wet Gas Scrubber**

In November 2003, the SCAQMD adopted Rule 1105.1 – PM10 and Ammonia Emissions from FCCUs, which regulates particulate matter less than 10 microns in diameter (PM10) and ammonia flue gas emissions from FCCUs. According to Rule 1105.1, operators of the affected FCCUs will need to apply one of the following PM10 emission limits:

- 0.005 grains of PM10 per dry standard cubic foot (SCF) in the flue gas, corrected to three percent oxygen; or
- 3.6 pounds of PM10 per hour; or
- 2.8 pounds of PM10 per 1,000 barrels of fresh feed.

There are two leading technology options for FCCU flue gas particulate emission control: Wet Gas Scrubber and Dry Electrostatic Precipitator (ESP). ConocoPhillips has selected a Wet Gas Scrubber as the best technology to meet the project objectives. Wet gas scrubbers require no ammonia use, can control sulfur oxides (SOx) emissions, a precursor to PM2.5 and PM10, and can effectively control particulates during transient conditions like start-ups and shut downs.

# CHAPTER 1: PROJECT DESCRIPTION







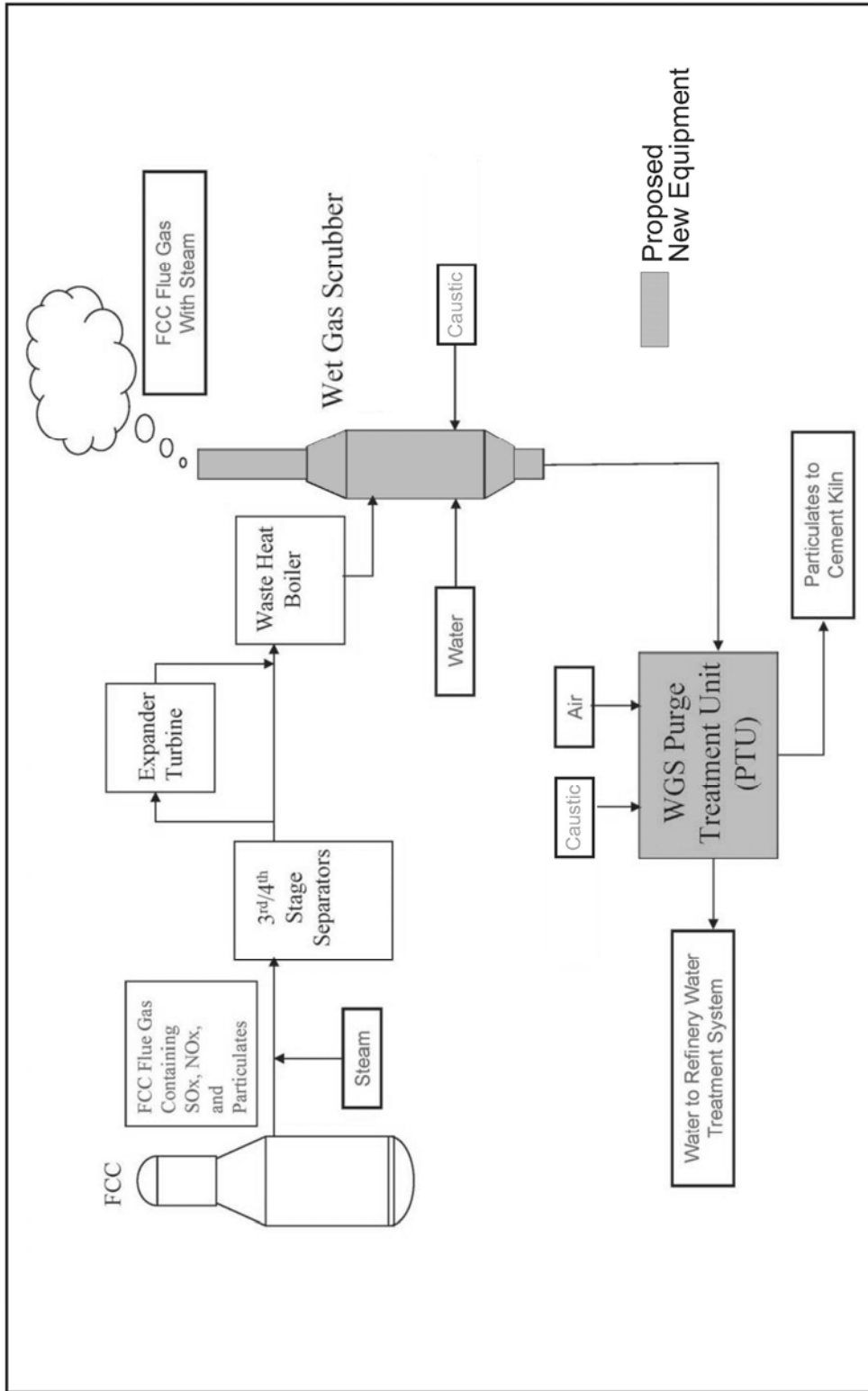
Flue gas containing particulates and SO<sub>x</sub> will be fed to the Wet Gas Scrubber. In the scrubber, the flue gas flows upward through a spray tower section where there is intimate contacting of the particulate matter and the sulfur oxides with scrubbing liquid that flows countercurrent to the gas flow. The scrubbing liquid is a mixture of water and alkali that is constantly re-circulated. Following the spray tower, a wet electrostatic precipitator section will remove remaining fine particulates. The Wet Gas Scrubber system has two effluent streams: clean FCCU flue gas, and a purge liquid. The clean FCCU flue gas passes up the stack of the scrubber system and is released to the atmosphere. The purge liquid goes to a purge treatment unit. Figure 1-6 shows the block flow diagram of flue gas from the FCCU and the proposed treatment process.

The Wet Gas Scrubber will generate a liquid discharge containing captured pollutants. The liquid will be treated at a new Purge Treatment Unit (PTU), which will consist of a clarifier and oxidation equipment to remove the captured pollutants. The estimated liquid discharge from the PTU is about 100 gallons per minute.

**Purge Treatment Unit:** The purged liquid from the Wet Gas Scrubber will flow to a PTU. The purge treatment has two effluents, a liquid composed of water and sodium sulfate, and earth moist solids. The main constituent of the earth moist solids stream is the catalyst fines that have been captured from the FCCU flue gas in the Wet Gas Scrubber part of the system. A clarifier separates the solids as an underflow thickened solids stream that is collected and, if necessary, further dewatered in a roll-off bin. The liquid passes out of the clarifier as an overflow clear liquid. Reduction of chemical oxygen demand is accomplished by air oxidation of the liquid. The treated clear liquid is then passed to the existing refinery wastewater treatment system and discharged to the City of Los Angeles sewage system treatment plant. The solids are collected as a concentrated slurry for recycling, or in a roll-off bin for further dewatering.

#### 1.5.1.2 Boiler 7 SCR Unit

The Wilmington Plant currently operates Boiler 7. ConocoPhillips is proposing to install an SCR Unit on Boiler 7 to reduce NO<sub>x</sub> emissions from the Boiler. Additional NO<sub>x</sub> emission reductions assist the Wilmington Plant to meet the declining NO<sub>x</sub> RECLAIM yearly allocation levels as required under Regulation XX. SCR is considered to be Best Available Control Technology (BACT) for the control of NO<sub>x</sub> from combustion sources. NO<sub>x</sub> emissions are controlled by injecting aqueous ammonia into the exhaust gas stream upstream of a catalyst. The aqueous ammonia to be used in the SCR will consist of 19 percent ammonia. NO<sub>x</sub>, ammonia, and oxygen react on the surface of the catalyst to form nitrogen and water. The catalyst will be made from a metal with control efficiencies expected to be approximately 90 percent or more. The NO<sub>x</sub> concentration from the SCR is expected to be approximately nine parts per million.



WILMINGTON PLANT FCCU FLUE GAS TREATMENT SYSTEM

Figure 1-6

Project No. 2473  
N:\2473\FCCU Flue Gas Stream.cdr

The ammonia will be supplied by installing a new 12,000-gallon pressurized storage tank for 19 percent aqueous ammonia. The location of the new ammonia storage tank and the new SCR Unit at the Wilmington Plant are shown in Figure 1-5. Aqueous ammonia will be supplied from a local vendor in the Los Angeles area and delivered to the Wilmington Plant for storage and use.

## **1.5.2 CARSON PLANT MODIFICATIONS**

### **1.5.2.1 Boiler 11 SCR Unit**

The Carson Plant currently operates Boiler 11. ConocoPhillips is proposing to install new low NOx burners and an SCR Unit on Boiler 11 to reduce NOx emissions from the Boiler. Additional NOx emission reductions assist the Carson Plant to meet the declining NOx RECLAIM yearly allocation levels as required under Regulation XX. The aqueous ammonia to be used in the SCR will consist of 19 percent ammonia. The NOx concentration from the SCR is expected to be approximately nine parts per million.

The ammonia will be supplied from an existing 10,000 gallon pressurized ammonia storage tank. The location of the new SCR Unit at the Carson Plant is shown in Figure 1-4. Aqueous ammonia will be supplied from a local vendor in the Los Angeles area and delivered to the Carson Plant for storage and use.

## **1.6 CONSTRUCTION SCHEDULE**

The construction schedule for Refinery PM10 and NOx emission reduction projects at its Wilmington and Carson Plants will vary but overlap. Overall construction activities are expected to begin in 2007 and be completed by 2010.

## **CHAPTER 2**

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### **ENVIRONMENTAL CHECKLIST**

- Introduction
- General Information
- Environmental Factors Potentially Affected
- Determination
- Environmental Checklist and Discussion
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  - Air Quality
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  - Cultural Resources
  - Energy
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**CHAPTER 2: ENVIRONMENTAL CHECKLIST**

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**INTRODUCTION**

The environmental checklist provides a standard evaluation tool to identify a project's adverse environmental impacts. This checklist identifies and evaluates potential adverse environmental impacts that may be created by the proposed project.

**GENERAL INFORMATION**

Project Title:	ConocoPhillips Los Angeles Refinery PM10 and NOx Reduction Projects
Lead Agency Name:	South Coast Air Quality Management District
Lead Agency Address:	21865 Copley Drive Diamond Bar, CA 91765
Contact Person:	Mike Krause
Contact Phone Number:	(909) 396-2706
Project Sponsor's Name:	ConocoPhillips Company
Project Sponsor's Address:	The Wilmington Plant is located at 1660 West Anaheim Street, Wilmington, California. The Carson Plant is located at 1520 East Sepulveda Boulevard, Carson, California.
General Plan Designation:	The Wilmington Plant General Plan Designation is Heavy Industrial. The Carson Plant's General Plan Designation is Manufacturing, Heavy
Zoning:	The Wilmington Plant is zoned M-3; Heavy Industrial The Carson Plant is zoned MH; Manufacturing, Heavy
Description of Project:	ConocoPhillips is proposing PM10 and NOx Reduction projects at its Los Angeles Refinery at both the Wilmington and Carson Plants. The projects include modifications at both Plants designed to comply with SCAQMD Rules 1105.1 and Regulation XX (RECLAIM). Proposed changes at the Wilmington Plant include a new Wet Gas Scrubber, a new Selective Catalytic Reduction (SCR) unit on an existing boiler, and a new 12,000 gallon aqueous ammonia tank. Changes to the Carson Plant include installation of a new SCR unit on an existing boiler.
Surrounding Land Uses and Setting:	The Wilmington Plant is bounded by Anaheim Street and the Ken Malloy Harbor Regional Park to the north; warehouse facilities to the south and a residential area to the southeast; Interstate 110 Freeway borders the Plant to the east, with a residential area to the northeast; and Gaffey Street and a fuel depot border the west.  The Carson Plant is bounded by Sepulveda Boulevard and the BP Refinery to the north; Wilmington Avenue to the west; Alameda Boulevard to the east, and the Atchison, Topeka and Santa Fe Railroads to the south. All the surrounding land uses are heavy industrial, including other refinery facilities, tank farms, and transportation corridors.
Other Public Agencies Whose Approval may be Required:	City of Carson City of Los Angeles

## ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED


The environmental checklist provides a standard evaluation tool to identify a proposed project's potential adverse environmental impacts. The following environmental impact areas have been assessed to determine their potential to be affected by the proposed projects. As indicated by the checklist on the following pages, environmental topics marked with a "✓" may be adversely affected by the proposed projects. An explanation relative to the determination of impacts can be found following the checklist for each area.

