

# **SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

**Subsequent Final Negative Declaration for:  
Paramount Petroleum Refinery  
Clean Fuels Project**

**SCH No. 2003031044**

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## **CHAPTER 1**

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### **PROJECT DESCRIPTION**

Introduction  
Agency Authority  
Project Background  
Project Location  
Overview of Current Operations  
Proposed Project  
Construction Schedule  
Required Permits

## 1.0 PROJECT DESCRIPTION

### 1.1 INTRODUCTION

In 2004, Paramount Petroleum (Paramount) proposed the construction of the Clean Fuels Project to produce cleaner-burning gasoline and ultra low sulfur diesel (ULSD) for California markets in accordance with the requirements of the United States Environmental Protection Agency (U.S. EPA) and California Air Resources Board (CARB). Cleaner-burning fuels reduce emissions of criteria and toxic air pollutants from mobile sources that use the fuels and, thereby, help to achieve and maintain federal and state ambient air quality standards within the area of jurisdiction of the South Coast Air Quality Management District (SCAQMD). A Final Environmental Impact Report (EIR) was prepared in 2004 to analyze the impacts of the Paramount Clean Fuels Project (SCH No. 2003031044) on the environment. The analysis in the April 2004 Final EIR concluded that the Clean Fuels Project would result in potentially significant adverse air quality impacts associated with VOC emissions and hazard impacts associated with the Naphtha Splitter during project operation. The project impacts on other environmental resources were determined to be less than significant.

The Paramount Refinery has commenced the construction of the Clean Fuels Project, as described in the certified April 2004 Final EIR, and most portions of the project have been completed. One of the components of the project identified in the April 2004 Final EIR is upgrading the No. 1 Hydrodesulfurization (HDS) Unit, which has not yet been started. Paramount is proposing to integrate subsequently required NO<sub>x</sub> emission reduction strategies into the final stages of the Clean Fuels Project, i.e., upgrading the No. 1 HDS Unit. All heaters that are included as part of the currently proposed project were included in the operation emissions baseline of the Clean Fuels Project EIR without any NO<sub>x</sub> emission reduction strategy. In order to upgrade HDS No. 1, Paramount still needs to rebuild Heaters H-101/102, the operation of which was included in the Clean Fuels Project EIR baseline, and is currently proposing to install more efficient heaters with reduced firing rates. In addition to rebuilding those heaters, Paramount is proposing to install a new selective catalytic reduction (SCR) unit on Heaters H-101/102 and Heaters H-501/502. (Note: Installing an SCR on Heaters 101/102 and H-501/502 is in lieu of installing an SCR on Heater H-802 as described in the 2007 Negative Declaration for Paramount's NO<sub>x</sub> Reduction Project, SCH No. 2006121043.) SCR units help reduce NO<sub>x</sub> emissions from combustion sources. Therefore, NO<sub>x</sub> reduction required by an Order of Abatement will occur as a result of the modifications to No. 1 HDS, which is a component of the April 2004 Clean Fuels Project. A new overhead product separator vessel is proposed in the No. 1 HDS area of the Refinery, which will process a wide cut naphtha to facilitate sulfur and/or nitrogen removal from naphtha for optimum reformer operation. Finally, Paramount is also proposing to eliminate the use of anhydrous ammonia by modifying existing SCRs that use anhydrous ammonia to use aqueous ammonia, thereby reducing the risk associated with handling, storing, and using anhydrous ammonia as agreed to in the Negative Declaration for the Paramount NO<sub>x</sub> Reduction Project. Based on the environmental analysis prepared for the currently proposed project modifications and, as further discussed in Section 1.5, the SCAQMD has quantitatively and qualitatively demonstrated that the proposed project modifications will not generate any significant adverse environmental impacts and meets the

qualifications for the preparation of a Subsequent Negative Declaration per the requirements of CEQA Guidelines §15162.

## 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. The proposed modifications at the Paramount Refinery constitute a “project” as defined by CEQA. To fulfill the purpose and intent of CEQA, the SCAQMD is the “lead agency” for the proposed project modifications and has prepared this Subsequent Negative Declaration to address the potential adverse environmental impacts associated with the proposed project modifications at the Paramount Refinery.

The lead agency is the public agency that has the principal responsibility for carrying out or approving a project that may have a significant adverse effect upon the environment (Public Resources Code §21067). The primary purpose of the proposed project modifications is to complete the Clean Fuels Project and comply with SCAQMD rules, regulations, and orders. Since the proposed project modifications require discretionary approval from the SCAQMD and the SCAQMD has the greatest responsibility for supervising or approving the project as a whole, it was determined that the SCAQMD would be the most appropriate public agency to act as lead agency (CEQA Guidelines §15051(b)).

As explained in the Introduction, the currently proposed project consists primarily of a modification of the project evaluated in the April 2004 Final EIR. Specifically, the currently proposed project would add a NOx control component to the heaters associated with the No. 1 HDS Unit. For this reason a Subsequent Negative Declaration is the appropriate CEQA document. To fulfill the purpose and intent of CEQA, the SCAQMD has prepared this Subsequent Negative Declaration to address the potential adverse environmental impacts associated with the proposed project modifications. A Subsequent Negative Declaration for a project subject to CEQA is prepared when an environmental analysis of the project shows that there is no substantial evidence that the project may have a significant effect on the environment (CEQA Guidelines §15070(a)). A Subsequent Negative Declaration is prepared when changes are made to the proposed project that do not require substantial revisions to the previous EIR (CEQA Guidelines §15162(b)). As shown in Chapter 2, no significant adverse impacts are expected from the proposed project modifications and, therefore, the preparation of a subsequent negative declaration is the appropriate CEQA document.

## 1.3 PROJECT BACKGROUND

On April 9, 2004, the SCAQMD certified an EIR for the Clean Fuels Project (SCH No. 2003031044) (April 2004 Final EIR). The Paramount Refinery has commenced the construction of the Clean Fuels Project, as described in the certified April 2004 Final EIR, and most portions of the project have been completed. One of the last steps in the process is upgrading the No. 1 HDS Unit. All heaters were included in the operation emissions baseline of the Clean Fuels Project EIR

without any NOx emission reduction strategy. Paramount is proposing to incorporate NOx reduction strategies into the Clean Fuels Project by rebuilding Heaters H-101/102 with more efficient heaters, improved unit heat exchange, and reduced firing rates. In addition to rebuilding those heaters which were included in the baseline operations of the Clean Fuels Project EIR, Paramount is proposing to install a new SCR on Heaters H-101/102 and Heaters H-501/502. (Note: Installing an SCR on Heaters 101/102 and H-501/502 is in lieu of installing an SCR on Heater H-802 as described in the 2007 Negative Declaration for Paramount's NOx Reduction Project, SCH No. 2006121043.) Paramount is also proposing to eliminate the use of anhydrous ammonia in existing SCRs at the Refinery as agreed to in the 2007 Negative Declaration for the Paramount NOx Reduction Project.

## 1.4 BACKGROUND CEQA DOCUMENTS

The activities associated with the Paramount Clean Fuels Project were evaluated in the following CEQA documents. All of the following CEQA documents can be obtained by contacting the SCAQMD's Public Information Center at (909) 396-2039 or downloaded from the SCAQMD's CEQA webpages at the following Internet address: <http://www.aqmd.gov/ceqa/nonaqmd.html>.

Notice of Preparation and Initial Study of a Draft Environmental Impact Report for the Paramount Refinery Clean Fuels Project, March 2003

A Notice of Preparation (NOP) and Initial Study for the Paramount Refinery Clean Fuels Project were released for a 30-day public review and comment period on March 12, 2003. The Initial Study included a project description, project location, and environmental checklist, and a discussion of potential adverse environmental impacts. The Initial Study evaluated the potential adverse impacts on the following environmental topics: aesthetics, agriculture resources, air quality, biological resources, cultural resources, energy, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, solid and hazardous waste, and transportation/circulation. Potentially significant adverse impacts were identified for air quality, hazards and hazardous materials, and transportation and traffic. The NOP solicited input from public agencies and other interested parties on the scope and content of the environmental impacts to be evaluated in the Draft EIR.

2003 Draft Environmental Impact Report for the Paramount Refinery Clean Fuels Project, December 2003

The Draft EIR was released for a 45-day public review and comment period on December 17, 2003. The Draft EIR included a comprehensive project description, a description of the existing environmental setting that could be adversely affected by the proposed project, analysis of potential adverse environmental impacts (including cumulative impacts), mitigation measures, project alternatives, and all other relevant topics required by CEQA. The Draft EIR also included a copy of the NOP and Initial Study, copies of the comment letters received on the NOP and Initial Study, and responses to all comment letters received on the NOP and Initial Study. The Draft EIR concluded that the Paramount Refinery Clean Fuels Project may generate significant adverse

impacts, following mitigation, in two environmental areas: air quality and hazards associated with project operation.

2004 Final Environmental Impact Report for the Paramount Refinery Clean Fuels Project, April 2004

The April 2004 Final EIR was prepared by revising the Draft EIR to incorporate applicable updated information and to respond to the single comment letter received on the Draft EIR. The April 2004 Final EIR contained the comment letter and responses to comments received on the Draft EIR. The changes included in the April 2004 Final EIR did not constitute significant new information relating to the environmental analysis or mitigation measures. The Final EIR was certified on April 9, 2004.

2007 Addendum to the Final Environmental Impact Report for the Paramount Refinery Clean Fuels Project, September 2007

The 2007 Addendum evaluated the impacts associated with changing an existing fixed roof storage tank (T-5006) to a fix roof tank with an internal floating roof and to install a filter system to operate with the storage tank. In addition, Paramount proposed to change the service of an existing storage tank (T-5006) from asphalt to ethanol. In addition, a gasoline filter system was installed as part of the gasoline blender. The SCAQMD evaluated the proposed project changes and determined that minor project changes or additions were necessary but none of the conditions described in CEQA Guidelines Section §15162 calling for preparation of a subsequent EIR occurred. Therefore, an addendum to the Clean Fuels Project was prepared and certified on September 14, 2007.

**Other Related CEQA Documents**

Paramount is proposing to install a new SCR Unit on Heaters H-101/102 and Heaters H-501/502 (Note: Installing an SCR on Heaters 101/102 and H-501/502 is in lieu of installing an SCR on Heater H-802 as described in the 2007 Negative Declaration for Paramount's NOx Reduction Project, SCH No. 2006121043.) The impacts of installing an SCR on Heater H-802 were evaluated in a Negative Declaration certified by the SCAQMD on February 13, 2007 (SCH 2006121043) (SCAQMD, 2007).

**1.5 BASIS FOR DECISION TO PREPARE SUBSEQUENT NEGATIVE DECLARATION**

The SCAQMD was the lead agency responsible for preparing the 2004 Clean Fuels Project Final EIR and is the public agency that has the primary responsibility for approving the currently proposed project modifications. Therefore, the SCAQMD is the appropriate lead agency to evaluate the potential environmental effects of the currently proposed project modifications that are the subject of this Subsequent Negative Declaration. Based on the following background, the SCAQMD has determined that a Negative Declaration is the appropriate document to evaluate the proposed modifications to the Clean Fuels Project.

CEQA Guidelines §15162(b) provides that if changes to a project occur after adoption of a negative declaration, the lead agency shall prepare a subsequent EIR, if conditions under §15162(a) apply, such as substantial changes are proposed in the project that require major revisions to the previous document, substantial changes occur with respect to the circumstances under which the project is undertaken, or new information of substantial importance becomes available. However, conditions under §15162(a) do not apply for the proposed project modifications as explained in the following paragraphs.

CEQA Guidelines §15162(a) states that no subsequent EIR shall be prepared for project changes unless the changes will result in substantial changes that require major revisions of the previous EIR due to new significant adverse impacts, or a substantial increase in a previously identified impact. As discussed in Chapter 2 of this document, no substantial changes requiring major revisions or resulting in a substantial increase in a previously identified impact have occurred. The environmental analysis in Chapter 2 of this document demonstrates that the rebuilding of H-101/102, the installation of an SCR on H-101/102 and H-501/502, and the conversion of anhydrous ammonia to aqueous ammonia in existing SCR units at the Refinery will not cause new significant adverse impacts requiring a subsequent EIR.