- |                                                |                                                                |                                                                              |
|------------------------------------------------|----------------------------------------------------------------|------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture Resources                 | <input checked="" type="checkbox"/> Air Quality                              |
| <input type="checkbox"/> Biological Resources  | <input type="checkbox"/> Cultural Resources                    | <input type="checkbox"/> Energy                                              |
| <input type="checkbox"/> Geology/Soils         | <input type="checkbox"/> Hazards & Hazardous Materials         | <input checked="" type="checkbox"/> Hydrology/<br>Water Quality              |
| <input type="checkbox"/> Land Use/Planning     | <input type="checkbox"/> Mineral Resources                     | <input type="checkbox"/> Noise                                               |
| <input type="checkbox"/> Population/Housing    | <input type="checkbox"/> Public Services                       | <input type="checkbox"/> Recreation                                          |
| <input type="checkbox"/> Solid/Hazardous Waste | <input checked="" type="checkbox"/> Transportation/<br>Traffic | <input checked="" type="checkbox"/> Mandatory<br>Findings of<br>Significance |

**DETERMINATION**

On the basis of this initial evaluation:

- I find the proposed project COULD NOT have a significant effect on the environment, and that a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be significant effects in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed project MAY have a significant effect(s) on the environment, and an ENVIRONMENTAL IMPACT REPORT (EIR) is required.
- I find that the proposed project MAY have a "potentially significant impact" on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Date: November 30, 2006 Signature:   
Steve Smith, Ph.D.  
Program Supervisor  
Planning, Rules, and Area



**ENVIRONMENTAL CHECKLIST AND DISCUSSION**

	<b>Potentially Significant Impact</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
<b>1.0 AESTHETICS.</b> Would the project:			
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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**Checklist Response Explanation**

**1. a) and b)** Since there are no scenic vistas or resources at or in the vicinity of either the Wilmington or Carson Plants, the proposed projects will have no adverse impacts on scenic vistas or resources.

The areas surrounding both the Wilmington and Carson Plants do not possess scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway. Therefore, the proposed projects will not have adverse impacts on scenic resources.

**1. c)** All construction and operational activities will take place within the boundaries of the existing Plants. The new refinery equipment to be installed, or existing refinery equipment to be modified as part of the proposed projects, will be similar in size, appearance, and profile to the existing equipment at the Refinery, with the exception of the Wet Gas Scrubber at the Wilmington Plant.

Except for the use of cranes, the majority of construction equipment that will be used for the proposed projects at both the Carson and Wilmington Plants will be low in height and will not be visible to the surrounding area due to the presence of existing fences and other structures which buffer the views. During construction, cranes may be visible to the

surrounding industrial areas. Since the construction activities are temporary in nature, all construction equipment will be removed following completion of the proposed projects.

Upon completion of construction, one of the proposed projects is the operation of a Wet Gas Scrubber at the Wilmington Plant. The new Wet Gas Scrubber will emit flue gas from a stack approximately 200 feet above grade that is saturated with water, forming a visible plume. The stack and subsequent plume have the potential to generate significant aesthetic impacts, therefore, aesthetics will be addressed in the Environmental Impact Report (EIR) for the proposed projects.

Upon completion of construction, the proposed SCR projects will introduce only minor visual changes to the Wilmington and Carson Plants. The SCR's will not substantially degrade the existing visual character or quality of either site or their surroundings. All new equipment is in the same height ranges as what currently exists at both sites.

**1. d)** Construction activities at both facilities are not anticipated to require additional lighting because they are scheduled to take place during daylight hours. However, if the construction schedule requires nighttime activities, temporary lighting may be required. Since construction of the proposed projects is completely located within the boundaries of the existing Plants, additional temporary lighting is not expected to be discernible from the existing permanent night lighting.

Additional permanent light sources may be installed on the new equipment, to provide illumination for operations personnel at night, in accordance with applicable safety standards. These additional light sources are not expected to create an impact because each component of the proposed projects will be located within an existing industrial facility, which is already lighted at night for nighttime operations. Further, any new lighting that will be installed on the proposed equipment will be consistent in intensity and type with the existing lighting on equipment and other structures at the Plants. Residential areas are located at the eastern part of the Wilmington Plant; however, any additional lighting at the site will be placed by and focused on the new equipment, which is about 1,500 feet from any residential areas. Therefore, no significant impacts to light and glare are expected from the proposed projects.

### **Conclusion**

Based upon these considerations, potentially significant adverse impacts on aesthetics have been identified for one of the proposed projects at the Wilmington Plant due to the Wet Gas Scrubber. Aesthetic impacts at the Carson Plant were determined to be less than significant. Therefore, aesthetics impacts at the Wilmington Plant will be addressed in the EIR.

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	<b>Potentially Significant Impact</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
<b>2.0 AGRICULTURE RESOURCES.</b>			
Would the project:			
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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**Checklist Response Explanation**

**2. a)** All proposed modifications would occur within the confines of the existing Wilmington and Carson facilities. The proposed projects would be consistent with the zoning for the Wilmington Plant (M-3; Heavy Industrial), and Carson Plant (MH; Manufacturing, Heavy). No agricultural resources are present at or in the vicinity of the Refineries, and no new land will be acquired as part of the proposed projects. Further, the proposed projects would not convert farmland (as defined in Question 2.a) to non-agricultural use or involve other changes in the existing environment that could convert farmland to non-agricultural use or conflict with agricultural land uses, or Williamson Act contracts.

**2. b) & c)** Land in the vicinity of the Refinery is not currently zoned for agricultural use. The proposed projects do not conflict with an existing agricultural zone or Williamson Act contracts and does not include converting agricultural land for non-agricultural uses.

**Conclusion**

Based upon these considerations, no significant impacts on agricultural resources are expected from the proposed projects. Therefore, agricultural resources impact will not be further analyzed in the EIR.

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	<b>Potentially Significant Impact</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
<b>3.0 AIR QUALITY.</b> Would the project:			
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Violate any air quality standard or contribute to an existing or projected air quality violation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Diminish an existing air quality rule or future compliance requirement resulting in a significant increase in air pollutant(s)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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### Checklist Response Explanation

**3. a)** Rule 1105.1 was implemented to reduce PM10 and ammonia slip (a PM10 precursor) emissions from Fluid Catalytic Cracking Units (FCCUs) pursuant to Control Measure 97CMB-09 in the 1997 AQMP, as amended in 1999. Compliance with Rule 1105.1 is expected to reduce emissions from all refineries in the Basin by 0.5 ton per day of solid filterable PM10, and about two tons per day of condensable PM10 by the end of either 2006, or 2008 if an extension is granted. Air quality impacts associated with the activities for all five of the affected refineries in the South Coast Air Basin to comply with Rule 1105.1 are expected to significantly contribute to the overall improvement of air quality in the region (2003 Final EA for PAR1105.1, SCAQMD). In addition, the other components of the proposed projects include the construction of two SCR units at the ConocoPhillips Refinery to further control NOx emissions from refinery boilers to comply with NOx control requirements in Regulation XX. The ConocoPhillips proposed projects will result in emission reductions of PM10 and SOx, precursors to PM2.5, due to the installation of the Wet Gas Scrubber on the FCCU (PM10), and additional NOx controls on boilers. The proposed projects will assist in the implementation of the SCAQMD's AQMP, and will assist the Basin in attaining and maintaining the state and national ambient air quality standards for PM10 and ozone.

**3. b)** The proposed projects are being completed for air quality compliance purposes and to reduce existing Refinery emissions (e.g., SCAQMD Rule 1105.1 and Regulation XX compliance) and are expected to result in reductions in operational NOx and PM10 emissions. However, some portions of the proposed projects will generate emissions, such as emissions generated during the transport of additional ammonia for the SCRs. The SCAQMD requires the installation of BACT for new emission sources within the South Coast Air Basin, which should minimize project-related emissions. Nonetheless, the proposed project impacts on air quality during the operational phase are potentially significant and will be evaluated in the EIR.

Construction emissions in the 2003 Final EA for Rule 1105.1 assumed that two refineries would be conducting construction at any one time between 2004 and 2008. However, due to various delays, refineries did not begin construction until 2006 and most refineries will be conducting construction during 2007 and 2008, so that construction activities at four refineries are expected to overlap (rather than the two analyzed in the 2003 Final EA.). Therefore, although the SCAQMD shall utilize the 2003 Final EA in its review of the WGS project pursuant to PRC § 21159.2(a), there is a need to evaluate the cumulative impacts of construction activities required to comply with Rule 1105.1 at four refineries, rather than two. Further, the 2004 Final EA for Regulation XX did not assume the construction projects for compliance with Regulation XX and Rule 1105.1 would overlap. Construction activities associated with the proposed projects are expected to overlap and would result in emissions of carbon monoxide (CO), PM10, PM2.5, VOCs, NOx and SOx. Construction activities include standard land preparation activities such as grading, pouring new foundations, and all other activities associated with the installation of the new equipment. Construction-related activities will generate emissions from worker vehicles, trucks, and construction equipment. The regional and localized air

quality impacts associated with the construction phase of the proposed projects are potentially significant and will be evaluated in the EIR.

**3. c)** The proposed projects may result in an increase in emissions from construction activities and has the potential to result in cumulative impacts with other nearby and related projects ( e.g., other refinery Rule 1105.1 projects). Since the project-specific air quality impacts may be significant, they may contribute to impacts that are cumulatively considerable. The cumulative air quality impacts are potentially significant and will be evaluated in the EIR.

**3. d)** New emission sources associated with the proposed projects may emit toxic air contaminants, specifically ammonia associated with the new SCR units. The impact of the emissions of toxic air contaminants on sensitive populations, including individuals at hospitals, nursing facilities, daycare centers, schools, and elderly intensive care facilities, as well as residential and off-site occupational areas, will be evaluated in the EIR.

**3. e)** The proposed projects are not expected to create significant objectionable odors, either during construction or during operations. Sulfur compounds (e.g., hydrogen sulfide and sulfur dioxide) are the primary sources of odors from existing operations throughout the Refinery. Most sulfur-bearing materials are currently handled and treated in the Sulfur Recovery Units where they are converted to elemental (solid) sulfur, which does not emit an appreciable odor. The proposed projects would not change the handling of sulfur-bearing materials at the Sulfur Recovery Unit. Furthermore, the Wet Gas Scrubber will reduce sulfur oxide emissions from the FCCU.

The proposed projects could generate ammonia emissions through the use of ammonia in the new SCR units. The ammonia emissions (referred to as ammonia slip) are expected to be limited to 10 ppm or less by standard SCAQMD air quality permit conditions. According to dispersion estimates, the buoyancy of ammonia and its dilution into the atmosphere would reduce the annual one-hour maximum ground level concentration to less than one part per million (ppm) based on an ammonia slip concentration of 10 ppm (SCAQMD, 2003). A concentration of one ppm is well below the odor detection maximum limit. In addition, current ammonia emissions from the existing FCCU ESPs will be eliminated. Therefore, no significant odor impacts are expected from the implementation of the proposed projects.

**3. f)** The 2003 AQMP demonstrates that applicable federal ambient air quality standards can be achieved within the timeframes required under federal law. The proposed projects must comply with applicable SCAQMD rules and regulations as well as control measures applicable to new or modified sources. For example, new emission sources associated with the proposed projects are required to comply with the SCAQMD's Regulation XIII – New Source Review requirements that include the use of BACT. The project proponent must also comply with prohibitory rules, such as Rule 403, for the control of fugitive dust. By meeting these requirements, the projects will be consistent with the goals and objectives of the AQMP to improve air quality in the Basin. In addition, some

modifications associated with the proposed projects will result in emission reductions, e.g., the modifications to the FCC Unit to install the new WGS to comply with Rule 1105.1, and installation of new SCR units to comply with Regulation XX. Further, the proposed projects are consistent with the 2003 AQMP and are not expected to diminish an existing air quality rule or a future compliance requirement.

**Conclusion**

Project-specific and cumulative adverse air quality impacts associated with increased emissions of air contaminants (both criteria air pollutants and toxic air contaminants) during the construction and operation phases of the proposed projects will be evaluated in the EIR. Impacts to sensitive receptors will also be analyzed in the EIR.

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	<b>Potentially Significant Impact</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
<b>4.0. BIOLOGICAL RESOURCES.</b> Would the project:			
a) Have substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by §404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## CHAPTER 2: ENVIRONMENTAL CHECKLIST

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- |                                                                                                                                                                                      |                          |                          |                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|-------------------------------------|
| e) Conflicting with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?                                               | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
- 

### Checklist Response Explanation

**4. a), b), c), d), e), and f)** The proposed projects will be located in a heavy industrial area, entirely within the existing boundaries of the Wilmington and Carson Plants. The Plants have been fully developed and are essentially void of vegetation with the exception of some landscape vegetation near administration buildings. Landscape plants and growth of vegetation at the sites are limited for fire prevention purposes.

A review of the California Natural Diversity Data Base did not reveal records of special status species at or within one mile of either the Wilmington or Carson Plants (SCAQMD, 2001). Based on the disturbed nature of the Refinery's sites, the industrial nature of the proposed and existing activities at the sites, and the absence of records of special status species, no specific wildlife surveys were considered necessary and none were performed. The proposed projects are not expected to have a significant adverse effect, either directly or through habitat modifications, on any species identified as a special status species. The proposed projects will not have an adverse effect, either directly or indirectly or through habitat modifications, on any sensitive biological species, riparian habitat, or other sensitive natural habitat and no such habitat exists at the Refinery. The proposed projects will not result in the addition or the elimination of water ponds that could be used by animals or migratory fowl. Further, the proposed projects will not adversely affect federally protected wetlands as defined in §404 of the Clean Water Act. As discussed in Section 9.0 herein, no increase in wastewater or storm water discharge to the Dominguez Channel is expected. The Dominguez Channel is a concrete lined flood control channel near the Carson Plant. There are no significant plant or animal resources, locally designated species, natural communities, wetland habitats, or animal migration corridors that would be adversely affected by the proposed projects. There are no rare, endangered, or threatened species in the active portion of the Refinery's sites. The proposed projects would not adversely affect any local policies or ordinances that protect biological resources or conflict with the provisions of a Habitat Conservation Plan or other similar plan. Because the area in and near the Refinery is devoid of native habitat, impacts to other, non-listed species are not expected.

The proposed projects will not include the acquisition of additional land for use by the Refinery or result in expansion outside of the current Refinery boundaries, which further eliminates the potential for new adverse biological resource impacts.



**Conclusion**

Based upon these considerations, both the construction and operation activities associated with the proposed projects are not expected to have significant adverse impacts to biological resources since no native habitat or wildlife species are located within the confines of the Refinery boundaries. Therefore, biological resources will not be further analyzed in the EIR.

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	<b>Potentially Significant Impact</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
<b>5.0 CULTURAL RESOURCES.</b> Would the project:			
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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**Checklist Response Explanation**

**5. a)** CEQA Guidelines state that “generally, a resource shall be considered ‘historically significant’ if the resource meets the criteria for listing in the California Register of Historical Resources including the following:

- A) Is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage;
- B) Is associated with the lives of persons important in our past;
- C) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values;

D) Has yielded or may be likely to yield information important in prehistory or history” (CEQA Guidelines §15064.5).

Generally, resources (buildings, structures, equipment) that are less than 50 years old are excluded from listing in the National Register of Historic Places<sup>1</sup> unless they can be shown to be exceptionally important) (SCVTA/FTA, 2004). The buildings, structures, and equipment associated with the proposed projects are not listed on registers of historic resources, and do not meet the eligibility criteria presented above (e.g., associated with historically important events or people, embodying distinctive characteristics of a type, period, or method of construction), and would not be likely to yield historically important information. Therefore, no significant impacts to historic cultural resources are expected as a result of implementing the proposed projects.

**5. b), c), and d)** There are no prehistoric or historic structures or objects within the Wilmington Plant or adjacent areas. The entire Wilmington Plant site has been previously graded and developed. The larger structures and equipment are supported on concrete foundations. No known human remains or burial sites have been identified at the Wilmington Plant during previous construction activities so the proposed projects are not expected to result in impacts to cultural resources.

The entire Carson Plant site has been previously graded and developed. The larger Carson Plant structures and equipment are supported on existing concrete foundations. The new refinery SCR unit will be constructed near the center of the plant and is surrounded by operating units. No significant adverse impacts to cultural resources are expected since no known cultural resources are located within the Carson Plant where the proposed new unit will be constructed.

The proposed project activities will occur in areas of the Refineries where the ground surface has already been disturbed, and this past disturbance reduces the likelihood that previously unknown cultural resources will be encountered. If cultural resources were to be encountered unexpectedly during ground disturbance associated with construction of the proposed projects, proper procedures (i.e., contacting professional archaeologist, temporarily halting disturbance work in vicinity, etc.) will be taken. Further, the Refinery’s sites do not contain known paleontological resources and thus the proposed projects also are not expected to impact any sites of paleontological value.

### **Conclusion**

Based upon the preceding discussion, no significant adverse impacts on cultural resources could occur during the construction of the proposed projects. Therefore, impacts of the proposed projects on cultural resources will not be further evaluated in the EIR.

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<sup>1</sup> The eligibility criteria of the California Register criteria are modeled on those of the eligibility criteria of the National Register of Historic Places.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
<b>6.0 ENERGY.</b> Would the project:			
a) Conflict with adopted energy conservation plans?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the need for new or substantially altered power or natural gas utility systems?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Create any significant effects on local or regional energy supplies and on requirements for additional energy?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create any significant effects on peak and base period demands for electricity and other forms of energy?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Comply with existing energy standards?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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**Checklist Response Explanation**

**6. a) and e)** The proposed projects are not expected to conflict with energy conservation plans or energy standards. It is in the economic interest of ConocoPhillips to conserve energy and comply with existing energy standards in order to minimize operating costs. New equipment installed as part of the proposed modifications is expected to be as efficient or more efficient as existing equipment. Further, energy used to operate the new equipment (primarily the wet gas scrubber) is not considered a wasteful use of energy that will interfere or conflict with existing energy conservation plans.

**6. b), c), and d)** It is not expected that natural gas-fired or electrically-powered construction equipment or vehicles will be used and; thus, there will be no need for new or substantially altered power or natural gas utility systems during construction of the proposed projects. Therefore, no significant adverse impacts on energy are expected during the construction period.

Refinery fuel gas and natural gas required to operate existing equipment will continue to be supplied by the existing Refinery utility system and Southern California Gas Company. Southern California Gas Company currently supplies natural gas to both the Wilmington and Carson Plants. Operation of the proposed projects is not expected to increase the amount of natural gas consumption because no new equipment is being installed that requires the use of natural gas at either the Carson or Wilmington Plants.

The existing ESPs at the Wilmington Plant use about 370 kilowatts (kw) of electricity and their use will be discontinued following installation of the Wet Gas Scrubber. The Wet Gas Scrubber is expected to require about 715 kw of electricity. Therefore, the proposed project is expected to require about 345 kw of additional electricity at the Refinery. The additional electrical need can be met with existing electrical supply that refinery facilities and infrastructure provide.

The ConocoPhillips Wilmington Plant is currently served by the Los Angeles Department of Water and Power (LADWP) for electricity supply and an existing onsite cogeneration unit. The existing cogeneration plant at the Wilmington Plant generates a portion of the facility’s electrical requirements. The increase in electricity associated with the Wet Gas Scrubber is so small (345 kw) that it is not expected to increase the electrical requirements from the Wilmington Plant by a noticeable amount. The LADWP supplies electricity as needed to handle routine electricity fluctuations. The increase in electricity from the proposed project can be supplied by LADWP. The LADWP is the largest of the public-owned electric utilities in southern California and provides electricity service to most customers located in the City of Los Angeles. The LADWP has the capacity to supply more than 26.9 million megawatt hours of electricity a year. The May 2006 LADWP Draft Integrated Resource Plan forecasts 23.8 million megawatt hours of electricity in sales for 2006 (LADWP, 2006). Sufficient electrical supplies are available from LADWP to handle the estimated electricity increase from the proposed project. Therefore, no significant adverse electricity demand impacts are anticipated from the proposed project.

**Conclusion**

Project-specific energy resources impacts associated with increased demand for electricity, natural gas, gasoline and diesel fuel during the construction and operation phases of the proposed projects are less than significant. Therefore the impacts of the proposed projects on energy resources will not be further evaluated in the EIR.

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	<b>Potentially Significant Impact</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
<b>7.0 GEOLOGY AND SOILS.</b> Would the project:			
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
• Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- Strong seismic ground shaking?

**CHAPTER 2: ENVIRONMENTAL CHECKLIST**

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	<b>Potentially Significant Impact</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
• Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
• Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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**Checklist Response Explanation**

**7.a) Seismicity**

The ConocoPhillips Wilmington and Carson Plants are located within a seismically active region. The most significant potential geologic hazard is estimated to be seismic shaking from future earthquakes generated by active or potentially active faults in the region. Table 2-1 identifies those faults considered important to the project site in terms of potential for future activity. Seismic records have been available for the last 200 years, with improved instrumental seismic records available for the past 50 years. Based on a review of earthquake data, most of the earthquake epicenters occur along the Whittier-Elsinore, San Andreas, Newport-Inglewood, Malibu-Santa Monica-Raymond Hills, Palos Verdes, Sierra Madre, San Fernando, Elysian Park-Montebello, and Torrance-Wilmington faults (Jones and Hauksson, 1986). All these faults are elements of the San Andreas Fault system. Past experience indicates that there has not been any substantial damage, structural or otherwise to the Wilmington or Carson Plants as a result of earthquakes. Table 2-2 identifies the historic earthquakes over magnitude 4.5 in southern California, between 1915 and the present, along various faults in the region.

**Whittier-Elsinore Fault Zone:** The Whittier-Elsinore Fault is one of the more prominent structural features in the Los Angeles Basin. It extends from Turnbull Canyon near Whittier, southeast to the Santa Ana River, where it merges with the Elsinore fault. Yerkes (1972) indicated that vertical separation on the fault in the upper Miocene strata increases from approximately 2,000 feet at the Santa Ana River northwestward to approximately 14,000 feet in the Brea-Olinda oil field. Farther to the northwest, the vertical separation decreases to approximately 3,000 feet in the Whittier Narrows of the San Gabriel River.

**TABLE 2-1**

**Major Active or Potentially Active Faults in Southern California**

<b>FAULT ZONE</b>	<b>FAULT LENGTH (Miles)</b>	<b>MAXIMUM CREDIBLE EARTHQUAKE</b>	<b>MAXIMUM ACCELERATION (G)</b>
Malibu-Santa Monica-Raymond Hill	65	7.5	0.49
Newport-Inglewood	25	7.0	0.42
Northridge	12	6.7	0.16
Palos Verdes	20	7.0	0.24
San Andreas	200+	8.25	0.21
San Jacinto	112	7.5	0.11
San Fernando	8	6.8	0.17
Sierra Madre	55	7.3	0.23
Whittier-Elsinore	140	7.1	0.46
Elysian Park – Montebello	15	7.1	0.27

Notes: G = acceleration of gravity.

The fault also has a major right-lateral strike slip component. Yerkes (1972) indicates streams along the fault have been deflected in a right-lateral sense from 4,000 to 5,000 feet. The fault is capable of producing a maximum credible earthquake event of about magnitude 7.0 every 500 to 700 years.

**San Andreas Fault Zone:** The San Andreas fault is located on the north side of the San Gabriel Mountains trending east-southeast as it passes the Los Angeles Basin. This fault is recognized as the longest and most active fault in California. It is generally characterized as a right-lateral strike-slip fault which is comprised of numerous sub-parallel faults in a zone over two miles wide. There is a high probability that southern California will experience a magnitude 7.0 or greater earthquake along the San Andreas or San Jacinto fault zones, which could generate strong ground motion in the project area. There is a five to twelve percent probability of such an event occurring in southern California during any one of the next five years and a cumulative 47 percent chance of such an event occurring over a five year period (Reich, 1992).

**The Newport-Inglewood Fault Zone:** The Newport-Inglewood fault is a major tectonic structure within the Los Angeles Basin. This fault is best described as a structural zone comprising a series of echelon and sub-parallel fault segments and folds. The faults of the Newport-Inglewood uplift in some cases exert considerable barrier influence upon the movement of subsurface water (DWR, 1961). Offsetting of sediments along this fault usually is greater in deeper, older formations. Sediment displacement is less in younger formations. The Alquist-Priolo Act has designated this fault as an earthquake fault zone. The purpose of designating this area as an earthquake fault zone is to mitigate the hazards of fault rupture by prohibiting building structures across the trace of the fault.