As previously stated, CEQA Guidelines §15162(b) indicates that “If changes to a project or its circumstances occur or new information becomes available after adoption of the negative declaration, the lead agency shall prepare a subsequent EIR, if required under subsection (a).” As discussed above and in Chapter 2 of this document, no substantial changes requiring major revisions or resulting in a substantial increase in a previously identified impact have occurred so there is no requirement to prepare a subsequent EIR.

The second sentence of §15162(b) indicates that “Otherwise, the lead agency shall determine whether to prepare a subsequent negative declaration, an addendum, or no further documentation,” which means when the conditions of §15162(a) are not met, then the lead agency shall determine whether to prepare a subsequent negative declaration, an addendum, or no further documentation.

The use of an addendum was considered for the proposed project modifications. An addendum is appropriate when only minor technical changes or additions are necessary, and none of the conditions described in CEQA Guidelines §15162 (as summarized above) exist. In contrast, rebuilding H-101/102, the installation of an SCR on H-101/102 and H-501/502, and the conversion of anhydrous ammonia to aqueous ammonia in existing SCR units at the Refinery may generate additional impacts not previously discussed in the CEQA analysis for the Paramount Clean Fuels Reduction Project. Also, a Subsequent Negative Declaration will allow the public the opportunity to review and comment on the proposed project, where an addendum would not. Therefore, it was determined that the proposed project modifications did not constitute minor technical changes, these issues need to be evaluated in a subsequent document, and an addendum was not the appropriate document.

Since an EIR is not required and the SCAQMD has determined that an addendum is not appropriate, the SCAQMD has concluded that a Subsequent Negative Declaration is the most appropriate CEQA document in which to analyze the proposed project modifications pursuant to CEQA Guidelines §15162(b). Due to the limited nature of the proposed modifications to the

project, the Subsequent Negative Declaration will examine only the incremental effects of the project as modified, compared to the previously reviewed and approved Clean Fuels Project.

Based on the environmental analysis of the incremental effects of the proposed project modifications, the SCAQMD has concluded that the potential incremental impacts associated with the proposed project modifications on all environmental resources are less than significant (See Chapter 2). Therefore, it can be concluded that the proposed project modifications do not create any significant adverse environmental effects. As a result, pursuant to CEQA Guidelines §15064(f)(3), since there is no substantial evidence that the Clean Fuels Project as modified may have a significant effect on the environment, the lead agency shall prepare a negative declaration for the subsequent proposal to the Clean Fuels Project. This document constitutes a Subsequent Negative Declaration for the Paramount Clean Fuels Project. Chapter 2 of this Subsequent Negative Declaration further explains the basis and provides the environmental analyses for the determination to prepare this document.

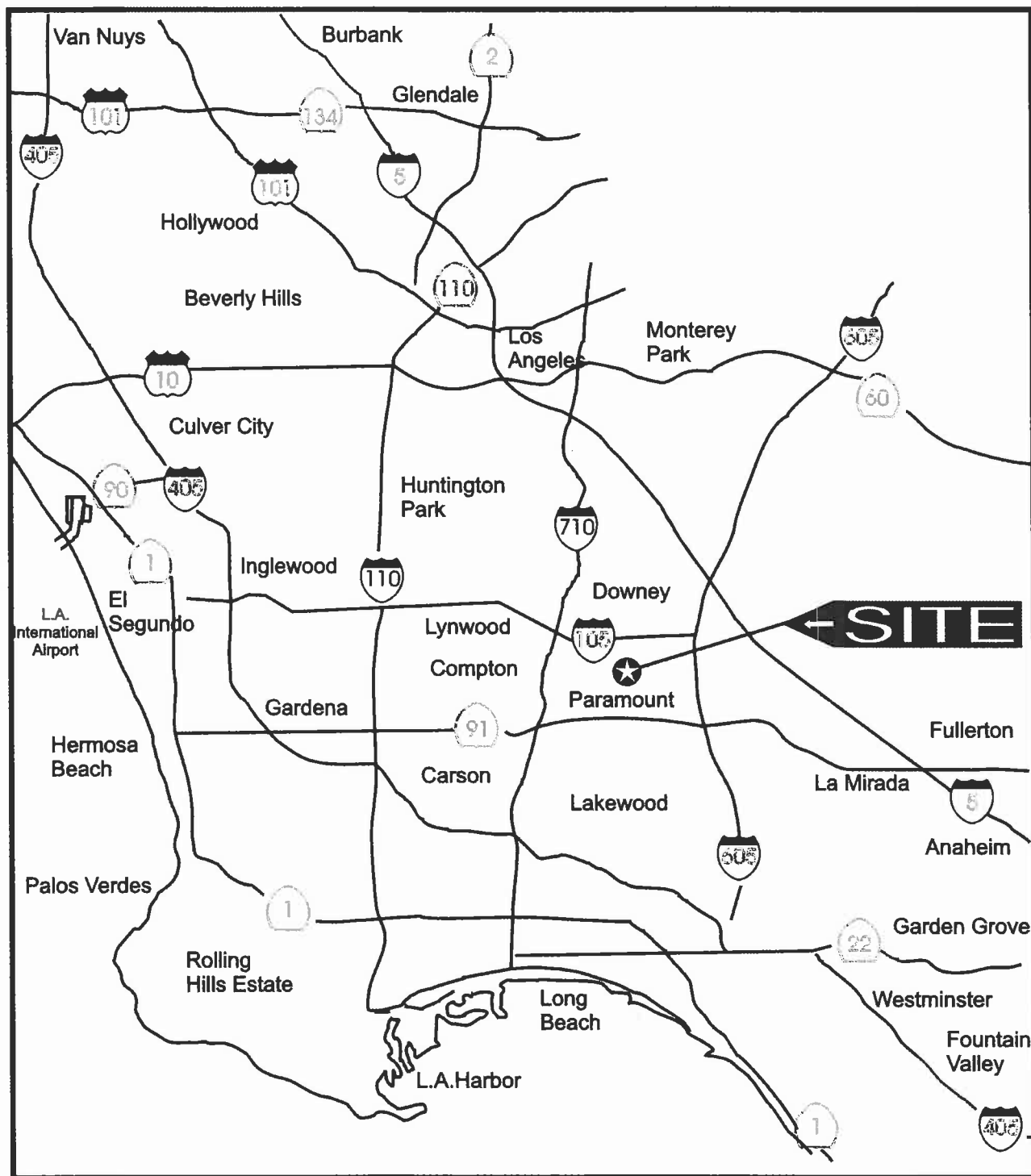
## 1.6 PROJECT LOCATION

The Refinery is located at 14700 Downey Avenue, Paramount, California. The City is located east of the Los Angeles River and is approximately 16.5 miles southeast of downtown Los Angeles. The City of Paramount is bounded by the cities of South Gate, Downey, Bellflower, Long Beach, Compton, and Lynwood. The Refinery is bounded by Lakewood Boulevard, Somerset Boulevard, Downey Avenue, and Contreras Street. The Refinery is located immediately west of the City of Bellflower municipal boundary lines, and approximately one-quarter mile south of the City of Downey boundary line (see Figures 1 and 2).

Regional access to the Refinery is provided by Interstates 605 and 710 which run north-south approximately two-and-one quarter miles east and west of the Refinery, respectively. State Route 91 runs east-west and is located approximately two miles south of the Refinery. Interstate 105 is located about three-quarters of a mile north of the Refinery.

The Refinery accounts for slightly more than half of the total acreage within the Somerset Ranch Area of the 1990 Paramount General Plan. The Somerset Ranch Area of Paramount is designated as “Mixed Use” and includes a mix of residential, commercial, industrial, and public uses. The Refinery is zoned M-2, Heavy Manufacturing. The land use pattern varies widely in the Paramount area on a parcel by parcel basis and reflects an area in transition from a variety of older land uses (that include the Refinery) to newer development (including apartment houses and commercial land uses, e.g., grocery stores and a Walmart).

Sensitive receptors include Wirtz School, located at the corner of Contreras and Downey Avenues; the Cinderella Mobile Home Community, and single-family homes are located further east along Contreras Avenue. The two parcels northeast of the site have been developed with commercial uses, e.g. Albertson’s and Walmart. The Baxter School, also a sensitive receptor, is located east of Lakewood Boulevard in the City of Bellflower. The east side of Lakewood Boulevard is developed with commercial uses, including several auto-related uses, the Rainbow Trailer Park, Fox Trailer Court, and a motel.



REGIONAL MAP







**SITE LOCATION MAP**  
 14700 Downey Avenue  
 Paramount, California



The Los Angeles Department of Water and Power (DWP) easement and the Union Pacific Railroad (UPRR) tracks run diagonally across Somerset Boulevard and Downey Avenue and separate the Refinery from the Somerset Village condominiums and a neighborhood that consists of single-family dwellings. Further south along Somerset Boulevard, there are single-family neighborhoods and commercial and industrial land uses. The opposite side of Downey Avenue contains a mix of single- and multiple-family developments and Paramount High School.

Primary truck access to the Refinery is provided by Andry Drive, which is accessible from Somerset and Lakewood Boulevards. The main entrance to the administrative offices at the Refinery is at Downey Avenue. Lakewood Boulevard serves as the City's eastern boundary for both the City and project site. Somerset Boulevard and Downey Avenue, two of the City's major thoroughfares, define the southern and western edges of the project site. The Los Angeles DWP easement and the UPRR separate the Refinery from multiple-family residential uses to the southwest.

## **1.7 OVERVIEW OF CURRENT OPERATIONS**

The Paramount Refinery produces a variety of products including gasoline, jet fuel, diesel fuel, asphalt, petroleum gases, and sulfur from crude oil. Crude oil is a mixture of hydrocarbon compounds and relatively small amounts of other materials, such as oxygen, nitrogen, sulfur, salt, and water. Petroleum refining is a coordinated arrangement of manufacturing processes designed to produce physical and chemical changes in crude oil to remove most of the non-hydrocarbon substances, break the crude oil into its various components, and blend them into various useful products. The overall refining process uses four kinds of techniques: (1) separation, including distilling hydrocarbon liquids into gases, gasoline, diesel fuel, fuel oil, and heavier residual materials; (2) cracking, or breaking, large hydrocarbon molecules into smaller ones by thermal or catalytic processes; (3) reforming, using heat and catalysts to rearrange the chemical structure of a particular oil stream to improve its quality for use in marketable products; and (4) chemically combining two or more hydrocarbons to produce high-grade gasoline.

The refining process produces emissions of air pollutants, including oxides of nitrogen (NO<sub>x</sub>), sulfur oxides (SO<sub>x</sub>), volatile organic compounds (VOCs), carbon monoxide (CO), and particulate matter. Various emission reduction equipment and operating strategies are used to control emissions from the Refinery to comply with stringent SCAQMD rules and regulations. The proposed project modifications would reduce emissions of all criteria pollutants. NO<sub>x</sub> emissions would be reduced the most through the use of SCR.