**TABLE 2-2**

**Significant Historical Earthquakes in Southern California**

<b>DATE</b>	<b>LOCATION (epicenter)</b>	<b>MAGNITUDE</b>
1915	Imperial Valley	6.3
1925	Santa Barbara	6.3
1920	Inglewood	4.9
1933	Long Beach	6.3
1940	El Centro	6.7
1940	Santa Monica	4.7
1941	Gardena	4.9
1941	Torrance	5.4
1947	Mojave Desert	6.2
1951	Imperial Valley	5.6
1968	Borrego Mountain	6.5
1971	Sylmar	6.4
1975	Mojave Desert	5.2
1979	Imperial Valley	6.6
1987	Whittier	5.9
1992	Joshua Tree	6.3
1992	Landers	7.4
1992	Big Bear	6.5
1994	Northridge	6.7
1999	Hector Mine	7.1

Sources: Bolt (1988), Jennings (1985), Gere and Shah (1984), Source Fault Hazard Zones in California (1988), Yanev (1974), and personnel communication with the California Division of Mines and Geology.

This fault poses a seismic hazard to the Los Angeles area, although no surface faulting has been associated with earthquakes along this structural zone during the past 200 years. Since this fault is located within the Los Angeles Metropolitan area, a major earthquake along this fault would produce more destruction than a magnitude 8.0 on the San Andreas fault. The largest instrumentally recorded event was the 1933 Long Beach earthquake, which occurred on the offshore portion of the Newport-Inglewood structural zone with a



magnitude of 6.3. A maximum credible earthquake of magnitude 7.0 has been assigned to this fault zone.

**Malibu-Santa Monica-Raymond Hills Fault Zone:** The Raymond Hills fault is part of the fault system that extends from the base of the San Gabriel Mountains westward to beyond the Malibu coast line. The fault has been relatively quiet, with no recorded seismic events in historic time.

**The Palos Verdes Fault Zone:** The Palos Verdes fault extends for about 50 miles from the Redondo submarine canyon in Santa Monica Bay to south of Lausen Knoll and is responsible for the uplift of the Palos Verdes Peninsula. This fault is both a right-lateral strike-slip and reverse separation fault. The Gaffey anticline and syncline are reported to extend along the northwestern portion of the Palos Verdes hills. These folds plunge southeast and extend beneath recent alluvium east of the hills and into the San Pedro Harbor, where they may affect movement of ground water (DWR, 1961). This fault is capable of producing strong to intense ground motion and ground surface rupture. This fault zone has not been placed by the California State Mining and Geology Board into an Alquist-Priolo special studies zone.

**Sierra Madre Fault System:** The Sierra Madre fault system extends for approximately 60 miles along the northern edge of the densely populated San Fernando and San Gabriel valleys (Dolan, et al., 1995) and includes all faults that have participated in the Quaternary uplift of the San Gabriel Mountains. The fault system is complex and appears to be broken into five or six segments each 10 to 15 miles in length (Ehlig, 1975). The fault system is divided into three major faults by Dolan, et al. (1995), including the Sierra Madre, the Cucamonga and the Clamshell-Sawpit faults. The Sierra Madre fault is further divided into three minor fault segments the Azusa, the Altadena and the San Fernando fault segments. The Sierra Madre fault is capable of producing a 7.3 magnitude fault every 805 years (Dolan, et al., 1995).

**San Fernando Fault:** The westernmost segment of the Sierra Madre fault system is the San Fernando segment. This segment extends for approximately 12 miles beginning at Big Tujunga Canyon on the east to the joint between the San Gabriel Mountains and the Santa Susana Mountains on the west (Ehlig, 1975). The 1971 Sylmar earthquake occurred along this segment of the Sierra Madre fault system, resulting in a 6.4 magnitude fault. Dolan, et al. (1995) indicates the San Fernando fault segment is capable of producing a 6.8 magnitude fault every 455 years.

**Elysian Park-Montebello System:** The Elysian Park fault is a blind thrust fault system, i.e., not exposed at the surface, whose existence has been inferred from seismic and geological studies. The system as defined by Dolan, et al. (1995) comprises two distinct thrust fault systems; 1) an east-west-trending thrust ramp located beneath the Santa Monica Mountains; and 2) a west-northwest-trending system that extends from Elysian Park Hills through downtown Los Angeles and southeastward beneath the Puente Hills. The Elysian Park thrust is capable of producing a magnitude 7.1 earthquake every 1,475 years.

**Torrance-Wilmington Fault Zone:** The Torrance-Wilmington fault has been reported to be a potentially destructive, deeply buried fault, which underlies the Los Angeles Basin. Kerr (1988) has reported this fault as a low-angle reverse or thrust fault. This proposed fault could be interacting with the Palos Verdes hills at depth. Little is known about this fault, and its existence is inferred from the study of deep earthquakes. Although information is still too preliminary to be able to quantify the specific characteristics of this fault system, this fault appears to be responsible for many of the small to moderate earthquakes within Santa Monica Bay and easterly into the Los Angeles area. This fault itself should not cause surface rupture, only ground shaking in the event of an earthquake.

In addition to the known surface faults, shallow-dipping concealed “blind” thrust faults have been postulated to underlie portions of the Los Angeles Basin. Because there exist few data to define the potential extent of rupture planes associated with these concealed thrust faults, the maximum earthquake that they might generate is largely unknown.

No faults or fault-related features are known to exist at the Carson or Wilmington Plant sites. The sites are not located in any Alquist-Priolo Earthquake fault zone and is not expected to be subject to significant surface fault displacement. Therefore, no significant impacts to the proposed project facilities are expected from seismically-induced ground rupture.

Based on the historical record, it is highly probable that earthquakes will affect the Los Angeles region in the future. Research shows that damaging earthquakes will occur on or near recognized faults which show evidence of recent geologic activity. There is the potential for damage in the event of an earthquake. Impacts of an earthquake could include structural failure, spill, etc. The hazards of a release during an earthquake are addressed in the “8. Hazards and Hazardous Materials” section below.

New structures at each site must be designed to comply with the Uniform Building Code Zone 4 requirements since the proposed projects are located in a seismically active area. The cities of Los Angeles and Carson are responsible for assuring that the proposed projects at Wilmington and Carson, respectively, comply with the Uniform Building Code as part of the issuance of the building permits and can conduct inspections to ensure compliance. The Uniform Building Code is considered to be a standard safeguard against major structural failures and loss of life. The goal of the code is to provide structures that will: (1) resist minor earthquakes without damage; (2) resist moderate earthquakes without structural damage, but with some non-structural damage; and (3) resist major earthquakes without collapse, but with some structural and non-structural damage. The Uniform Building Code bases seismic design on minimum lateral seismic forces (“ground shaking”). The Uniform Building Code requirements operate on the principle that providing appropriate foundations, among other aspects, helps to protect buildings from failure during earthquakes. The basic formulas used for the Uniform Building Code seismic design require determination of the seismic zone and site coefficient, which represent the foundation conditions at the site.

The new structures at the ConocoPhillips Los Angeles Refinery will be required to obtain building permits, as applicable, for all new structures at the site. The Wilmington Plant shall submit building permits to the City of Los Angeles for review and approval. The Carson Plant shall submit building permits to the City of Carson for review and approval. ConocoPhillips must receive approval of all building plans and building permits to ensure compliance with the latest Building Code adopted by the applicable city prior to commencing construction activities. The issuance of building permits from the local agency will assure compliance with the Uniform Building Code requirements which include requirements for building within seismic hazard zones. No significant impacts from seismic hazards are expected since the projects will be required to comply with the Uniform Building Codes.

#### **7. b) Topography and Soils**

The proposed projects are located within the confines of the existing ConocoPhillips Wilmington and Carson Plants. Concrete pavement presently supports the refinery structures and equipment. Most of the roads in the Wilmington and Carson Plants, including all high traffic roads, have been paved. Some portions of the sites have also been landscaped. No unstable earth conditions, changes in topography or changes in geologic substructures are anticipated to occur with the projects because of the limited grading and excavation involved. No significant impacts on topography and soils are expected.

During construction of the proposed projects, grading and trenching activities will be performed. The size of these activities are expected to be minor (less than 0.1 acre) since the proposed projects will occur within already developed facilities where the site has already been graded. The proposed projects involve the addition of new equipment to existing facilities so major grading/trenching is not expected to be required. The proposed projects are expected to be limited to minor foundation work and minor trenching for piping. Therefore, no significant adverse impacts related to soil erosion are expected. No significant change in topography is expected because little grading/trenching is required that could substantially increase wind erosion or runoff from affected sites. Further, graded and trenched areas will subsequently be paved reducing the ability for the soil to erode and become unstable.

The proposed projects will be required to comply with SCAQMD Rule 403 – Fugitive Dust which imposes requirements to minimize dust emissions associated with wind erosion. Relative to operation, no change in surface runoff is expected because surface conditions at both the Carson and Wilmington Plants will remain relatively unchanged. Surface runoff is minimized because surface runoff is typically captured, treated, and released to the public sewerage system or recycled.

**7. c) and d) Liquefaction**

Liquefaction would most likely occur in unconsolidated granular sediments that are water saturated less than 30 feet below ground surface (Tinsley et al., 1985). Based on the latest seismic hazards maps developed under the Seismic Hazards Mapping Act, the Wilmington Plant, is not located in an area of historic liquefaction (California Division of Mines and Geology, Map of Seismic Hazard Zones). Small portions of the Carson Plant are located in an area of historic (or has the potential for) liquefaction (California Division of Mines and Geology, Map of Seismic Hazard Zones, Long Beach Quadrangle). A small section of the southwest portion of the Carson Plant has conditions conducive to liquefaction. Liquefaction associated with seismic events has not occurred at the Carson Plant. The new SCR will not be located in the area identified for potential liquefaction.

There is no evidence of expansive soils at either the Wilmington or Carson Plant sites. The issuance of building permits from the local agency will assure compliance with the Uniform Building code requirements, which include requirements for building within potential liquefaction zones. Expansive soil problems have not been encountered as part of the construction activities of other units at the Refinery. No significant impacts are expected because the projects will be required to comply with the Uniform Building Codes.

**7. e) Wastewater Discharge**

Although the proposed Wet Gas Scrubber project is expected to generate additional wastewater discharged by the purge treatment unit at the Wilmington Plant, the Wilmington Plant currently discharges wastewater to the local sewer system under an Industrial Wastewater Discharge Permit and additional wastewater will be subject to the same system (see Section 9.0 for the discussion of wastewater impacts). Thus, the proposed project does not include installing septic tanks or alternative wastewater disposal systems, therefore, no significant adverse impacts on soils from alternative wastewater disposal systems are expected.

**Conclusion**

Project-specific geology and soils impacts associated with the proposed projects are less than significant. Therefore, the impacts of the proposed projects on geology and soils will not be further evaluated in the EIR.

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	Potentially Significant Impact	Less Than Significant Impact	No Impact
<b>8.0 HAZARDS AND HAZARDOUS MATERIALS.</b> Would the project:			
a) Create a significant hazard to the public or the environment through the routine transport, use, and disposal of hazardous materials?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions, or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	<b>Potentially Significant Impact</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
i) Significantly increase fire hazard in areas with flammable materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Checklist Response Explanation**

**8. a), b) and c)** Though hazard analyses have been previously completed for the equipment at the existing Refinery, the proposed projects will alter the existing hazards. The proposed projects include the installation of two new SCR's, and a new aqueous ammonia storage tank. The 2004 Final EA for Regulation XX evaluated the hazards associated with the use, storage, and transport of aqueous ammonia and concluded that no significant impacts were expected, largely due to the requirement to use 19 percent ammonia (which minimizes the impacts of using higher concentrations of ammonia) (SCAQMD, 2004). The 2004 Final EA estimated that about 51 SCR units would be constructed to control NOx emissions from refinery heaters and boilers over a three-year period. The 2004 Final EA also concluded that no cumulative hazard impacts would be expected.

**Hazards Due to Transport**

The 2004 Final EA for Regulation XX evaluated specific hazards due to transport of aqueous ammonia to several local refineries. It was determined that in the unlikely event that a tanker truck would rupture and release the entire 7,000 gallon capacity of aqueous ammonia, the ammonia solution would have to pool and spread out over a flat surface in order to create sufficient evaporation to produce a significant vapor cloud. For a road accident, the roads are usually graded and channeled to prevent water accumulation and a spill would be channeled to a low spot or drainage system, which would limit the surface area of the spill and the subsequent evaporative emissions. Additionally, the roadside surfaces may not be paved and may absorb some of the spill. In a typical release scenario, because of the characteristics of most roadways, the pooling effect on an impervious surface would not typically occur. As a result, the spilled ammonia would not be expected to evaporate into a toxic cloud at concentrations that could significantly adversely affect residences or other sensitive receptors in the area of the spill (SCAQMD, 2004).

Based on the low probability of an ammonia tanker truck accident with a major release and the potential for exposure to low concentrations, if any, the conclusion of the hazard analysis in the 2004 Final EA was that potential impacts due to accidental release of aqueous ammonia during transportation are less than significant.

It should be noted that this analysis is based on tanker trucks transporting aqueous ammonia in concentrations less than 19 percent by volume, which is consistent with the

RECLAIM program. In the 2004 EA, models using aqueous ammonia concentrations of 29.5 percent by volume showed potentially significant hazard impacts, but since Regulation XX will require concentrations of less than 19 percent by volume, consequences of an accidental release during transportation would be less than significant. The ConocoPhillips proposed projects will require the transport of aqueous ammonia at concentrations less than 19 percent so the transportation hazards are expected to be less than significant.

### **Hazards Due to Rupture**

The 2004 Final EA for Regulation XX evaluated specific hazards due to storage of aqueous ammonia to several local refineries. Storage tanks constructed at refinery sites are surrounded by secondary containment designs (e.g., dykes, berms, etc.). These same containment facilities are provided at truck loading racks to contain ammonia in the event of a spill during transfer activities. Emergency Response Planning Guideline (ERPG) 2 (200 ppm) was the lowest ammonia concentration of interest analyzed in the 2004 Final EA. ERPG-2 concentrations are the maximum airborne concentration below which it is believed nearly all individuals could be exposed for up to one hour without experiencing or developing irreversible or other serious health effects or symptoms that could impair their ability to take protective action. Under “worst-case” atmospheric conditions (e.g., low winds and stable air), a liquid impounding area would have to be much larger than 1000 square feet (ft<sup>2</sup>) to exceed the ERPG-2 level. As long as a containment area is no larger than 1,000 ft<sup>2</sup> a release of ammonia from the tank would remain within about 45 feet from the tank, which is well within the boundaries of the ConocoPhillips Los Angeles Refinery. The containment area for the proposed project is less than 1000 ft<sup>2</sup>, therefore, a release from the ammonia storage tank is not expected to result in a significant adverse hazard impact. Since the maximum potential surface area during an unloading spill is identical with that for a tank rupture, the ammonia concentration will be less than the ERPG 2 level of 200 ppm because the containment area is no larger than 1000 ft<sup>2</sup>. Therefore, no significant adverse hazard impacts related to the storage of aqueous ammonia are anticipated.

Neither the Carson nor Wilmington Plants are located within one-quarter mile of an existing school site; however, a proposed school site is located near the Wilmington Plant. As shown above, no significant adverse off-site hazards related to the storage of aqueous ammonia are anticipated, so no significant adverse hazards impacts are expected at local schools.

**8. d)** Government Code §65962.5 refers to the “Hazardous Waste and Substances Site List”, which is a list of facilities that may be subject to the Resource Conservation and Recovery Act (RCRA) corrective action program. Neither the ConocoPhillips Wilmington Plant nor the Carson Plant are included on the list prepared by the Department of Toxic Substances Control (DTSC) pursuant to Government Code §65962.5 (DTSC, 2006). Nonetheless, the ConocoPhillips Carson Plant is included on a list of RCRA-permitted sites that require corrective action as identified by DTSC (DTSC, 2006b). Furthermore, both plants are subject to corrective action under the “Spills,

## CHAPTER 2: ENVIRONMENTAL CHECKLIST

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Leaks, Investigation & Cleanup (SLIC) Program” administered by the Los Angeles Regional Water Quality Control Board pursuant to California Water Code §13304. In order to provide full public disclosure per CEQA (Public Resources Code §21092.6), the following information is provided:

Applicant: ConocoPhillips Carson Plant  
Address: 1520 East Sepulveda Boulevard, Carson, CA 90745  
Phone: (310) 522-9300  
Address of Site: 1520 East Sepulveda Boulevard, Carson, CA 90745  
Local Agency: City of Carson  
Assessor’s Book: 7315-002-021  
List: DTSC and SLIC Corrective Action  
SLIC Case No: 0232  
ID No. CAD9800881676

Applicant: ConocoPhillips Wilmington Plant  
Address: 1660 West Anaheim Street, Wilmington, CA 90748  
Phone: (310) 952-6000  
Address of Site: 1660 West Anaheim Street, Wilmington, CA 90748  
Local Agency: City of Los Angeles  
Assessor’s Book: 7412-015-003; 7412-022-008, 009 & 010; 7412-024-033 & 006;  
7412-025-008  
List: SLIC Corrective Action  
SLIC Case No: 0231

Currently, there is no evidence that soil contamination exists within the areas of either the Wilmington or Carson plants where construction is being proposed. However, given the heavily industrialized nature of these facilities, and the fact that refining activities, petroleum storage, and distribution have been conducted at the sites for over 75 years, construction activities associated with the proposed projects such as grading, excavating, and trenching could potentially uncover contaminated soils.

In the event that any excavated soils contain concentrations of certain substances, including heavy metals and hydrocarbons, the handling, processing, transportation and disposal of the contaminated soils will be subject to multiple hazardous waste regulations such as Title 22 of the California Code of Regulations and other local and federal rules. Title 22 has multiple requirements for hazardous waste handling, transport and disposal, such as requirements to use approved disposal and treatment facilities, to use certified hazardous waste transporters, and to have manifests for tracking the hazardous materials. If contaminated soils are encountered during the excavation phase of the proposed projects, the soils will be removed for proper decontamination and disposal in accordance with SCAQMD’s Rule 1166 – Volatile Organic Compound Emissions From Decontamination of Soil, and ConocoPhillips’ existing Rule 1166 Plan that includes soils excavation procedures. Contaminated soil would be stored at a temporary holding location within whichever location the soil was discovered before transport to an appropriate facility. As previously mentioned in Section 7.b, the area of soil disturbance



associated with construction of the proposed projects will be small (a combined total of less than 0.1 acre disturbed for all proposed project locations within either facility). Based on the relatively small quantity of soil expected to be disturbed as part of the proposed projects, and considering that most of contaminated soil found during previous construction activities at either plant was determined not to be hazardous waste, no significant impacts are expected from the potential for encountering contaminated soils during grading, excavation and trenching. Therefore, impacts related to soil contamination will not be further evaluated in the EIR.

**8. e) and f)** Neither the Wilmington nor Carson Plants are located within an airport land use plan or within two miles of a public or private use airport. Therefore, no safety hazards impacts on any airport are expected from the proposed projects.

**8. g)** The proposed project modifications are located within the existing operating portions of both the Wilmington and Carson plants. The proposed projects are not expected to alter the routes employees would take to evacuate the site, as the evacuation routes generally direct employees to locations outside of the main operating portions of the facilities. The existing emergency response plan is not expected to require modifications due to the proposed projects. No significant adverse impacts to emergency response or evacuation plans are expected.

**8. h)** The proposed projects will not increase the existing risk of fire hazards in areas with flammable brush, grass, or trees because the proposed projects are located in urbanized, industrial areas and no wildlands are located in the immediate or surrounding areas. Also, no substantial or native vegetation exists within the operational portions of either the Wilmington or Carson plants. For these reasons, the proposed projects would not expose people or structures to wildland fires. Therefore, no potential significant adverse impacts resulting from wildland fire hazards are expected from the proposed projects.

**8. i)** The proposed projects will not increase the type or amount of flammable material stored at either the Wilmington or Carson Plants. Aqueous ammonia, used at both plants, is not flammable, therefore, the proposed projects will not increase the potential for fire hazards at the Refinery.

## **Conclusion**

The effects of an accidental release of hazardous material being stored, used, or transported from the proposed projects are considered to be within the scope of the analysis in the 2004 Final EA for Regulation XX. No additional project-specific hazard impacts were identified. As a result, potential hazard impacts are not considered to be significant, and will not be further evaluated in the EIR. Other hazards, as discussed above are also considered to be less than significant.

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	Potentially Significant Impact	Less Than Significant Impact	No Impact
<b>9.0 HYDROLOGY AND WATER QUALITY.</b> Would the project:			
a) Violate any water quality standards or waste discharge requirements?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g. the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures, which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant Impact	No Impact
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
k) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
m) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
n) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
o) Require in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Checklist Response Explanation**

**9.2. a), k), l), and o) Wastewater Generation**

**Wilmington Plant:** Wastewater streams from the Wilmington Plant include process wastewater, high salts water, and surface runoff. The Plant has an integrated drain system in which wastewater from all sources is combined and treated in the Oil Recovery Unit (ORU) before discharge to the sewer under a permit from the Los Angeles City Bureau of Sanitation (LACBS). The ORU uses a series of American Petroleum Institute (API)

separators and dissolved air floatation units to remove oil and sludge from the wastewater. Two 12-million gallon tanks are available to store wastewater during periods when the water flow exceeds 6,000 gallons per minute (gpm) (e.g., during heavy rains). The wastewater treatment units normally treats about 2.6 million gallons per day (1,800 gpm). The LACBS permits requires monthly sampling for arsenic, cadmium, chromium, copper, cyanides, lead, mercury, nickel, zinc, silver, total phenol, pH and ignitability. Weekly sampling is required for dissolved sulfide and total organic pollutants, and daily sampling is required for ammonia, oil and grease and thiosulfate.

The proposed project will result in an estimated increase in wastewater discharged at the Wilmington Plant of about 259,200 gallons per day (about 180 gallons per minute), associated with the Wet Gas Scrubber and purge treatment unit. The increase in wastewater discharge represents about a 10 percent increase in wastewater discharge during maximum operating conditions. The potential impact of the increase in wastewater discharge on the limits of the LACBS permit will be evaluated in the EIR.

**Carson Plant:** The Carson Plant currently generates process wastewater, high salts water, treated sour water, and storm water. Wastewater is treated in the wastewater treatment system, which includes API separators to remove oil and dissolved air floatation units for additional removal of oil and particulates. The treated process wastewater, high salts water and treated sour water are discharged to the Los Angeles County Sanitation Districts (LACSD) in accordance with the LACSD industrial wastewater permit discharge limits. The storm water can be discharged to the Dominguez Channel in accordance with a National Pollutant Discharge Elimination System (NPDES) permit discharge limits.

The proposed SCR unit does not use water for operation. The proposed project will not result in an increase in wastewater generated or discharged from the Carson Plant. As a result, no significant adverse impacts associated with wastewater discharges at the Carson Plant are expected.

### **9. b) and n) Water Demand**

**Wilmington Plant:** The Wilmington Plant uses about 2,000 to 3,500 gpm of fresh water purchased from the LADWP. Additionally about 1,650 gpm of water comes from onsite water wells. LADWP supplied 661,000 acre-feet per year (215 billion gallons) of water to its service area in 2005 (LADWP, 2005). The proposed project activities will increase fresh water usage at the Wilmington Plant by about 300 gpm (432,000 gallons per day). The SCAQMD significance threshold for water is 5,000,000 gallons per day. Therefore, the increase in water demand will not be significant. Further, the increase in water use from the ConocoPhillips Wilmington Plant (432,000 gallons per day) is less than one-tenth of one percent of the water supplied by LADWP on an annual basis. Therefore, the increase in water demand will not be significant and thus, the impacts of the proposed project on water demand will not be further evaluated in the EIR.

**Carson Plant:** Water at the ConocoPhillips Carson Plant is primarily provided by an onsite water well. Supplemental water is supplied to the Carson Plant by the Dominguez Water Corporation, which primarily receives water from the Metropolitan Water District and its own wells. As already noted, the SCR unit does not use water to operate. Therefore, no increase in water use is associated with the portions of the proposed project at the Carson Plant so that no significant adverse impacts on water demand are expected. Consequently, no significant adverse impacts from the proposed project at the Carson Plant are anticipated for ground water supplies.

#### **9. c), d), e), f) and m) Surface Water**

The Refinery is located near the Dominguez Channel and Los Angeles River. The Los Angeles River and the Dominguez Channel are the major drainages that flow into the Los Angeles-Long Beach Harbor complex. Sediments and contaminants are transported into the harbor with the flows from the Los Angeles River and, to a lesser degree, the Dominguez Channel.