## **1.8 PROPOSED PROJECT**

### **1.8.1 April 2004 Final EIR**

The April 2004 Final EIR for the Paramount Clean Fuels Project (SCH No. 2003031044) explained that in order to produce clean fuels meeting current California and federal specifications, Paramount needed to resume operation of the hydroprocessing portion of the Refinery, make modifications to some of the existing units, and add equipment. Resumption of the

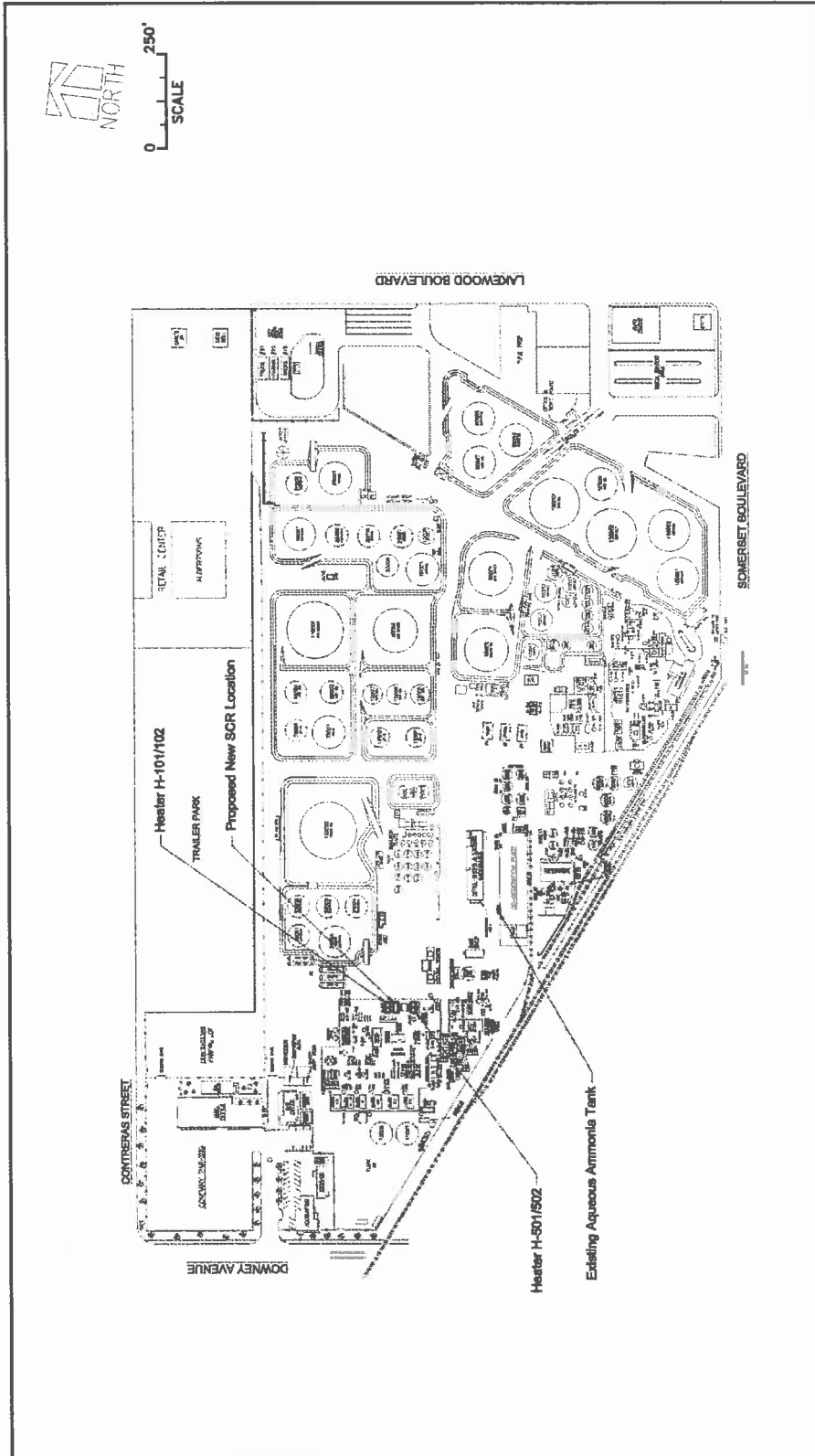
hydroprocessing units included, among other things, the resumption of Heaters H-101/102 and H-501/502. Modifications to the Paramount Refinery that included: (1) removing benzene from naphtha streams in order to produce cleaner-burning California gasoline blend stock for oxygenate blending (CARBOB); (2) blending ethanol and the CARBOB product to produce finished reformulated gasoline (RFG); and (3) refinery modifications to produce ULSD. At the Refinery, process unit modifications were required to the Light Naphtha Stabilizer, a hydrodesulfurization unit (included rebuilding of Heaters H-101/102), the butane loading and unloading rack, and the gasoline blender. New equipment included a Naphtha Splitter, a Benzene Saturation and Isomerization unit, a Light Naphtha rundown chiller, a Pressure Swing Adsorption Unit, and Ethanol Unloading and Blending facilities. The currently proposed project modifications to the Paramount Clean Fuels Project are further described in Sections 1.8.2.

### **1.8.2 Current Proposed Project Changes**

The proposed project modifications are described in detail in the following subsections. The locations of the proposed project modifications are shown in Figure 3. The Paramount Petroleum Refinery is proposing to integrate NOx emissions reduction strategies into the final stages of the Clean Fuels Project. Currently, two system upgrades are being proposed: 1) rebuild heaters H-101 and H-102 with new, energy efficient heaters; and 2) install a new SCR unit to service rebuilt heater H-101/102 and Paramount's existing heaters H-501/502. Installation of the SCR would reduce NOx emissions from the Clean Fuels Project, provide NOx reductions to comply with a stipulated order for abatement and assist the Refinery in compliance with SCAQMD Regulation XX - RECLAIM requirements.

SCR units are considered to be best available retrofit control technology (BARCT) for the control of NOx from existing combustion sources. NOx emissions are controlled by injecting a reducing agent, typically ammonia, into the exhaust gas stream upstream of a catalyst. The catalyst typically is made from exotic metal oxides. NOx, ammonia, and oxygen react on the surface of the catalyst to form nitrogen and water. SCR units can achieve NOx control efficiencies of approximately 90 percent or more.

The Paramount Refinery currently uses both anhydrous and aqueous ammonia for NOx control. The new SCR will use aqueous ammonia rather than anhydrous ammonia, in order to reduce the volatility of the material and the risk in the event of accidental release. An existing aqueous ammonia storage tank will be used for the new SCR unit, and there will be no increase in the amount of aqueous ammonia storage. In addition, the proposed project includes phasing out the use of anhydrous ammonia for use in pollution control in existing SCR units throughout the Refinery. Phasing out the use of anhydrous ammonia and greater reliance on aqueous ammonia will not increase the storage of aqueous ammonia at the Refinery since aqueous ammonia is currently stored onsite and no new storage tanks are proposed. In fact, there will be no more anhydrous ammonia stored in bulk after the phase-out of anhydrous ammonia is completed on the SCRs.



REFINERY LAYOUT AND  
LOCATION OF PROCESS UNITS

Figure 3

Dated: No. 2554  
Ecological Layout (Fig. 3 Rev. A)

### **1.8.2.1 Heater H-101/102 Rebuild**

Paramount plans to rebuild heaters H-101 and H-102 with low NOx burners. The rebuilt heaters H-101 and H-102 will continue to use natural and or refinery gas as fuel. Heater H-501/502 will continue to operate using refinery gas as the primary fuel. The maximum firing rate for the rebuilt heaters H-101/102 will be 35 million British Thermal Units per hour (mmBtu/hr). The new fire rating is less than the combined ratings for heaters H-101 and H-102 as reflected in the existing permit conditions (45 mmBtu/hr). Therefore, the proposed project will result in a decrease in allowable firing rate at the Refinery. For NOx control, exhaust from the rebuilt heaters H-101/102 will be routed to the proposed SCR unit that is described below. In addition, CO emissions from the heaters will meet the current BACT limit of 10 parts per million (ppm) through the design of the burner.

The Clean Fuels EIR contemplated using heaters H-101 and H-102 in their existing service as feed heaters for No. 1 HDS and relocating another existing process heater (H-860) from the Crude Unit to operate as the No. 1 HDS stripper heater. This modification was evaluated as part of the Paramount Refinery Clean Fuels Project Final EIR (SCAQMD, 2004). Instead, Paramount is proposing to make additional upgrades to No. 1 HDS to improve unit heat transfer via heat exchangers and to sequentially stage heat that is provided to the unit through process heaters. The improved heat transfer will enable the combined fired duty of H-101 and H-102 to be reduced from 45 mmBtu/hr to 35 mmBtu/hr. H-101 will remain in unit feed heater service. H-102 will be placed in stripper heater service, i.e. the process fluid routed through the heater will be the stripper bottoms. H-860 will remain in its current service in the Crude Unit. H-101 and H-102 will be rebuilt in approximately their current location. H-101 and H-102 will be rebuilt next to each other with separate fireboxes; the convection sections and ducting of the heaters will be combined and will be routed via a single duct to the SCR.

### **1.8.2.2 New SCR Unit on Heaters H-101/102 and 501/502**

Paramount proposes to install a new SCR to control NOx emissions from the rebuilt heaters H-101/102 and the existing heater H-501/502. The exhaust streams from the heaters (H-101/102 and H-501/502) will be routed to the new proposed SCR. The new SCR will be designed to allow the heaters to operate concurrently at their maximum permitted firing rates of 35 mmBtu/hr for H-101/102 and 28 mmBtu/hr for H-501/502. The outlet NOx concentration from the SCR will be five ppm, corrected to three percent oxygen in the flue gas, on a dry basis.

The ammonia to be used in the new SCR unit for heaters H-101/102 and H-501/502 will be supplied from the existing aqueous ammonia storage tank, so no new storage tank will be required, and there will be no increase in the quantity of ammonia stored on site.

### **1.8.2.3 Heater H-501/502**

Heater H-501/502 currently is in operation with a maximum permitted firing of 28 mmBtu/hr and operates using refinery gas as fuel. H-501/502 currently has low NOx burners for NOx emission control. The proposed project will not result in a change of fuel, the fire box or the burners of H-501/502. The only changes required to accommodate the SCR are changes to the heater exhaust

stack. The exhaust stack will be ducted to a common new SCR handling the exhaust from heaters H-501/502 and H-101/102.

#### **1.8.2.4 Refinery-Wide Phase-Out of Anhydrous Ammonia for SCRs**

Refinery-wide use of anhydrous ammonia for pollution control in existing SCRs (Device ID C77 - connected to Heaters H-303, 304, 305, and 306; and Device ID C794 – connected to Heater H-601) will be phased out by March 31, 2009. The existing SCR piping to the anhydrous ammonia tank will be disconnected and new piping to the aqueous ammonia tank will be installed. A vaporizer with control unit skid will be installed at each SCR. Modification of the ammonia distribution system will be required. New transfer pumps will be installed from the aqueous ammonia tank. The existing anhydrous ammonia tank will be emptied and abandoned in place.

#### **1.8.2.5 HDS New Accumulator**

The new HDS accumulator was evaluated as part of the April 2004 Final EIR (SCAQMD, 2004). A new overhead product separator vessel is proposed in the No. 1 HDS area of the refinery which will process a wide cut naphtha. This will facilitate sulfur and/or nitrogen removal from naphtha for optimum reformer operation. No further CEQA analysis is required as there are no changes in impacts on environmental resources; however, construction activities associated with the HDS accumulator will overlap with other construction activities and are included herein.

The new overhead product separator vessel is a vertical pressure vessel which will accept two-phase feed stream from the Stripper Overhead Air Cooler and separates it by gravity into gas stream and two liquid streams (hydrocarbon and water). The gas stream will pass through the mist eliminator and be routed to the existing amine treater. The liquid will separate into hydrocarbon and sour water phases in the bottom of the vessel. The hydrocarbon stream will be withdrawn with the existing Reflux/LPG Pump to be used as reflux for the stripper column and as LPG product which will be sent to further processing. Separated sour water will accumulate in the bottom of the new vessel and will be pressure transferred to the existing sour water stripper for further processing.

### **1.9 CONSTRUCTION SCHEDULE**

Paramount estimates that construction activities associated with the proposed project modifications will require about six to eight months to complete. Paramount will begin construction activities as soon as the permits for the proposed project modifications are issued, and expects to complete most construction by the end of the fourth quarter of 2008.

### **1.10 REQUIRED PERMITS**

The proposed project will require Permits to Construct/Operate from the SCAQMD and may require building permits from the City of Paramount and the Los Angeles County Fire Department. No other permits are expected to be required.