The Los Angeles River drains an 832-square mile watershed basin, into the Long Beach Harbor. The Los Angeles River watershed is controlled by a series of dams, and an improved river channel with a design flow capacity of 146,000 cubic feet per second. The Dominguez Channel originates in the area of the Los Angeles International Airport and flows southward into the East Channel of the Los Angeles Harbor. The Dominguez Channel, an 8.5-mile long structure, drains approximately 80 square miles west of the Los Angeles River drainage basin. Permitted discharges from industrial sources are a substantial percentage of the persistent flows in the Dominguez Channel.

**Wilmington Plant:** The ground surface generally slopes from west to east at the Wilmington Plant. Surface water drains to the ORU for eventual discharge to the sanitary sewer. During rainstorms, the water flow can exceed the 6,000 gpm design flow rate of the ORU. Large holding tanks are used to store runoff under these conditions. After the event, the stored runoff is then routed through the treatment system and discharged to the sewer.

The projects are not expected to increase the stormwater runoff from the Wilmington Plant. The Wilmington Plant modifications will occur within the existing refinery units and the increase in paved areas is expected to be less than 0.1 acre so that no measurable increase in surface water runoff is expected. The Stormwater Pollution Prevention Plan will be updated, as necessary, to reflect operational modifications and include additional Best Management Practices, if required. No new storm drainage facilities or expansion of existing storm facilities are expected to be required. Since stormwater discharge or runoff is not expected to change in either volume or water quality, no significant stormwater quality impacts are expected to result from the operation of the proposed projects.

**Carson Plant:** Most of the storm water runoff from the Carson Plant is collected in a drainage system, treated, as necessary, and can be discharged to the Dominguez Channel

under the conditions of the existing storm water permit, but is currently discharged to the LACSD in accordance with the requirements of the facility's Industrial Wastewater Discharge Permit. The proposed project is not expected to increase the stormwater runoff from the Carson Plant. The Carson Plant modifications will occur within the existing refinery units and a negligible increase in paved areas is expected. The Stormwater Pollution Prevention Plan will be updated, as necessary, to reflect operational modifications and include additional Best Management Practices, if required. No new storm drainage facilities or expansion of existing storm facilities are expected to be required. Since stormwater discharge or runoff is not expected to change in either volume or water quality, no significant stormwater quality impacts are expected to result from the operation of the proposed project.

**9. g), h), and i) Flooding**

The proposed projects involve construction activities to install new equipment and modify existing equipment within the existing ConocoPhillips Los Angeles Refinery footprints. Implementation of the proposed projects does not include the construction of any housing, nor would it require placing housing within a 100- or 500-year flood hazard area. The Wilmington and Carson Plants are not located within a 100-year flood hazard area. Since the proposed projects are located within the existing Refinery boundaries, it would not impede or redirect flood flows. The proposed projects are not located within a flood zone and therefore, would not expose people or property to a significant risk of loss, injury or death related to flood hazards.

**9. j) Other Hazards**

There are no open ponds or embayments at the Carson or Wilmington sites, so the potential for seiching is considered to be less than significant. Both the Los Angeles Harbor and Long Beach Harbors are constructed with breakwaters that protect the port areas, so the potential for a tsunami to adversely affect the Refinery sites is considered less than significant. The proposed projects are located in areas of the Refinery with no hills or mountains nearby, so the potential for significant impacts from mudflows is considered less than significant.

**Conclusion**

The potential significant adverse impacts of the proposed projects on wastewater generation and water quality will be addressed in the EIR. The impacts of the proposed projects on water demand and other hydrology and water quality resources are expected to be less than significant and will not be analyzed further in the EIR.

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	<b>Potentially Significant Impact</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
<b>10.0 LAND USE AND PLANNING.</b>			
Would the project:			
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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**Checklist Response Explanation**

**10. a & b) Wilmington Plant:** The addition of the proposed project equipment does not impact the land use at the Wilmington Plant in any way. The additional refinery equipment (SCR Unit and Wet Gas Scrubber) will be consistent with the zoning of the site (M3 – Heavy Industrial Zoning) and with the City of Los Angeles General Plan. The Refinery equipment is compatible with the land use of the site and the surrounding land uses in accordance with the Wilmington-Harbor City Plan (City of Los Angeles, 1999). The proposed new equipment will be located within the confines of the existing Plant and would not disrupt or divide an established community. Therefore, the proposed project modifications will not result in any incremental environmental impacts on land use, and the overall impact to land use will not be significant.

**Carson Plant:** The proposed modifications to the Carson Plant will be developed entirely within the existing Carson Plant property boundaries. Land use on the Carson Plant property is designated as M3, which is heavy industrial zoning. The proposed project is consistent with the land use designation of heavy industry and manufacturing. No new property will be acquired for the Carson Plant and there will be no impacts to established communities. Additionally, the proposed project is not expected to conflict with local habitat conservation plans, or natural community conservation plans, as the proposed project site is a previously developed industrial facility. The proposed project will not trigger changes in the current zoning designations at the project site. Based on these considerations, no significant adverse impacts to established residential or natural communities are expected.

Implementation of the proposed projects include improvements and modifications that would occur entirely within the boundaries of the existing heavily industrialized Refinery at both the Carson and Wilmington Plants. The nature of the overall function and products produced at the Refinery will remain the same. No new land will be acquired for the proposed projects and no zoning and/or land use changes will be necessary. As no established communities are located on the Refinery property, the proposed projects would not disrupt or physically divide an established community.

**10. c)** The proposed projects would occur entirely within the boundaries of the existing heavily industrialized Refinery for which no habitat or natural community conservation plans exist, and, therefore, would not conflict with any applicable habitat conservation or natural community conservation plan.

**Conclusion**

The impact of the proposed projects on land use is expected to be less than significant. Land use issues will not be further evaluated in the EIR.

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	<b>Potentially Significant Impact</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
<b>11.0 MINERAL RESOURCES.</b> Would the project:			
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Checklist Response Explanation**

**11. a) and b)** Implementation of the proposed projects would occur entirely within the boundaries of the existing heavily industrialized Wilmington and Carson Plants of the ConocoPhillips Los Angeles Refinery. There are no known mineral resources on the project sites. Therefore, the proposed projects will not be located on a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan. Furthermore, because there are no known mineral resources at the Refinery sites, the proposed projects will not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.



**Conclusion**

Since no significant adverse impacts to mineral resources are expected from implementing the proposed projects; the topic of mineral resources will not be further analyzed in the EIR.

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	<b>Potentially Significant Impact</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
<b>12.0 NOISE.</b> Would the project result in:			
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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**12. a), b), c), and d) Construction Activities**

Construction activities associated with the proposed projects will generate noise from heavy construction equipment and construction-related traffic. The types of construction equipment that will be used at the Refinery include, but are not limited to, welding machines, trucks, cranes, and generators. The estimated noise level during installation of various equipment is expected to average about 80 decibels (dBA) at 50 feet from the center of construction activity. Most of the construction noise sources will be located at or near ground level, so the noise levels are expected to attenuate substantially before reaching the boundaries of either project site.

**Wilmington Plant:** The Wilmington Plant is surrounded by commercial and industrial land uses and the 110 Freeway on the eastern and southern boundaries. A residential area borders the eastern portions of the Plant and the northern portion of the site borders Harbor Lake Park, Harbor College and Harbor Golf Course. The western part of the site borders Gaffey Street including a firing range, vacant fields, recreational fields, and a U.S. Navy fuel storage facility. The ambient noise environment in the vicinity of the Plant is composed of contributions from equipment and operations within the commercial and industrial areas, and from traffic on roads along or near each of its property boundaries (Harbor 110 Freeway, Anaheim Street, Gaffey Street).

Construction activity for the proposed projects will produce noise as a result of operation of construction equipment. Typical sound levels for typical construction equipment are presented in Table 2-3. The construction equipment at the Wilmington Plant will include (electric and diesel), back hoe, weld machines, boom truck, manlifts, forklifts, generators, and cranes. The estimated noise level during equipment installation is expected to be an average of about 80 decibels (dBA) at 50 feet from the center of construction activity. The closest resident is about 300 feet from the eastern boundary of the Wilmington Plant (about 1,500 feet from construction activities). Using an estimated six dBA reduction for every doubling distance, the noise levels from project construction equipment at the closest resident are estimated to be 50 dBA. Most of the construction noise sources will be located near ground level, so the noise levels are expected to attenuate further than analyzed herein. Noise attenuation due to existing structures has not been included in the analysis.

**Carson Plant:** The Carson Plant is surrounded by other industrial land uses. Property across Wilmington Boulevard includes a residential neighborhood to the northwest and commercial uses to the southwest.

Construction activity for the proposed project will produce noise as a result of operation of construction equipment. The construction equipment at the Carson Plant will include a backhoe, trucks, manlifts, generators, welders, and forklifts. The estimated noise level during equipment installation is expected to be an average of about 80 dBA at 50 feet from the center of construction activity. The closest resident is about 1,800 feet west of the Carson Plant. Using an estimated six dBA reduction for every doubling distance, the

noise levels from project construction equipment at the residential area are expected to be about 49 dBA, which is below ambient noise levels.

**TABLE 2-3**

**Noise Levels of Typical Construction Sources**

<b>EQUIPMENT</b>	<b>TYPICAL RANGE (decibels)<sup>(1)</sup></b>	<b>ANALYSIS VALUE (decibels)<sup>(2)</sup></b>
Truck	82-95	82
Front Loader	73-86	82
Backhoe	73-95	80
Air Compressor	85-91	85
Jackhammers	81-98	85
Pumps	68-72	70
Generators	71-83	85
Compressors	75-87	85
Concrete Mixers	75-88	75
Concrete Pumps	81-85	85
Tractor	77-98	85
Scrapers, Graders	80-93	80
Pavers	85-88	75
Cranes	75-89	85

1. City of Los Angeles, 1998. Levels are in dBA at 50-foot reference distance. These values are based on a range of equipment and operating conditions.
2. Analysis values are intended to reflect noise levels from equipment in good conditions, with appropriate mufflers, air intake silencers, etc. In addition, these values assume averaging of sound level over all directions from the listed piece of equipment.

The construction activities at both the Carson and Wilmington sites that generate noise will be carried out during daytime from Monday to Friday, or as permitted by the local cities or county. Because of the nature of the construction activities, the types, number, operation time and loudness of construction equipment will vary throughout the construction period. As a result, the sound level associated with construction will change as construction progresses. Construction noise sources will be temporary and will cease following construction activities. Noise levels at the closest residential areas are not expected to increase during construction activities, i.e., background noise levels in residential areas generally are in the range of 55-65 dBA. The noise levels from the construction equipment are expected to be within the allowable noise levels established by the local noise ordinances for industrial areas, which are about 70 dBA. Thus, noise impacts associated with the proposed projects’ construction activities are expected to be less than significant.

**Operational Activities**

**Wilmington Plant:** During operations, the new equipment being installed as part of the SCR Unit will not generate noise beyond what currently exists at the facility because only small blowers are included as part of the SCR Unit and no noticeable increase in noise is expected from these small sources. The noise associated with the Wet Gas Scrubber and Purge Treatment Unit are expected to be limited to 85 dBA. The new equipment will be located within existing industrial areas where noise is generated by adjacent operational equipment. The closest resident is about 300 feet east of the Wilmington Plant (about 1,500 feet from operational activities). Using an estimated six dBA reduction for every doubling distance, the noise levels from project equipment at the closest resident is estimated to be 55 dBA due to noise attenuation.

**Carson Plant:** During operations the new equipment being installed as part of the SCR Unit will not generate noise beyond what currently exists at the facility because only small blowers are included as part of the new SCR Units and no noticeable increase in noise is expected from these small sources. Further the new equipment will be located within existing industrial areas and because of noise attenuation, noise levels at the site boundary will be negligible. Therefore, significant noise impacts from the proposed project are not expected.

**12. e) and f)** Neither the Carson Plant nor the Wilmington Plant are located within an airport land use plan or within two miles of a public or private use airport. Therefore, the proposed projects would not expose people residing or working in the area to noise related to airports.

**Conclusion:** Since no significant adverse impacts to noise impacts are expected from implementing the proposed projects, the topic of noise will not be further analyzed in the EIR.

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	<b>Potentially Significant Impact</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
<b>13.0 POPULATION AND HOUSING.</b>			
Would the project:			
a) Induce substantial growth in an area either directly (for example, by proposing new homes and businesses) or indirectly (e.g. through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	<b>Potentially Significant Impact</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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**Checklist Response Explanation**

**13. a), b) and c)** Construction activities at the Refinery will not involve the relocation of individuals, impact housing or commercial facilities, or change the distribution of the population because the proposed projects will occur completely within the boundaries of existing industrial sites. The construction work force, which is temporary, is expected to come from the existing labor pool in the southern California area. Additionally, once the proposed projects are complete, operation activities are not expected to require new permanent employees at either the Carson or Wilmington Plants. Since all potential impacts will occur at existing industrial facilities, displacement of housing of any type is not anticipated from the proposed projects. Therefore, implementation of the proposed projects is not expected to have a significant adverse impact on population, population distribution, or housing.

**Conclusion**

No significant adverse impacts on population, population distribution, or housing are expected due to the proposed projects; therefore, the topic of population and housing will not be further analyzed in the EIR.

	<b>Potentially Significant Impact</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
<b>14.0. PUBLIC SERVICES.</b> Would the proposal result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:			
a) Fire protection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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b) Police protection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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**Checklist Response Explanation**

**14. a)** To respond to emergency situations, the Refinery maintains an on-site fire department, which is supplemented by the resources of public fire departments. The Carson Plant is supported by the Los Angeles County Fire Department (LACFD). There are four LACFD stations that serve the Carson area: 1) Station 127 at 2049 E. 223<sup>rd</sup> Street; 2) Station 10 at 1860 E. Del Amo; 3) Station 36 at 127 W. 223<sup>rd</sup> Street; and, 4) Station 116 at 755 E. Victoria. The closest fire station to the Wilmington Plant is the City of Los Angeles Fire Department Station 85 located at 1331 W. 253<sup>rd</sup> Street, Harbor City.

ConocoPhillips maintains its own onsite emergency response department at both the Carson and Wilmington Plants. Compliance with state and local fire codes is expected to minimize the need for additional fire protection services. Both the Carson and Wilmington Plants have their own emergency response team to respond to emergencies. Both Plants maintain a fully trained 24-hour emergency response team; fire-fighting equipment including fire engines and foam pumper trucks or trailers; and manual and automatic fire suppression systems for flammable and combustible materials. Carson Plant staff is trained in accordance with industry standards, and on-site fire training exercises with the Los Angeles County Fire Department staff are conducted. Wilmington Plant staff is trained in accordance with industry standards and on-site fire training exercises with the Los Angeles City Fire Department are conducted.

The proposed projects will not increase the requirements for additional or altered fire protection. Fire-fighting and emergency response personnel and equipment will continue to be maintained and operated at both the Carson and Wilmington Plants. Close coordination with local fire departments and emergency services also will be maintained.

Construction of the proposed projects is likely to require an update to the Refinery’s Risk Management Program (RMP), e.g., for additional aqueous ammonia storage, which would be coordinated with the Los Angeles County FD and Los Angeles City Fire Department.

Construction activities are not expected to result in an increased need for fire response services. Construction activities include safeguards, monitoring for hazards with equipment designed to detect sources of flammable gases and vapors, written procedures, training, and authorization of equipment used on-site.

**14. b)** The Los Angeles County Sheriff’s Department is the responding agency for law enforcement needs in the vicinity of the Carson Plant. The City of Los Angeles Police Department is the responding agency for law enforcement needs in the vicinity of the Wilmington Plant. Because sheriff and police units are in the field, response times vary depending on the location of the nearest unit.

The Refinery has an existing security department that provides 24-hour protective services for people and property within the fenced boundaries of both the Carson and Wilmington sites. As part of their regular duties, the security department will monitor construction activities associated with the proposed projects since they will occur within the confines of the Refinery. Along with the existing work force, entry and exit of the construction work force will be similarly monitored. Thus, concerns with security or terrorism will be less than significant. Once implemented, the proposed projects are not expected to change Refinery staffing or substantially expand existing facilities. Thus, no additional or altered police protection will be required for the proposed projects.

**14. c), d), and e)** Since the proposed projects are not expected to require additional staffing during operations, an increase in the local population is not expected. Therefore, no impacts are expected to schools, parks, or other public facilities as a result of implementing the proposed projects.

**Conclusion**

No significant adverse impacts on public services including effects on service ratios, response times, or other performance objectives, are expected from implementing the proposed projects; therefore, the topic of public services will not be further analyzed in the EIR.

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	<b>Potentially Significant Impact</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
<b>15.0 RECREATION</b>			
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Checklist Response Explanation**

**15. a)** As previously concluded in Section 14 of this document, implementation of the proposed projects is not expected to increase the local population or housing. Therefore, implementation of the proposed projects is not expected to increase the demand for neighborhood or regional parks, or other recreational facilities and it will not adversely affect existing recreational opportunities.

**15. b)** Implementation of the proposed projects does not include new recreational facilities or require expansion of existing recreational facilities and, thus, will not have an adverse physical effect on the environment.

**Conclusion**

No significant adverse impacts on recreation are expected from the proposed projects. Therefore, impacts of the proposed projects with respect to the topic of recreation will not be further analyzed in the EIR.

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	<b>Potentially Significant Impact</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
<b>16.0. SOLID/HAZARDOUS WASTE.</b> Would the project:			
a) Be served by a landfill with sufficient permitted capacity to accommodate the project’s solid waste disposal needs?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Comply with federal, state, and local statutes and regulations related to solid and hazardous waste?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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**Checklist Response Explanation**

**16. a)** Construction activities could uncover hydrocarbon-contaminated soils, given the fact that refining, storage and distribution of petroleum products have been conducted at the site over a number of years. Excavated soil, which may be contaminated, will be characterized, treated, and disposed of offsite in accordance with applicable regulations. Where appropriate, the soil will be recycled if it is considered or classified as a non-hazardous waste. Otherwise, the material will need to be disposed of at a hazardous waste facility (Refer to 16.b below for further discussion).



Depending on the waste characterization (i.e., hazardous or non-hazardous waste), this material is expected to be sent to either Clean Harbors in Buttonwillow (non-hazardous), or to ECDC Environmental, L.C. in Murray Utah (California hazardous). The disposal of demolition waste and contaminated soils would contribute to the diminishing available landfill capacity. However, sufficient landfill capacity currently exists to handle these materials on a one-time basis (see Table 2-4). The construction impacts of the projects on waste treatment/disposal facilities are expected to be less than significant.

During operation, the proposed projects are not expected to generate significant quantities of solid waste, which are primarily generated from administrative or office activities. The Refinery has a well-developed waste handling system to maximize recycling, whenever feasible, such as the following: 1) employee use of different colored containers to allow easy separation of waste materials; 2) a main recycling area within the Refinery where materials such as large batteries, electronic wastes, and fluorescent lamps are collected; and 3) indoor recycling collection areas for materials such as small batteries and toner cartridges. The proposed projects would not result in an increase in permanent employees at the Wilmington Plant, so no significant increase in solid waste is expected.

TABLE 2-4

Los Angeles County Landfill Status

FACILITY NAME	Permitted (tons/day)	Remaining Permitted Capacity (tons)	Closure Date
<b>Class III Landfills</b>			
Antelope Valley I	1,400	11,550,016	Unknown
Bradley West	10,000	510,949	4/14/2007
Burbank (Burbank only)	240	5,740,000	1/1/2053
Calabasas (Calabasas only)	3,500	23,910,000	1/1/2028
Chiquita Canyon	6,000	22,421,485	11/24/2019
Lancaster	1,700	19,225,934	8/1/2012
Puente Hills 6	13,200	72,900,000	10/13/2013
Scholl Canyon	3,400	17,050,000	1/1/2024
Sunshine Canyon	6,600	8,442,032	1/1/2001
Savage Canyon	350	7,950,000	1/1/2025
<b>Waste-to-Energy Facilities</b>			
Commerce Refuse to Energy Facility	1,000	Not Applicable	Not Applicable
Southeast Resource Recovery Facility	2,240	Not Applicable	Not Applicable

Source: LACPD, 2005

The amount of non-hazardous FCCU catalyst collected as a dry solid is expected to decrease. The Wet Gas Scrubber will capture about 180 pounds per hour of catalyst fines

as wet solids, which will be collected for recycling at a Portland cement plant. Therefore, no significant adverse impacts to non-hazardous waste disposal facilities are expected due to the operation of the proposed project. As with the current operations at the Refinery, wastes generated by the operation of the proposed project will also be managed and/or disposed of in compliance with applicable federal, state, and local statutes and regulations.

### **16. b) Hazardous Waste**

There are no Class I hazardous waste disposal sites within the southern California area. Any hazardous waste currently generated by the Refinery, such as contaminated soil, is transported to a licensed hazardous waste disposal facility located either in-state or out-of-state. There are two hazardous waste facilities in California that are closest to the Refinery: 1) the Chemical Waste Management Inc. (CWMI) Kettleman Hills facility located in Kings County; and, 2) the Clean Harbors facility located in the city of Buttonwillow in Kern County. Currently the Kettleman Hills facility has an estimated available capacity of four million cubic yards. However, upon completion of a berm expansion, the capacity at the Kettleman Hills site is projected to increase by five million cubic yards for a total of nine million cubic yards. The Kettleman Hills facility expects to continue receiving wastes for approximately nine years (until 2015) under its current permit. The facility is in the process of permitting a new landfill which would extend the life of the operation another 15 years<sup>2</sup> (until 2030). The Clean Harbors facility in Buttonwillow has a remaining capacity of approximately nine million cubic yards. The expected life of the Clean Harbors Landfill is approximately 40 years<sup>3</sup>. As with the current operations at the Refinery, hazardous wastes generated by the operation of the proposed project will also be managed and/or disposed of in compliance with applicable federal, state, and local statutes and regulations.

Hazardous waste also can be transported for disposal or incineration to permitted facilities outside of California. The nearest out-of-state landfills that handle hazardous waste disposal are U.S. Ecology, Inc., located in Beatty, Nevada; ECDC Environmental, LLC, in Murray, Utah; and, EnviroSAFE Services of Idaho, Inc., in Mountain Home, Idaho. Incineration services are available at the following out-of-state facilities: Clean Harbors, located in both Aragonite, Utah and Coffeyville, Kansas; Rollins Environmental Services, Inc., located both in Deer Park, Texas and Baton Rouge, Louisiana; Chemical Waste Management, Inc., located in Port Arthur, Texas; and, Waste Research & Reclamation Co., located in Eau Claire, Wisconsin.

The proposed projects will generate hazardous waste from spent catalyst in the SCR units. The catalysts have a life expectancy ranging from about five to ten years, depending on the type of catalyst and reaction rate. Spent catalysts (about 40,000 pounds every five to ten years) are expected to be recycled offsite for their valuable heavy metal content.

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<sup>2</sup> Personal Communication, Terry Yarbough, Chemical Waste Management Inc., June 2004.

<sup>3</sup> Personal Communication, Marianna Buoni, Safety-Kleen (Buttonwillow), Inc., June 2004

No hazardous waste is expected to be generated from the operation of the WGS.

In summary, the relatively small increases in the amounts of solid and hazardous wastes that are anticipated to be generated during the construction and operation for the proposed projects are not expected to exceed the available capacity of solid or hazardous waste disposal facilities. Further, implementation of the proposed projects will neither require additional waste disposal capacity nor will it interfere with the ability of ConocoPhillips operators to comply with applicable local, state, or federal waste disposal regulations. Thus, the proposed projects are not expected to result in significant adverse solid waste or hazardous waste impacts.

**Conclusion**

No significant adverse impacts on solid/hazardous waste are expected from the proposed projects. Therefore, impacts of the proposed projects on solid/hazardous waste will not be analyzed further in the EIR.

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	<b>Potentially Significant Impact</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
<b>17.0 TRANSPORTATION/TRAFFIC.</b> Would the project:			
a) Cause an increase in traffic, which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant Impact	No Impact
e) Result in inadequate emergency access ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Result in inadequate parking capacity?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g. bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Checklist Response Explanation**

**17. a) and b)** The proposed projects will temporarily increase the traffic in the area of both the Carson and Wilmington Plants associated with construction workers, construction equipment, and the delivery of construction materials. The impacts of the traffic load and capacity of the street system during the construction phase will be analyzed in the EIR.

Once construction of the proposed projects is completed, the existing work force at the Refinery is not expected to increase as a result of the projects, so that operation-related traffic is expected to be minimal, and less than significant.