## **CHAPTER 2**

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### **ENVIRONMENTAL CHECKLIST**

- Introduction
- General Information
- Potentially Significant Impact Areas
- Determination
- Environmental Checklist and Discussion
  - Aesthetics
  - Agriculture Resources
  - Air Quality
  - Biological Resources
  - Cultural Resources
  - Energy
  - Geology and Soils
  - Hazards and Hazardous Materials
  - Hydrology and Water Quality
  - Land Use and Planning
  - Mineral Resources
  - Noise
  - Population and Housing
  - Public Services
  - Recreation
  - Solid/Hazardous Waste
  - Transportation/Traffic
  - Mandatory Findings of Significance
- References
- Acronyms
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## 2.0 ENVIRONMENTAL CHECKLIST

### 2.1 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 modifications.

### 2.2 GENERAL INFORMATION

Project Title:	Paramount Petroleum Clean Fuels Project
Lead Agency Name:	South Coast Air Quality Management District
Lead Agency Address:	21865 Copley Drive Diamond Bar, CA 91765
Contact Person:	James Koizumi
Contact Phone Number:	(909) 396-3234
Project Sponsor's Name:	Paramount Petroleum Corporation
Project Sponsor's Address:	14700 Downey Avenue Paramount, CA 90723
General Plan Designation:	Heavy Industrial
Zoning:	M-2 Heavy Manufacturing
Description of Project:	The 2004 Final Environmental Impact Report describes in greater detail the overall Paramount Refinery Clean Fuels Project. This Subsequent Negative Declaration evaluates the proposed project modifications, including rebuilding Heaters H-101 and H-102 and installing a new selective catalytic reduction (SCR) system to control nitrogen oxide emissions from Heater H-101/102 and existing Heater H-501/502 at the Paramount Refinery. A new accumulator will be added to the No. 1 HDS Unit. Anhydrous ammonia used at the Refinery for pollution control will be phased out and aqueous ammonia will be used for the SCR operation.
Surrounding Land Uses and Setting:	The Paramount Refinery is located in Paramount, California and accounts for slightly more than half of the total acreage within the Somerset Ranch Area of the 1990 Paramount General plan. The Somerset Ranch Area is designated as "Mixed Use" and includes a mix of residential, commercial, industrial, and public uses. The Refinery is zoned M2, Heavy Manufacturing.
Other Public Agencies Whose Approval May Be Required:	City of Paramount



## 2.3 POTENTIALLY SIGNIFICANT IMPACT AREAS

The following environmental impact areas have been assessed to determine their potential to be affected by the proposed project modifications. As indicated by the checklist on the following pages, environmental topics marked with an "✓" may be adversely affected by the proposed project modifications. An explanation relative to the determination of impacts can be found following the checklist for each area.

- |  |  |   |
|--|--|---|
| <input type="checkbox"/> Aesthetics            | <input type="checkbox"/> Agriculture Resources         | <input 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 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 type="checkbox"/> Transportation/<br>Traffic    | <input type="checkbox"/> Mandatory<br>Findings of<br>Significance |

## 2.4 DETERMINATION

On the basis of this initial evaluation:

- I find the proposed project modifications COULD NOT have a significant effect on the environment, and that a SUBSEQUENT 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 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: June 5, 2008

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

*Steve Smith*

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

## 2.5 ENVIRONMENTAL CHECKLIST AND DISCUSSION

	<b>Potentially Significant Impact</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
<b>2.5.1 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 type="checkbox"/>	<input checked="" 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"/>

### 2.5.1.1 Significance Criteria

The impacts of the proposed project modifications on aesthetics will be considered significant if:

The project will block views from a scenic highway or corridor.

The project will adversely affect the visual continuity of the surrounding area.

The impacts on light and glare will be considered significant if the project adds lighting which would add glare to residential areas or sensitive receptors.

### 2.5.1.2 Environmental Setting and Impacts

**2.5.1 a), b) and c)** Aesthetics were discussed in the April 2004 Final EIR, Appendix A, NOP/IS (pages 2-4 and 2-5) and determined to be less than significant. The proposed project modifications are expected to have similar affects to aesthetic resources as the analysis from the April 2004 Final EIR. The proposed project modifications include rebuilding two heaters and constructing a new SCR unit. Therefore, the new SCR unit will introduce a visual change to the Paramount Refinery. The new SCR will be located in the middle of the Refinery (see Figure 3) and will have a total stack height of 70 feet, which is lower than many surrounding structures at the Refinery.

Structural components at the Refinery include heavy industrial equipment that includes white cylindrical tanks including several which are nearly 40 feet tall, and grey-toned industrial equipment (vessels, reactors, stacks, etc.) with structures approximately 60 feet tall. A 40-foot high reactor, a 40-foot drum and a 50-foot high incinerator stack are located adjacent to the new SCR stack. Additional tall columns and stacks at the Refinery include a 135-foot high crude column, a 97.5-foot high heater (H-802) stack, and a flare about 150 feet high. The views of the Refinery from adjacent properties are not expected to change substantially because of the proposed project modifications, which is expected to blend into the surrounding industrial environment. The new SCR unit will have similar structures (e.g., stack) as the existing equipment and will look similar to existing structures, so that a significant change in the visual characteristics of the Refinery is not expected. The modifications to the existing heaters and other proposed modifications to the Clean Fuels Project are not expected to be visible to the surrounding community. No significant adverse impacts to aesthetics are expected due to the installation of the new SCR unit or rebuilding of the heaters.

No scenic highways or corridors are located in the vicinity of the Paramount Refinery. No significant adverse aesthetic impacts are expected.

**2.5.1 d)** Construction activities 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 the equipment associated with the proposed project modifications will be completely located within the boundaries of the existing Refinery, additional temporary lighting is not expected to be distinguishable from the existing permanent night lighting.

The components of the proposed project modifications will be located within existing industrial facilities, which are already lighted at night for nighttime operations, so no overall increase in lighting associated with the proposed project modifications is expected at the Paramount Refinery. Therefore, no significant light and glare impacts are anticipated from the proposed project modifications.

### **2.5.1.3 Mitigation Measures**

The April 2004 Final EIR concluded that no significant adverse impacts to aesthetics are expected to occur as a result of the Paramount Clean Fuels project. The proposed modifications to the project will not result in any incremental impacts to aesthetics nor will the project analyzed in the April 2004 Final EIR and the currently proposed project modification cause an overall significant adverse impact on aesthetics. Therefore, no mitigation is necessary or proposed.

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	<b>Potentially Significant Impact</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
<b>2.5.2 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"/>

**2.5.2.1 Significance Criteria**

Project-related impacts on agricultural resources will be considered significant if any of the following conditions are met:

The proposed project conflicts with existing zoning or agricultural use or Williamson Act contracts.

The proposed project will convert prime farmland, unique farmland or farmland of statewide importance as shown on the maps prepared pursuant to the farmland mapping and monitoring program of the California Resources Agency, to non-agricultural use.

The proposed project would involve changes in the existing environment, which due to their location or nature, could result in conversion of farmland to non-agricultural uses.

**2.5.2.2 Environmental Setting and Impacts**

**2.5.2 a), b), and c)** Agricultural resources were discussed in the April 2004 Final EIR, Appendix A, NOP/IS (page 2-6) and determined to be less than significant. The proposed project modifications will not change the agricultural resources analysis from the April 2004 Final EIR. There are no agricultural resources, (i.e., food crops grown for

commercial purposes), located in or near the vicinity of the Paramount Refinery. The proposed project modifications will not involve construction outside of the existing boundaries of the Refinery and no agricultural resources are located within the Refinery. The zoning of the Refinery will remain heavy manufacturing, and Refinery uses are allowed within this zone. No existing agricultural land will be converted to non-agricultural land uses. Further, the proposed project modifications will not conflict with a Williamson Act contract. Therefore, the proposed project modifications will have no significant adverse impacts on agricultural resources.

**2.5.2.3 Mitigation Measures**

The April 2004 Final EIR concluded that no significant adverse impacts to agricultural resources are expected to occur as a result of the Paramount Clean Fuels project. The proposed modifications to the project will not result in any incremental impacts to agricultural resources nor will the project analyzed in the April 2004 Final EIR and the currently proposed project modifications cause an overall significant adverse impact on agricultural resources. Therefore, no mitigation is necessary or proposed.

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	<b>Potentially Significant Impact</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
<b>2.5.3. 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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input checked="" 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"/>

### 2.5.3.1 Significance Criteria

Impacts will be evaluated and compared to the significance criteria in Table 1. If impacts equal or exceed any of the criteria in Table 1, they will be considered significant.

### 2.5.3.2 Environmental Setting and Impacts

**2.5.3 a) and f)** As described in the 2004 Final Environmental Impact Report, Appendix A, NOP/IS (page 2-7), the Clean Fuels Project will not conflict with the SCAQMD's Air Quality Management Plan (AQMP). The AQMP identifies emission reductions from existing sources and air pollution control measures that are necessary in order to comply with the state and federal ambient air quality standards (SCAQMD, 2007). The 2007 AQMP demonstrates that applicable ambient air quality standards can generally be achieved within the timeframes required under federal law. The Clean Fuels Project allowed the production of additional quantities of CARB Phase 3 reformulated gasoline in the Basin. One of the control measures in the AQMP includes the use of reformulated gasoline to help reduce emissions from mobile sources that use the reformulated fuels. Therefore, the Clean Fuels Project helped further the goals of the AQMP.

In addition, Paramount is proposing the new SCR to satisfy the requirements of a Settlement Agreement between Paramount and the SCAQMD, and a related Stipulated Order for Abatement issued by the SCAQMD Hearing Board. The proposed project modifications must comply with applicable SCAQMD rules and regulations for new or modified sources. For example, new emission sources associated with the proposed project modifications are required to comply with the SCAQMD's Rule 2005 for RECLAIM sources or Regulation XIII - New Source Review requirements that include the use of Best Available Control Technology (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 project will be consistent with the goals and objectives of the AQMP to improve air quality in the basin. In addition, the project will result in a reduction in NOx emissions associated with the operation of heaters H-101/102 and H-501/502, providing an air quality benefit. NOx emission reductions also assist the Refinery in compliance with SCAQMD Regulation XX - RECLAIM requirements. Therefore, the proposed project modifications will not conflict with or obstruct an applicable air quality plan and will not diminish an existing rule or future compliance requirement resulting in a significant increase in an air pollutant.

### 2.5.3 b) Emissions Estimates

**Construction Emissions:** The air quality impacts associated with the Clean Fuels Project construction activities were discussed in the 2004 Final Environmental Impact Report, Chapter 3, Section A - Air Quality (pages 4-1 through 4-5, and Appendix B). Construction activities associated with most portions of the Clean Fuels Project have been completed. Construction activities related to the proposed project modifications are addressed in this section.

TABLE 1

Air Quality Significance Thresholds

Mass Daily Thresholds		
Pollutant	Construction	Operation
NO <sub>x</sub>	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM10	150 lbs/day	150 lbs/day
PM2.5	55 lbs/day	55 lbs/day
SO <sub>x</sub>	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day
Toxic Air Contaminants (TACs) and Odor Thresholds		
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk $\geq$ 10 in 1 million Hazard Index $\geq$ 1.0 (project increment)	
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	
Ambient Air Quality for Criteria Pollutants <sup>(a)</sup>		
NO <sub>2</sub> 1-hour average annual average	In attainment; significant if project causes or contributes to an exceedance of any standard: 0.25 ppm (state) 0.053 ppm (federal)	
PM10 24-hour annual geometric mean annual arithmetic mean	10.4 $\mu\text{g}/\text{m}^3$ (recommended for construction) <sup>(b)</sup> & 2.5 $\mu\text{g}/\text{m}^3$ (operation) 1.0 $\mu\text{g}/\text{m}^3$ 20 $\mu\text{g}/\text{m}^3$	
PM2.5 24-hour average	10.4 $\mu\text{g}/\text{m}^3$ (construction) <sup>(c)</sup> & 2.5 $\mu\text{g}/\text{m}^3$ (operation)	
Sulfate 24-hour average	1 $\mu\text{g}/\text{m}^3$	
CO 1-hour average 8-hour average	In attainment; significant if project causes or contributes to an exceedance of any standard: 20 ppm (state) 9.0 ppm (state/federal)	
<p><sup>(a)</sup> Ambient air quality thresholds for criteria pollutants based on SCAQMD Rule 1303, Table A-2 unless otherwise stated.</p> <p><sup>(b)</sup> Ambient air quality threshold based on SCAQMD Rule 403.</p> <p>ppm = parts per million; <math>\mu\text{g}/\text{m}^3</math> = microgram per cubic meter; <math>\text{mg}/\text{m}^3</math> = milligram per cubic meter; lbs/day = pounds per day; <math>\geq</math> greater than or equal to</p>		



Construction activities associated with the proposed project modifications would result in emissions of carbon monoxide (CO), particulate matter less than 10 microns in diameter (PM10), particulate matter less than 2.5 microns (PM2.5), volatile organic compounds (VOCs), NOx and sulfur oxides (SOx). Construction activities include construction of new foundations, installation of rebuilt heaters, installation of a new SCR, the phase out of anhydrous ammonia in existing SCR, and installation of the new HDS accumulator. The site is already graded, so no major grading activities are necessary.

Construction activities can generate emissions from heavy construction equipment, construction worker vehicles, truck deliveries, and fugitive dust. Daily construction emissions were calculated for the peak construction day associated with the proposed project modifications. Peak day emissions are the sum of the highest daily emissions from employee vehicles, fugitive dust sources, construction equipment, and transport activities at the Refinery for the entire construction period. The peak day is based on the day in which the highest emissions are expected to occur, calculated separately for each pollutant. Construction of the proposed project modifications is expected to begin as soon as permits for the project are issued and is expected to be completed by the end of the fourth quarter of 2008. Phasing out of the anhydrous ammonia in the existing SCRs is expected to be completed by end of the first quarter of 2009.

Peak construction emissions for construction of the new SCR unit and associated piping on heaters H-101/102 and H-501/502, rebuilding heaters H-101/102, the phase out of anhydrous ammonia, and the new HDS accumulator are summarized in Table 2. Detailed construction emissions calculations for the proposed project modifications are provided in Appendix A. Construction equipment that generates emissions is expected to include onsite construction equipment, onroad mobile sources (e.g., workers and delivery trucks), fugitive emissions from grading and trenching, and fugitive emissions from painting (see Appendix A for detailed information on the number and types of construction equipment that will be required as it varies by month). A maximum of 50 construction workers are expected to be required during peak construction activities. Peak construction activities are expected to occur October through December 2008. No overlap in construction activities related to the other portions of the project evaluated in the April 2004 Final EIR will occur because construction activities associated with other portions of the project have been completed.

The emissions during the construction phase of the proposed project modifications are compared to the SCAQMD CEQA thresholds in Table 2. The peak construction emissions are expected to be less than the SCAQMD CEQA thresholds so that no significant impacts on air quality are expected during the construction phase. The construction emissions associated with the proposed project modifications are less than the peak daily emissions evaluated in the April 2004 Final EIR and less than the SCAQMD significance thresholds. Therefore, the air quality impacts associated with the proposed project modifications are less than significant and are within the scope of the air quality construction impacts evaluated in the April 2004 Final EIR.

TABLE 2

## Clean Fuels Project Modifications Peak Construction Emissions

Peak Daily Emissions (lbs/day) <sup>(1)</sup>						
Activity/Source	CO	VOC	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub> <sup>(2)</sup>
Construction Equipment	33.49	8.88	63.77	0.16	4.77	4.38
Vehicle Emissions	16.33	1.67	7.72	<0.1	2.17	0.66
Fugitive Construction <sup>(3)</sup>	0	0	0	0	14.88	3.12
Paint Emissions	0	13.6	0	0	0	0
<b>Total Emissions</b>	<b>49.82</b>	<b>24.15</b>	<b>71.49</b>	<b>0.17</b>	<b>21.82</b>	<b>8.16</b>
<b>SCAQMD Regional Thresholds</b>	<b>550</b>	<b>75</b>	<b>100</b>	<b>150</b>	<b>150</b>	<b>55</b>
<b>Regionally Significant?</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>
Local Emissions <sup>(4)</sup>	33.5	--	63.8	--	19.6	7.5
SCAQMD Localized Threshold	1,496	--	190	--	39	10
<b>Locally Significant?</b>	<b>NO</b>	<b>--</b>	<b>NO</b>	<b>--</b>	<b>NO</b>	<b>NO</b>
Construction Emissions from the April 2004 Final EIR <sup>(5)</sup>	<b>307.7</b>	<b>32.2</b>	<b>75.8</b>	<b>6.0</b>	<b>118.2</b>	<b>--</b>

Notes: SCAQMD Threshold = threshold criteria for determining environmental significance of construction activities, as provided in Table 1.

(1) See Appendix A for further details and calculation methodology.

(2) PM<sub>2.5</sub> is calculated using the SCAQMD's Final Methodology to Calculate Particulate Matter (PM) 2.5 and PM<sub>2.5</sub> Significance Thresholds, October 2006.

(3) Assumes application of water three time per day, i.e., complies with SCAQMD Rule 403, Fugitive Dust.

(4) Only includes on-site emissions.

(5) April 2004 Final EIR (SCAQMD, 2004). Provided for comparison purposes only.

The construction emissions were also compared to the SCAQMD's localized significance thresholds (SCAQMD, 2003) (see Table 2 and Appendix A) for a two-acre project. The localized significance thresholds are used to determine whether or not a project may generate significant adverse localized air quality impacts. The Paramount Refinery is located in Source Receptor Area 5 (Southeast Los Angeles County). The estimated construction emissions associated with construction of the proposed project modifications were compared to the localized significance thresholds for CO, NO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>. In all cases, the construction emissions were below the localized significance thresholds (see Appendix A). Therefore, no significant localized air quality impacts are expected. (Note that PM<sub>2.5</sub> significance thresholds and localized emission thresholds were not developed when the April 2004 Final EIR was prepared. PM<sub>2.5</sub> and localized emission thresholds have been developed since that time and are included in this Subsequent Negative Declaration for further evaluation of air quality impacts).

**Operational Emissions:** The proposed project modifications involve the installation of air pollution control equipment (i.e., one new SCR) and will result in a decrease in NO<sub>x</sub>

emissions from heaters H-101/102 and H-501/502. The Refinery is proposing to rebuild Heaters H-101/102 with low NOx burners. The H-101/102 heaters are currently permitted at maximum fired duty of 29 mmBtu/hr and 16 mmBtu/hr, respectively, but not operating. The rebuilt heaters H-101/102 will use natural and/or refinery gas as fuel. Existing heater H-501/502 will continue to use refinery fuel gas. The maximum firing rate for the modified heater H-101/102 will be 35 mmBtu/hr, which is less than the combined ratings for heaters H-101/102 as reflected in the existing permit conditions. Therefore, no increase in operational emissions are expected for rebuilt heaters H-101/102. The operational emission changes associated with the proposed project modifications are shown in Table 3. Table 4 shows the evaluation of substantial change as a result of the proposed modifications.

**TABLE 3  
PARAMOUNT CLEAN FUELS  
OPERATIONAL EMISSION CHANGES ASSOCIATED WITH  
PROPOSED PROJECT MODIFICATIONS<sup>(1)</sup>  
(pounds per day)**

Source	Peak Daily Emissions (lbs/day) <sup>(1)</sup>					
	CO	VOC	NOx	SOx	PM10	PM2.5 <sup>(2)</sup>
Existing H-101/102 Emissions	276.68	7.65	60.83	909.08	136.01	133.15
Post Project H-101/102 Emissions	215.19	5.95	6.15	35.35	105.78	103.56
H-101/102 Emission Reductions	-61.49	-1.7	-54.68	-873.73	-30.23	-29.59
H-501/502 Existing Emissions	172.2	4.76	37.85	28.28	84.63	82.8
Post Project H501/502 Emissions	172.2	4.76	4.92	28.28	84.63	82.8
H-501/502 Emission Reductions	0	0	-32.93	0	0	0
Increase in Truck Emissions	1.4	0.4	4.5	<0.1	1.2	1.1
Project Emission Changes	-60.09	-1.3	-83.11	-873.63	-29.03	-28.49

(1) See Appendix A for detailed emission calculations

Heater H-501/502 is currently in operation. Maximum permitted firing allowed for this heater is 28 mmBtu/hr. Heater H-501/502 uses refinery gas as fuel and currently has low NOx burners for NOx emission control. There will be no change to the fuel, the fire box or the burners of this heater. The only changes required to accommodate the SCR are changes to the heater exhaust stack. The exhaust stack will be ducted to a common SCR handling the exhaust from heaters H-501/502 and H-101/102. Therefore, no increase in operational emissions are expected for heater H-501/502. In fact, the proposed project modifications will result in a decrease in NOx emissions at the Refinery due to the installation and operation of the new SCR unit. The outlet NOx concentration from the SCR will be five ppm, corrected to three percent oxygen in the flue gas, on a dry basis.

**TABLE 4  
Project Emission Evaluation for Substantial Change  
(pounds per day)**

Source	Peak Daily Emissions (lbs/day) <sup>(1)</sup>					
	CO	VOC	NOx	SOx	PM10	PM2.5 <sup>(2)</sup>
Operational Emissions from the April 2004 Final EIR <sup>(2)</sup>	103.9	66.4	51.9	0.7	69.4	67.9 <sup>(1)</sup>
SCAQMD Regional Thresholds	550	55	55	150	150	55
<b>Regionally Significant?</b>	<b>NO</b>	<b>YES</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>
Revised Clean Fuels Project Operational Emissions	43.81	65.1	-31.2	-872.93	40.37	39.11
SCAQMD Regional Thresholds	550	55	55	150	150	55
Regionally Significant?	NO	YES	NO	NO	NO	NO
Substantial Change in Emissions?	NO	NO	NO	NO	NO	NO

(1) PM2.5 is calculated using the SCAQMD's Final Methodology to Calculate Particulate Matter (PM) 2.5 and PM2.5 Significance Thresholds, October 2006.

(2) The emissions from the New HDS Accumulator were included in the operational emissions in the April 2004 Final EIR.

The new SCR unit will utilize an existing aqueous ammonia storage tank, so no new storage tank will be required, and there will be no increase in the quantity of ammonia stored on site. The existing aqueous ammonia storage tank is an above ground tank without vents to the atmosphere, so no emissions are expected from the storage tank. The installation of the new SCR will require an increase in the use of aqueous ammonia (about 10,808 gallons per year) which would result in an increase of about two trucks per year.

In addition, the Refinery will also eliminate the use of anhydrous ammonia. Currently, about 18 trucks per year deliver anhydrous ammonia (about 450 gallons per delivery) to the Refinery. The estimated truck traffic associated with the conversion to aqueous ammonia, plus the ammonia increases associated with the new SCR Unit, is shown in Table 5.

As shown in Table 5, there will be an increase in annual aqueous ammonia throughput at the Refinery. Even though there is an increase in the aqueous ammonia throughput, there is no net increase in transportation trips to the site, primarily because the truck volume for anhydrous ammonia is smaller (about 450 gallons) versus aqueous ammonia trucks (about 6,000 gallons). Therefore, the proposed project modifications are expected to result in a decrease in truck traffic to the Refinery (about six trucks per year). However, the trucks delivering aqueous ammonia are expected to be larger (heavy-heavy duty trucks).