**17. c)** The proposed projects include modifications to existing equipment, and installation of new equipment within the existing Refinery. The proposed modifications and new structures will be similar in height and appearance to the existing Refinery structures. Since the proposed modifications and new structures will not be greater than 250 feet in height and are not expected to result in a change to air traffic patterns, notification to the Federal Aviation Administration pursuant to Advisory Circular AC 70/7460-2K is not required. Further, since the Carson Plant is located about four miles west of the nearest airport, Long Beach Airport (LGB), the Refinery is located outside of the normal flight pattern of LGB. In addition, the proposed projects is not expected to involve the delivery of materials via air cargo so no increase in air traffic is expected.

**17. d) and e)** The proposed projects are not expected to substantially increase traffic hazards or create incompatible uses at, or adjacent to, the Refinery. The proposed projects do not include construction of roadways that could include design hazards. Emergency access at the Refinery will not be impacted by the proposed projects and ConocoPhillips will continue to maintain the existing emergency access gates to the Refinery.

**17. f)** Parking for the construction workers will be provided within the confines of the existing Refinery site and sufficient parking exists to handle the estimated increase of workers commuting to and from the Refinery. Once construction is complete, no

increase in permanent workers is expected. Therefore, the proposed projects will not result in significant parking impacts.

17. g) The proposed projects will be constructed within the confines of an existing Refinery and are not expected to conflict with adopted policies, plans, or programs supporting alternative transportation modes (e.g., bus turnouts, bicycle racks).

**Conclusion**

The traffic impacts associated with the construction phase of the proposed projects are potentially significant and will be analyzed in the EIR. The impacts of the proposed projects on other transportation related areas are expected to be less than significant and will not be considered further in the EIR.

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	<b>Potentially Significant Impact</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
<b>18.0 MANDATORY FINDINGS OF SIGNIFICANCE.</b>			
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### **Checklist Response Explanation**

**18. a)** The proposed projects do not have the potential to degrade the quality of the environment, reduce or eliminate any plant or animal species, or destroy historic or prehistoric structures or records. The proposed projects are located at two locations that are part of existing industrial facilities, which have been previously disturbed, graded and developed, and the projects, as proposed, will not extend into environmentally sensitive areas but will remain within the confines of an existing, operating Refinery. For additional information, see Section 4.0 – Biological Resources and Section 5.0 – Cultural Resources.

**18. b) and c)** The proposed projects have the potential to result in an increase in aesthetic, air quality, hydrology and water quality, and temporary transportation and traffic impacts from the construction of the proposed projects, and have the potential to result in cumulative impacts. Further, there are some unrelated projects at the Refinery that could generate additional air quality impacts (primarily construction-related impacts), and generate additional traffic. These projects include the following:

#### **Wilmington Plant**

The following project is anticipated to occur at the Wilmington Plant.

- ConocoPhillips is expected to upgrade the existing emission control system on venting from molten sulfur storage vaults in Sulfur Recovery Unit 138. The Sulfur Recovery Unit consists of two redundant plants: one is normally operating; and one is normally in stand-by mode, or undergoing maintenance. This modification would interconnect the two existing vent control systems for the two sulfur storage vaults to enable the control system on the idle sulfur plant to back-up the vent control system on the operating plant

#### **Carson Plant**

The following projects are anticipated to occur at the Carson Plant.

- A vapor recovery project required to comply with SCAQMD Rule 1118 – Control of Emissions from Refinery Flares. This modification would recover and treat all of the routine vent gas from the flare system, except from emergencies, shutdowns, startups, turnarounds, or essential operational needs, as required by Rule 1118. SCAQMD permit applications have been filed for the modifications to the vapor recovery system.
- ConocoPhillips expects to make various vessel, piping and heat exchanger modifications to improve liquid product yield, and slightly reduce solid coke production, from the coking process. The modification will include the addition of a

small accumulator vessel in the gas processing section. Maximum throughput capacity of the Coker Unit will not be increased.

- ConocoPhillips expects to replace the existing Secondary Column overhead accumulator at the Crude Unit with a slightly larger one to improve water separation. Maximum throughput capacity of the Crude Unit will not be increased. There could be a slight increase in fugitive VOC emissions.
- ConocoPhillips expects to install a new external floating roof storage tank to replace two existing tanks that store hydrotreated gas oil. The tank will be approximately 220 feet in diameter by 48 feet tall, with an approximate capacity of 25,000 barrels.
- ConocoPhillips expects to convert an existing rail car unloading facility for crude oil into a loading facility. Crude oil imported through the Port of Los Angeles would be delivered to the Carson Plant by pipeline and loaded into rail cars for shipment to ConocoPhillips' Santa Maria Refinery.
- ConocoPhillips anticipates submitting an application to modify the existing amine regeneration system.

ConocoPhillips at one time considered proposing an SCR Unit in years 2009/2010 for a hydrogen plant heater (HP-38) to reduce NOx emissions and help to meet the declining NOx RECLAIM yearly allocation levels. This project is considered to be speculative at this time as this SCR unit has not been funded and may not be required to comply with Regulation XX – RECLAIM.

The potential cumulative impacts of the PM10 and NOx Reduction projects, other potential ConocoPhillips projects, and other projects in the vicinity of the Wilmington and Carson Plants will be analyzed, as necessary, in the EIR, to the extent not already evaluated in the 2003 Final EA for Rule 1105.1 and the 2004 Final EA for Regulation XX.

## **Conclusion**

Project specific impacts to the following environmental areas will be further analyzed in the EIR: aesthetic, air quality, hydrology and water quality, and transportation and traffic. Potential adverse cumulative impacts of the projects not already evaluated in the 2003 Final EA for Rule 1105.1 and the 2004 Final EA for Regulation XX will also be evaluated in the EIR.

## CHAPTER 2: ENVIRONMENTAL CHECKLIST

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## ACRONYMS

ABBREVIATION	DESCRIPTION
API	American Petroleum Institute
BACT	Best Available Control Technology
CEQA	California Environmental Quality Act
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CO	Carbon monoxide
CWMI	Chemical Waste Management Inc.
dba	A-weighted noise level measurement in decibels
EIR	Environmental Impact Report
ESP	Electrostatic Precipitator
GPM	gallons per minute
HP-38	Hydrogen Plant Reformer Heater
kw	kilowatts
LACBS	Los Angeles City Bureau of Sanitation
LACFD	Los Angeles County Fire Department
LACSD	Los Angeles County Sanitation Districts
LADPW	Los Angeles Department of Public Works
LGB	Long Beach Airport
LUST	leaking underground storage tank
MW	megawatts
NOP/IS	Notice of Preparation and Initial Study
NOx	nitrogen oxide
NPDES	National Pollutant Discharge Elimination System
ORU	Oil Recovery Unit
PM10	particulate matter less than 10 microns in diameter
ppm	parts per million
PTU	Purge Treatment Unit
RCRA	Resource Conservation and Recovery Act
RECLAIM	Regional Clean Air Incentives Market
REFINERY	CononcoPhillips Los Angeles Refinery
RMP	Risk Management Program
SCAQMD	South Coast Air Quality Management District
SCF	standard cubic feet
SCR	Selective Catalytic Reduction
SLIC	Spills, Leaks, Investigation and Cleanup
SO <sub>2</sub>	sulfur dioxide
SO <sub>x</sub>	sulfur oxide
WGS	Wet Gas Scrubber

## GLOSSARY

TERM	DEFINITION
Ambient Noise	The background sound of an environment in relation to which all additional sounds are heard
Aromatics	Hydrocarbons which contain one or more benzene rings.
Barrel	42 gallons.
Blending	One of the final operations in refining, in which two or more different components are mixed together to obtain the desired range of properties in the finished product.
Catalyst	A substance that promotes a chemical reaction to take place but which is not itself chemically changed.
Cooling Tower	A cooling tower is a heat rejection device, which extracts waste heat to the atmosphere through the cooling of a water stream to a lower temperature. Common applications for cooling towers are providing cooled water for manufacturing and electric power generation.
Condensate	Steam that has been condensed back into water by either raising its pressure or lowering its temperature
Cogeneration	A cogeneration unit is a unit that produces electricity.
Cracking	The process of breaking down higher molecular weight hydrocarbons to components with smaller molecular weights by the application of heat; cracking in the presence of a suitable catalyst produces an improvement in product yield and quality over simple thermal cracking.
Crude Oil	Crude oil is "unprocessed" oil, which has been extracted from the subsurface. It is also known as petroleum and varies in color, from clear to tar-black, and in viscosity, from water to almost solid.
dBA	The decibel (dDB) is one tenth of a <i>bel</i> where one bel represents a difference in noise level between two intensities $I_1$ , $I_0$ where one is ten times greater than the

	other. (A) indicates the measurement is weighted to the human ear.
Distillation	The process of heating a liquid to its boiling point and condensing and collecting the vapor.
Feedstock	Material used as a stream in the refining process.
Flares	Emergency equipment used to incinerate refinery gases during upset, startup, or shutdown conditions
Flue Gas	Gases produced by burning fuels in a furnace, heater or boiler.
Heat exchanger	Process equipment used to transfer heat from one medium to another.
Heater	Process equipment used to raise the temperature of refinery streams processing.
Hydrocarbon	Organic compound containing hydrogen and carbon, commonly occurring in petroleum, natural gas, and coal.
Hydrotreater	A machine that treats hydrocarbons.
Hydrotreating	A process to catalytically stabilize petroleum products of feedstocks by reacting them with hydrogen.
L <sub>50</sub>	Sound level exceeded 50 percent of the time (average or mean level).
Liquefied Petroleum Gas (LPG)	Liquefied light end gases often used for home heating and cooking; this gas is usually 95 percent propane, the remainder being split between ethane and butane.
Mercaptans	Sulfur-containing compounds

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Naphtha	<p>A crude distillation unit cut in the range of C<sub>7</sub>-420°; naphthas are subdivided – according to the actual crude distillation cuts - into light, intermediate, heavy, and very heavy virgin naphthas; a typical crude distillation operation would be:</p> <table><tr><td>C<sub>7</sub>-160°</td><td>-</td><td>light naphtha</td></tr><tr><td>160-280°</td><td>-</td><td>intermediate naphtha</td></tr><tr><td>280-330°</td><td>-</td><td>heavy naphtha</td></tr><tr><td>330-420°</td><td>-</td><td>very heavy naphtha</td></tr></table>	C <sub>7</sub> -160°	-	light naphtha	160-280°	-	intermediate naphtha	280-330°	-	heavy naphtha	330-420°	-	very heavy naphtha
C <sub>7</sub> -160°	-	light naphtha											
160-280°	-	intermediate naphtha											
280-330°	-	heavy naphtha											
330-420°	-	very heavy naphtha											
Natural Gas	<p>A mixture of hydrocarbon gases that occurs with petroleum deposits, principally methane together with varying quantities of ethane, propane, butane, and other gases.</p>												
Octane	<p>Measurement of the burning quality of the gasoline; reflects the suitability of gasoline to perform in internal combustion engines smoothly without letting the engine knock or ping.</p>												
Olefins	<p>Hydrocarbons that contain at least two carbons joined by double bonds; olefins do not naturally occur in crude oils but are formed during the processing.</p>												
Paleontological	<p>Prehistoric life.</p>												
Peak Hour	<p>This typically refers to the hour during the morning (typically 7 AM to 9 AM) or the evening (typically 4 PM to 6 PM) in which the greatest number of vehicles trips are generated by a given land use or are traveling on a given roadway.</p>												
Pentane	<p>Colorless, flammable isomeric hydrocarbon, derived from petroleum and used as a solvent.</p>												
Reactor	<p>Vessels in which desired reactions take place.</p>												
Refinery fuel gas	<p>Gas produced from refinery operations used primarily for fuel gas combustion in refinery heaters and boilers.</p>												
Reformate	<p>One of the products from a reformer; a reformed naphtha; the naphtha is then upgraded in octane by means of catalytic or thermal reforming process.</p>												

Reformulated Gasoline	New gasoline required under the federal Clean Air Act and California Air Resources Board to reduce emissions.
Reid Vapor Pressure	The vapor pressure of a product determined in a volume of air four times greater than the liquid volume at 100°F; Reid vapor pressure (RVP) is an indication of the vapor-lock tendency of a motor gasoline, as well as explosion and evaporation hazards.
Seiches	A vibration of the surface of a lake or landlocked sea that varies in period from a few minutes to several hours and which may change in intensity.
Selective Catalyst Reduction	An air pollution control technology that uses a catalyst to remove nitrogen oxides from flue gas.
Sour	Refinery streams with more than 2.5 percent sulfur.
Stripper or Splitter	Refinery equipment used to separate two components in a feed stream; examples include sour water strippers and naphtha splitters.
Sweet	Refinery streams with less than 0.5 percent sulfur.