TABLE 5

Truck Traffic Associated with Conversion to Aqueous Ammonia Plus New SCR

Aqueous Ammonia Use	Quantity (gal/yr)	Annual No. of Trucks <sup>(1)</sup>
Aqueous NH3 from the new SCR	10,808	2
Aqueous NH3 from existing Cogeneration Unit	18,000	3
Aqueous NH3 from existing SCRs	40,500	7
Total:	69,308	12

(1) 6,000 gallons per delivery

In addition to the change in ammonia trucks, catalyst in the SCR unit will require replacement once every five to ten years. Only one truck per day would be expected during the infrequent removal and replacement (once every five to ten years) of SCR unit catalyst. It is not expected that any catalyst removal/replacement truck trips will overlap with ammonia delivery truck trips because the total number of truck trips per year is so small. Therefore, a maximum of one truck per day is expected to be associated with the proposed new SCR (i.e., either aqueous ammonia or catalyst). The estimated emissions from the truck are as follows: (1) 1.4 lbs/day of CO; (2) 0.4 lb/day of VOC; (3) 4.5 lbs/day of NOx; (4) <0.1 lb/day of SOx; (5) 1.2 lbs/day of PM10; and 1.1 lbs/day of PM2.5 (see Appendix A for detailed calculations). The truck emission estimates do not include a reduction in anhydrous ammonia truck trips, so that a conservative estimate of project-related emission impacts is provided.

The emissions from the New HDS Accumulator were included in the operational emissions in the April 2004 Final EIR and are included in Table 3. The total operational emissions from the Clean Fuels Project, including the emissions evaluated in the April 2004 Final EIR and the currently proposed project modifications are summarized in Table 4. The revised operational emissions associated with the Clean Fuels project are below the SCAQMD thresholds for CO, NOx, SOx, PM10 and PM2.5. VOC emissions in the April 2004 Final EIR were considered to be significant. The proposed modifications to the Clean Fuels Project will slightly reduce the VOC emissions (66.4 versus 65.1 pounds per day). Therefore, the conclusions of the April 2004 Clean Fuels Project Final EIR remain unchanged. The proposed project modifications will result in reduced overall emissions associated with the Clean Fuels Project.

**Secondary Particulate Emissions:** The use of SCR control equipment has become a widespread method of complying with SCAQMD NOx control rules and the SCAQMD has reviewed SCR technology in a number of CEQA documents (e.g., Final EIR for Rule 1135, August 1989, SCH No. 88032315 and Final EIR for Rule 1134, August 1989, SCH No. 86121708). The SCAQMD has evaluated potential air quality impacts resulting from secondary particulate formation from ammonia slip emissions. The SCAQMD concluded in the CEQA documents identified above that secondary particulate formation from

ammonia slip would not be considered a significant adverse air quality impact if ammonia slip is limited to 10 ppm or less.

Ammonia slip depends on a variety of factors including space velocity, ammonia to NO<sub>x</sub> molar ratio, temperature, and NO<sub>x</sub> inlet concentration. Better technology has allowed operators to control ammonia slip: (1) by ensuring adequate mixing of ammonia in the flue gas to maintain uniform ammonia injection; (2) maintaining the proper ammonia to NO<sub>x</sub> molar ratio; (3) decreasing the exhaust gas flow rate; (4) maintaining consistent exhaust velocity, and maintaining an optimal temperature regime (SCAQMD, 1990). The potential for secondary particulate emissions can be alleviated by reducing ammonia slip (SCAQMD, 1990), as will be done for the proposed new SCR unit because the SCAQMD will impose a five ppm ammonia slip limit on the Refinery's permits for the SCR unit.

### 2.5.3 c) Cumulative Impacts

CEQA Guidelines indicate that cumulative impacts of a project shall be discussed when the project's incremental effect is cumulatively considerable, as defined in CEQA Guidelines §15064(h)(1). SCAQMD policy defines cumulatively considerable air quality impacts as impacts that exceed project-specific significance thresholds. Indeed, it is for this reason the SCAQMD's air quality significance thresholds apply to both project-specific and cumulative impacts. Since criteria and toxic air contaminant emissions (see subsection 2.5.3 b) from the proposed project modifications do not exceed the applicable significance threshold, they are not considered to be cumulatively considerable.

It should be noted that there are several other unrelated projects, that is independent projects that do not rely on each other or the currently proposed project modifications to be approved or implemented at the Paramount Refinery, and are currently undergoing permit processing by the SCAQMD. The other independent projects are not part of the proposed project modifications for the following reasons.

- Some of the independent projects, e.g., the vapor recovery system, were analyzed in other CEQA documents or were exempt from CEQA. However, because of the timing of the projects, the construction activities associated with these other independent projects and the proposed modifications to the Clean Fuels Project are expected to overlap.
- Some of the independent projects will improve reliability and efficiency at the Refinery (e.g., improved vapor recovery on the asphalt tanks and railcar loading facility, the naphtha splitter accumulator and the hydrogen system compressor). Because of the timing of submitting permit applications and compliance dates, it is likely that the construction activities associated with these independent projects will occur in the same timeframe as the proposed modifications to the Clean Fuels Project.

In order to provide a conservative estimate of the cumulative impacts, it is assumed that the construction activities associated with all of these independent projects overlap with the proposed modifications to the Clean Fuels Project. The actual construction schedules may vary depending on when all permits for each project are received and the availability of the necessary materials (e.g., new equipment). The other independent projects at the Paramount Refinery are discussed in more detail below.

**Vapor Recovery System:** Modifications to the existing refinery flare system by the addition of a vapor recovery system as mandated under South Coast AQMD Rule 1118(c)(4) is proposed. The refinery currently does not have a vapor recovery system and, as a result, has a continuous baseline flaring event. This project was evaluated as part of the District's Final EA for Rule Proposed Rule 1118 – Control of Emissions from Refinery Flares (Final EA Certified November 4, 2005, SCAQMD No. 10265MK) and is consistent with the assumptions and evaluations completed as part of that document so no further CEQA analysis (other than construction impacts) is required. Construction activities associated with the vapor recovery system will occur during the same timeframe as the modifications to the Clean Fuels Project so construction activities will overlap and are evaluated in Table 5. Following completion of construction, the installation of the vapor recovery system will result in overall emission reductions.

The proposed flare gas vapor recovery system (FGVRS) will process flare gas from the outlet of an existing knockout drum, which is currently the last vessel before gasses are exhausted to the refinery flare. A new water seal drum will be installed between the existing knockout drum and the existing flare. Two duplicate new compressors (each with a capacity of 150 standard cubic feet per minute (scfm)) will be installed to recover a total of 300 scfm of flare gas from the flare header system. One of the new compressors will be used as back-up, but can be brought online to increase recovery capacity to 300 scfm.

As flare gas flows into the header, hydrostatic head in the new liquid seal drum will prevent flare gas from flowing to the existing flare. When the flare gas header pressure reaches the gas recovery set point; the new compression system will begin to compress the flare gas. The operation of the new FGVRS will be automated.

The suction and discharge of the new compressor will flow into the existing knockout vessels where gas and liquid are separated. The compressed recovered flare gas will be delivered to the existing facility fuel gas distribution system. Gas recovered will be routed to the existing sour fuel gas amine treating system. Condensate from the new knockout pots and oil skim from the seal drum will be routed to the knock-out drum mentioned above, and then on to the existing slop tank or existing API for wastewater treatment. Condensate from the seal drum will be routed to the existing wastewater treatment system.

When the flare gas flow is less than or equal to the capacity of the FGVRS, the flare gas will be recovered and directed to the existing refinery fuel gas header. During these periods, there will be little or no visible flame at the flare (flare pilot maybe visible).

These modifications will reduce emissions by routing up to 300 scfm of flare gas to the existing Sour Fuel System that would otherwise be combusted in the flare.

**Hydrogen System Compressor Modification:** A compressor (C-121) will be modified to supply or recycle hydrogen service for the existing No. 1 HDS, which involves piping modifications. Modification of the existing compressor will allow operational flexibility. There are no direct emissions from this modification and the project is exempt under CEQA based on analysis on SCAQMD Form 400-CEQA. This project is not related to and does not rely on another other proposed refinery modifications. However, construction activities associated with the Hydrogen System Compressor Modification will overlap with the proposed modifications to the Clean Fuels Project construction activities and are further evaluated herein.

**Naphtha Splitter Accumulator:** A new sweet naphtha surge drum in the Naphtha Splitter area of the refinery is proposed. In order to provide sufficient feed surge capacity for the Reformer, this drum is proposed upstream of the reformer booster pumps. The Sweet Naphtha Surge Drum is a horizontal pressure vessel which accepts liquid feed stream from the Naphtha Splitter Reboiler. The function of the vessel is to provide a minimum residence time of 15 minutes to protect downstream pumps and equipment. The vessel is required because surge volume available in the existing reboiler is not adequate. The vessel will be vented to the Naphtha Splitter Column to equalize the pressure. The project is exempt under CEQA based on analysis on SCAQMD Form 400-CEQA. However, construction activities associated with the Naphtha Splitter Accumulator will overlap with the proposed modifications to the Clean Fuels Project construction activities and are further evaluated herein.

**Improved Vapor Recovery on Asphalt Tanks and Railcar Loading Racks:** Paramount also plans to implement an improved odor reduction project for the existing polymer modified asphalt (PMA) tanks (Tanks 141, 142, 509, 777, 1012, and 1013) and the existing railcar loading rack. The existing vapor collection systems will be vented to the asphalt air blowing plant incinerator (H-907). Currently, the existing PMA tanks are vapor balanced via a common header for the tanks and then vent to a mist eliminator that vents to three carbon drums in parallel. An additional vent line will be added from the mist eliminator to enable the vapors to normally go to the existing incinerator. The existing carbon drums will be kept for backup control when the incinerator may be out of service. The railcar rack vapors are currently routed to a mist eliminator. The outlet of the mist eliminator will be routed to the existing incinerator (H-907) for further control. These odor projects will reduce emissions from these asphalt handling systems. The project is exempt under CEQA based on analysis on SCAQMD Form 400-CEQA. However, construction activities associated with this Vapor Recovery Project will overlap with the proposed modifications to the Clean Fuels Project construction activities and are further evaluated herein.

Peak construction emissions for the above four projects are summarized in Table 6. Detailed construction emissions calculations for the cumulative projects are provided in



Appendix B. Construction equipment that generates emissions is expected to include: air compressor, backhoe, crane, forklift, welding machine, man lift, and a generator.

The construction emissions for all four onsite cumulative projects were also compared to the SCAQMD’s localized significance thresholds (SCAQMD, 2003) (see Table 6 and Appendix B) for a two-acre project (approximate area of the onsite cumulative projects). The localized significance thresholds are used to determine whether or not a project may generate significant adverse localized air quality impacts. The Paramount Refinery is located in SRA 5. The estimated construction emissions associated with construction of all four onsite cumulative projects were compared to the localized significance thresholds for CO, NOx, PM10, and PM2.5. In all cases, the construction emissions were below the localized significance thresholds (see Appendix B). Therefore, no significant localized air quality impacts are expected.

**TABLE 6**

**Peak Construction Emissions for Other Cumulative Projects  
At the Paramount Refinery**

<b>Peak Daily Emissions (lbs/day)<sup>(1)</sup></b>						
<b>Activity/Source</b>	<b>CO</b>	<b>VOC</b>	<b>NOx</b>	<b>SOx</b>	<b>PM10</b>	<b>PM2.5<sup>(2)</sup></b>
Construction Equipment	13.36	3.81	21.08	0.04	1.43	1.32
Vehicle Emissions	5.98	0.55	3.21	0.01	1.33	0.33
Fugitive Construction <sup>(3)</sup>	0	0	0	0	7.41	1.56
Paint Emissions	0	3.40	0	0	0	0
<b>Total Emissions</b>	<b>19.34</b>	<b>7.76</b>	<b>24.29</b>	<b>0.05</b>	<b>10.17</b>	<b>3.211</b>
<b>SCAQMD Regional Thresholds</b>	<b>550</b>	<b>75</b>	<b>100</b>	<b>150</b>	<b>150</b>	<b>55</b>
<b>Regionally Significant?</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>
Local Emissions <sup>(4)</sup>	13.4	--	21.1	--	8.8	2.9
SCAQMD Localized Threshold	1,496	NA	190	NA	39	10
<b>Locally Significant?</b>	<b>NO</b>	<b>--</b>	<b>NO</b>	<b>--</b>	<b>NO</b>	<b>NO</b>

Notes: SCAQMD Threshold = threshold criteria for determining environmental significance of construction activities, as provided in Table 2.

1. See Appendix B for further details and calculation methodology.
2. PM2.5 is calculated using the SCAQMD’s Final Methodology to Calculate Particulate Matter (PM) 2.5 and PM2.5 Significance Thresholds, October 2006.
3. Assumes application of water three time per day, i.e., complies with SCAQMD Rule 403, Fugitive Dust.
4. Only includes on-site emissions.

Peak construction emissions for all cumulative projects (the above four onsite cumulative projects and the proposed modifications to the Clean Fuels Project) are summarized in Table 7. Detailed construction emissions calculations for all onsite projects were

calculated for each month of the estimated construction schedule and are provided in Appendix B. The peak day emissions were determined based on the highest emissions calculated for each month. Peak emissions for CO, NOx and SOx are expected during September 2008. Peak emissions of PM10 and PM2.5 are expected in August 2008. Peak emissions for VOC are expected in November 2008. Construction equipment that generates emissions from the proposed project modifications and four onsite cumulative projects is expected to include onsite construction equipment, fugitive dust from grading/trenching, on-road vehicles and trucks, and fugitive emissions from painting.

**TABLE 7**

**Peak Construction Emissions for Proposed Modifications to the Clean Fuels Project Plus Other Cumulative Projects at the Paramount Refinery**

<b>Peak Daily Emissions (lbs/day) <sup>(1)</sup></b>						
<b>Activity/Source</b>	<b>CO</b>	<b>VOC</b>	<b>NOx</b>	<b>SOx</b>	<b>PM10</b>	<b>PM2.5<sup>(1)</sup></b>
Total Emissions	65.87	31.34	93.64	0.21	31.98	11.36
<b>SCAQMD Regional Thresholds</b>	<b>550</b>	<b>75</b>	<b>100</b>	<b>150</b>	<b>150</b>	<b>55</b>
<b>Regionally Significant?</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>
Local Emissions <sup>(3)</sup>	46.9	--	84.9	--	28.5	10.4
SCAQMD Localized Threshold <sup>(4)</sup>	1,809.7	NA	218.7	NA	46	11.7
<b>Locally Significant?</b>	<b>NO</b>	<b>--</b>	<b>NO</b>	<b>--</b>	<b>NO</b>	<b>NO</b>

Notes: SCAQMD Threshold = threshold criteria for determining environmental significance of construction activities, as provided in the South Coast Air Quality Management District's 1993 Handbook for Air Quality Analysis.

1. See Appendix B for further details and calculation methodology.
2. Assumes application of water three time per day, i.e., complies with SCAQMD Rule 403, Fugitive Dust.
3. Includes on-site emissions only.
4. Cumulative project is on a 3.75 acre site, so compared to 3 acre thresholds.

The construction emissions for the proposed project modifications and the four other onsite cumulative projects were also compared to the SCAQMD's localized significance thresholds (SCAQMD, 2003) (see Table 7 and Appendix B) for a three-acre project. The localized significance thresholds are used to determine whether or not a project may generate significant adverse localized air quality impacts. The Paramount Refinery is located in SRA 5. The estimated construction emissions associated with construction of the modifications to the Clean Fuels Project and the other cumulative projects that will be constructed during the same timeframe were compared to the localized significance thresholds for CO, NOx, PM10, and PM2.5. In all cases, the cumulative construction emissions were below the localized significance thresholds (see Appendix B). Therefore, no cumulative significant localized air quality impacts associated with cumulative construction activities are expected.

The peak construction emissions for the proposed modifications to the Clean Fuels Project plus other cumulative projects was estimated by peak daily emissions per month. Therefore, the peak construction emissions in Table 7 are not necessarily equivalent to adding peak emissions from the proposed project modifications (Table 2) with peak emissions from the cumulative projects (Table 6).

In order to provide a conservative estimate of the cumulative impacts, it is assumed that the construction activities associated with the four onsite cumulative projects would overlap with the proposed modifications to the Clean Fuels Project. The actual construction schedules may vary depending on when all permits for each project are received and the availability of the necessary materials (e.g., new equipment). Therefore, construction emission impacts are not expected to be any higher than analyzed in Table 7.

Cumulative analyses often include a discussion of other off-site, non-Paramount projects. As shown in Tables 6 and 7, Appendices A and B and the discussion of all other environmental resources in this document, the modifications to the Clean Fuels Project and the other four cumulative projects are not expected to generate any significant adverse environmental impacts. Because the proposed project's contribution to air quality impacts during project construction or operation is not cumulatively considerable, the project's cumulative air quality impacts are not significant because the environmental conditions would essentially be the same whether or not the proposed project is implemented (CEQA Guidelines §15130). This conclusion is consistent with CEQA Guidelines §15064 (h)(4), which states, "The mere existence of cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulatively considerable". Therefore, no significant adverse cumulative impacts are expected due to implementation of the proposed project modifications and the four cumulative onsite projects. Therefore, a detailed analysis of other projects in the area surrounding the Refinery is not required.

In addition, the Clean Fuels Project was evaluated cumulatively with other local projects in Table 5-2 of the Clean Fuels Project EIR. In the Clean Fuels Project EIR, the previously proposed project emissions were combined with emissions from other future and planned projects. These cumulative emissions were considered cumulatively considerable, because they exceeded the SCAQMD CEQA significance thresholds.

As shown in Table 4, the currently proposed modifications will reduce the emissions from the previously proposed project in the Final Clean Fuels Project EIR. The emissions from projects at other facilities are expected to remain the same. The reductions in emissions from the proposed project would not be sufficient to compensate for emissions from the other cumulative projects; therefore, the cumulative emissions are still cumulatively considerable (see Table 8). However, because the current proposed project would reduce emissions, the overall cumulative emissions and adverse impacts from those emissions would also be reduced. Therefore, while the overall cumulative emissions would still be cumulatively considerable, the proposed project would lessen the emissions and adverse impacts, and therefore, there is no substantial change to the

cumulative air quality adverse impacts previously evaluated in the 2004 Clean Fuels Project EIR.

**TABLE 8**

**Cumulative Emission Evaluation for Substantial Change  
(pounds per day)**

Source	Peak Daily Emissions (lbs/day) <sup>(1)</sup>				
	CO	VOC	NOx	SOx	PM10
Cumulative Emissions from the April 2004 Final EIR <sup>(1)</sup>	3,744	1,441	8,094	5,662	1,486
SCAQMD Regional Thresholds	550	55	55	150	150
<b>Regionally Significant?</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>
Revised Clean Fuels Project Operational Emissions	43.81	65.1	-31.2	-872.93	40.37
Revised Cumulative Emissions from the April 2004 EIR	3,684	1,441	8,011	4,778	1,457
SCAQMD Regional Thresholds	550	55	55	150	150
<b>Regionally Significant?</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>
Substantial Change in Emissions?	NO	NO	NO	NO	NO

(1) PM2.5 not presented in April 2004 Clean Fuels Project EIR. PM2.5 emissions have not been calculated for the cumulative projects from the 2004 Clean Fuels Project EIR and therefore, PM2.5 emissions have not been tabulated.

**Greenhouse Gas Emissions:** Because greenhouse gas emissions are generally considered to affect global climate, applicable impacts are considered to be cumulative impacts. Greenhouse gas emissions were not required to be addressed in the April 2004 Final EIR . Nonetheless, the proposed modifications to the Clean Fuels Project are not expected to generate significant greenhouse gas (GHG) emissions. Construction emissions associated with the proposed project modifications include carbon dioxide emissions associated with construction equipment and are estimated to be about 332.8 metric tons per year (see Appendix A). Emissions from construction related equipment are temporary and will cease when construction activities have been completed. Further, the Refinery will undergo a refinery turnaround as part of the construction of the proposed project modifications, meaning that most of the refinery units will be shutdown for about 15 days resulting in an estimated reduction of 3,597 metric tons of GHG emissions. The GHG emission reductions during the construction period associated with the temporary shutdown of refinery equipment far exceed the GHG emission increases associated with construction activities. Therefore, greenhouse gas emissions associated with the construction equipment are not expected to result in a significant contribution to global climate change.

The operation of the proposed project modifications is not expected to result in an increase in GHG emissions. The proposed project modifications involves rebuilding heaters H-101/102, but results in a decrease in total allowable firing rate. Therefore, there will be less fuel consumed and no additional GHGs emitted compared to historical levels. In fact, the rebuilt heaters H-101/102 will be more energy efficient than the old heaters plus the addition of energy recovery equipment (e.g., heat exchangers) will increase thermal efficiency, resulting in less fuel consumed to produce the same energy and less GHG emissions. Therefore, the operational emissions associated with the proposed project modifications are expected to result in a decrease in GHG emissions. The operation of the proposed project modifications is expected to provide a beneficial impact to global climate change by reducing GHG emissions.

**Toxic Air Contaminants Impacts**

2.5.3 d) The April 2004 Final EIR (Chapter 4 – Air Quality, pages 4-10 through 4-13 and Volume II: Health Risk Assessment) evaluated the chronic and acute health risks related to exposure to toxic air contaminants. A summary of the results of the Health Risk Assessment (HRA) is provided in Table 9. The health risks associated with the Clean Fuels Project evaluated in the April 2004 Final EIR were less than significant.

The proposed project modifications will result in a change in ammonia emissions that are evaluated below. Ammonia is regulated as a toxic air contaminant under SCAQMD Rule 1401, New Source Review for Toxic Air Contaminants. A Tier 1 screening health risk assessment was prepared for the proposed ammonia emissions increase for the new SCR unit using the SCAQMD Rule 1401 Risk Assessment Procedures (Version 6.0). Since ammonia is not considered to be a carcinogen, only chronic and acute non-cancer health risks were evaluated.

**TABLE 9  
SUMMARY OF THE HEALTH RISK ASSOCIATED WITH THE CLEAN FUELS PROJECT AND THE CURRENT PROPOSED PROJECT MODIFICATIONS**

Health Hazard	April 2004 Final EIR <sup>(1)</sup>	Proposed Project Modifications <sup>(2)</sup>	Other Projects <sup>(3)</sup>	Cumulative Impact	Significant? <sup>(4)</sup>
MEIW	-0.68 x 10 <sup>-6</sup>	0	1.68 x 10 <sup>-6</sup>	1.00 x 10 <sup>-6</sup>	NO
MEIR	-5.11 x 10 <sup>-6</sup>	0	0.38 x 10 <sup>-6</sup>	-4.73 x 10 <sup>-6</sup>	NO
Acute Hazards	0.017	0.0158	0.0021	0.0349	NO
Chronic Hazards	0.001	0.179	0.0014	0.1814	NO

- (1) SCAQMD, 2004.
- (2) See Appendix A. The health risk reduction attributed to the reduced firing of H-101/102 is not included in the proposed project modification risk quantification, because screening techniques employed do not account for reductions. Therefore, the proposed project risk is conservatively quantified.
- (3) Other Projects includes the Vapor Recovery System fugitives and the Naphtha Splitter Surge Drum. The HDS#1 Accumulator was included in the Clean Fuels Project EIR project scope and therefore included in the April 2004 EIR HRA risk values.
- (4) Exceeds significance thresholds established in Table 1.

The ammonia emission estimates for the new SCR unit of the proposed project modifications were calculated using the SCAQMD permit limit for ammonia slip of five ppm (see Appendix A). In addition, the No.1 HDS Accumulator was included in the Clean Fuels Project EIR. The results of the screening risk assessment for the ammonia emissions associated with the new SCR Unit and the results of the Tier 2 and 4 risk assessment prepared for the Vapor Recovery System and Naphtha Splitter Surge Drum are summarized in Table 9 (see Appendix A for a more detailed review of the health risk calculations. As shown in Table 9, the risk to the Maximum Exposed Individual Worker (MEIW) and the Maximum Exposed Individual Resident (MEIR) associated with the proposed project modifications is estimated to be expected to be reduced due to the reduced firing capacity of H-101/H-102 but is reported as zero per million. The carcinogenic health risks associated with the proposed project modifications are less than 10 per million and, therefore, less than significant. Therefore no significant adverse carcinogenic impacts are expected due to the proposed project modifications.

Chronic and acute health risks were also evaluated for the proposed project modifications. As shown in Table 9, the acute hazard index associated with the proposed project modifications is estimated to be 0.0158. The acute health risks associated with the proposed project modifications are less than 1.0 and, therefore, less than significant. Therefore no significant adverse acute health impacts are expected due to the proposed project modifications.

As shown in Table 9, the chronic hazard index associated with the proposed project modifications is estimated to be 0.179. The chronic health risks associated with the proposed project modifications are less than 1.0 and, therefore, less than significant. Therefore no significant adverse chronic health impacts are expected due to the proposed project modifications.

The carcinogenic and non-carcinogenic health risks associated with the Clean Fuels Project evaluated in the April 2004 Final EIR and the currently proposed project modifications are summarized in Table 9. The total carcinogenic health risk from the Clean Fuels Project (including proposed project modifications) is estimated to be a reduction of 0.68 per million and a reduction of 5.11 per million for the MEIW and MEIR, respectively which is less than the significance threshold of 10 per million. The total non-carcinogenic hazard index from the Clean Fuels Project (including proposed project modifications) is estimated to be 0.0328 and 0.180 for the acute and chronic hazard index, respectively, which is less than the significance threshold of 1.0. Therefore, no significant adverse carcinogenic or non-carcinogenic health impacts are expected due to the modified Clean Fuels Project.

The cumulative health impacts of the proposed modifications to the Clean Fuels Project combined with other unrelated projects have been evaluated. Of the other unrelated projects, two have potential emissions increases. The modifications to the vapor recovery system will produce a reduction of flaring but will create additional fugitive component connections that have potential increases in fugitive emissions. The Naphtha Splitter

accumulator will create additional fugitive component connections that have potential increases in fugitive emissions. Therefore, there are two projects evaluated together to determine the maximum health impacts from the cumulative operation of the cumulative on-site projects.

To determine the most conservative health impacts, the information from the Rule 1401 evaluations for each project was used. In order to compare all projects, the ammonia tank associated with the proposed project modifications and the vapor recovery system emissions required a more detailed analysis than what is required for permitting purposes. That is, for permitting purposes under Rule 1401 only a screening analysis (Tier 1) was necessary. Screening analyses do not quantify the results but merely identify that the emissions are below established thresholds. To perform the evaluation necessary for the cumulative analysis, quantification was necessary. Therefore, a more detailed analysis (Tier 2) was performed for the ammonia tank associated with the proposed project modifications and the vapor recovery system (see Appendix A, page A-12). The Naphtha Splitter accumulator was analyzed using a more rigorous analysis (Tier 4), which quantifies the results.

The results of the Tier 2 and Tier 4 analyses were summed to determine the maximum potential health impacts. The maximum cumulative cancer risk for a resident and worker are reduction of  $4.73 \times 10^{-6}$  or 4.73 per million and an increase of  $1.00 \times 10^{-6}$  or approximately one per million. The maximum cumulative chronic hazard index is 0.1814 and the maximum acute hazard index is 0.0349. The cumulative cancer health risk values are below the significance threshold of ten in a million and the chronic and acute hazard indices are below the significance threshold of one. Therefore, no significant cumulative adverse impacts are expected due to the cumulative project toxic emissions.

### **Odors**

**2.5.3 e)** Proposed project modifications construction and operation are not expected to cause objectionable odorous emissions that would noticeably change the nature and intensity of odors emitted at the Refinery. Sulfur compounds (e.g., hydrogen sulfide) are the most noticeable odor source in Refinery operations. The proposed project modifications would not alter the methods or equipment for handling sulfur and sulfur-bearing compounds at the Refinery.

Most heavy construction equipment uses diesel fuel to operate. Diesel exhaust is a potential odor source in the areas adjacent to where the construction equipment is operated. However, the construction activities will be located in the center of the Refinery and the closest receptors are about 500 feet away. Therefore, any odors from diesel exhaust are expected to dissipate before reaching the Refinery boundaries and, thus, no significant adverse odor impacts are expected.

The permit limit for ammonia from the SCR stack is five ppm or less and substantially less than the OSHA odor threshold for ammonia which is 20 ppm. Ammonia can have a strong odor; however, the proposed project modifications are not expected to generate

substantial ammonia emissions, since the project modifications will use aqueous ammonia and the aqueous ammonia will be stored in an enclosed pressurized tank, which prevents fugitive ammonia emissions. Ammonia emissions from the SCR unit stack (also referred to as ammonia slip) will be limited to five ppm as emitted from the stack. Since exhaust emissions are buoyant as a result of being heated, ammonia will disperse and ultimate ground level concentrations will be substantially lower than five ppm. Five ppm is below the odor threshold for ammonia of 20 ppm (OSHA, 2005). The Refinery maintains a 24-hour environmental surveillance effort, which helps to minimize the frequency and magnitude of odor events. No odors are expected from the new equipment. Potential odor impacts from the proposed project modifications are not expected to be significant. Therefore, no significantly adverse incremental odor impacts are expected due to the proposed modifications to the Clean Fuels project.

**2.5.3.3 Mitigation Measures**

The April 2004 Final EIR concluded that the impacts of the Clean Fuels Project on air quality were less than significant, except that operational emissions of VOC would remain significant. The proposed modifications to the project will not result in any significant incremental impacts to air quality nor will the project analyzed in the April 2004 Final EIR and the currently proposed project modification cause an overall significant adverse impact on air quality. In fact, the proposed project modifications will result in a decrease in operational emissions from the Refinery. Therefore, no mitigation is necessary or proposed.

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	<b>Potentially Significant Impact</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
<b>2.5.4 BIOLOGICAL RESOURCES.</b> Would the project:			
a) Have a 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"/>



	Potentially Significant Impact	Less Than Significant Impact	No Impact
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"/>
e) Conflict 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"/>

#### 2.5.4.1 Significance Criteria

The impacts on biological resources will be considered significant if any of the following criteria apply:

The project results in a loss of plant communities or animal habitat considered to be rare, threatened or endangered by federal, state or local agencies.

The project interferes substantially with the movement of any resident or migratory wildlife species.

The project adversely affects aquatic communities through construction or operation of the project.

#### 2.5.4.2 Environmental Setting and Impacts

2.5.4 a), b), c), d), e), and f) Biological Resources were discussed in the April 2004 Final EIR, Appendix A, NOP/IS (page 2-9) and determined to be less than significant. The proposed project modifications will not change the biological resource analysis from the April 2004 Final EIR. The proposed project modifications would be located entirely

within the existing boundaries of the Paramount Refinery, which has already been developed, therefore, no conflict with local, regional or state Conservation Plans are expected. The area contains industrial activities and does not support riparian habitat, federally protected wetlands, or migratory corridors. Based on a review of California Natural Diversity Database maps for the project area, there are no sensitive, threatened, or endangered plant or animal species in the immediate vicinity of the Refinery (CNDD, 2007).

**2.5.4.3 Mitigation Measures**

The April 2004 Final EIR concluded that no significant adverse impacts to biological resources are expected to occur as a result of the Paramount Clean Fuels Project. The proposed modifications to the project will not result in any significant incremental impacts to biological resources nor will the project analyzed in the April 2004 Final EIR and the currently proposed project modifications cause an overall significant adverse impact on biological resources. Therefore, no mitigation is necessary or proposed.

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	<b>Potentially Significant Impact</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
<b>2.5.5 CULTURAL RESOURCES. Would the project:</b>			
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 a formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**2.5.5.1 Significance Criteria**

Impacts to cultural resources will be considered significant if:

The project results in the disturbance of a significant prehistoric or historic archaeological site or a property of historic or cultural significance to a community or ethnic or social group.

Unique paleontological resources are present that could be disturbed by construction of the proposed project.

The project would disturb human remains.

#### **2.5.5.2 Environmental Setting and Impacts**

**2.5.5 a), b), c), and d)** Cultural resources were discussed in the April 2004 Final EIR, Appendix A, NOP/IS (page 2-11) and were determined to be less than significant. The proposed project modifications will not change the cultural resources analysis from the April 2004 Final EIR. 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 Section 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 unless they can be shown to be exceptionally important. The buildings, structures, and equipment associated with the proposed project modifications 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. No Refinery structures are being removed as part of the proposed project modifications. The proposed project modifications will result in minor ground-disturbing activities, but no significant adverse impacts to equipment and structures over 50 years of age, which may be culturally significant, are anticipated to occur. No existing structures at the Paramount Refinery are considered architecturally or historically significant, as defined under CEQA Guidelines §15064.5, i.e., no structures are eligible for listing in the California Register of Historical Resources or included in a local register of historic resources. The entire Refinery site has been previously graded and developed. The Refinery structures and equipment are supported on existing concrete foundations. No

adverse impacts to cultural resources are expected since no known cultural resources are located within the Refinery. The proposed project modifications will result in emissions from the Refinery, so no significant adverse impacts are expected to existing buildings or structures.

**2.5.5.3 Mitigation Measures**

The April 2004 Final EIR concluded that no significant adverse impacts to cultural resources are expected to occur as a result of the Paramount Clean Fuels project. The proposed modifications to the project will not result in any incremental impacts to cultural resources nor will the project analyzed in the April 2004 Final EIR and the currently proposed project modification cause an overall significant adverse impact on cultural resources. Therefore, no mitigation is necessary or proposed.

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	<b>Potentially Significant Impact</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
<b>2.5.6 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"/>

**2.5.6.1 Significance Criteria**

The impacts to energy and mineral resources will be considered significant if any of the following criteria are met:

The project conflicts with adopted energy conservation plans or standards.

The project results in substantial depletion of existing energy resource supplies.

An increase in demand for utilities impacts the current capacities of the electric and natural gas utilities.

The project uses non-renewable resources in a wasteful and/or inefficient manner.

#### **2.5.6.2 Environmental Setting and Impacts**

**2.5.6 a)** The April 2004 Final EIR Appendix A, NOP/IS (pages 2-12 and 2-13) explained that the Clean Fuels project is not expected to conflict with energy conservation plans or energy standards because there is no known energy conservation plan that would apply to the proposed project modifications. The new SCR for heaters H-101/102 and H-501/502 will include the installation of one new, small electric air blower. It is in the economic interest of Paramount 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 the equipment that will be replaced. Further, energy used to operate the new air blower is not considered a wasteful use of energy that will interfere or conflict with existing energy conservation plans. The proposed project modifications are not expected to conflict with an adopted energy conservation plan because there is no known energy conservation plan that would apply to the proposed project modifications or the Refinery. The proposed project modifications are not expected to substantially increase the Refinery's energy demand.

**2.5.6 b), c), d), and e)** Potential energy impacts associated with the construction and operation of the Clean Fuels project were discussed in the April 2004 Final EIR, Appendix A, NOP/IS (page 2-12 and 2-13) and were determined to be less than significant. The Clean Fuels Project was not expected to result in an increase in electricity or natural gas. The April 2004 Final EIR and the proposed project modifications will not have an overall significant adverse impact on energy resources.

The Paramount Refinery is currently served by an existing Cogeneration Unit and supplemented by Southern California Edison (SCE) for electricity supply. Most of the electricity used at the Refinery is produced at an existing on-site 7.5 megawatt Cogeneration Unit.

**Construction:** No significant increase in electricity is expected during the six month construction period because most of the equipment is powered by diesel fuel. The diesel fuel use will be minor and less than evaluated in the April 2004 Final EIR during the short construction period and is not considered a wasteful use of energy. Therefore, no significant adverse impacts on energy are expected during the construction period. The Clean Fuels Project and proposed project modifications would not require the increased use of natural gas or refinery fuel gas during construction activities.

**Operation:** The new SCR unit includes a new air blower, which will require about 100 horsepower (hp) of additional electricity. Although the Refinery operates a 7.5 MW cogeneration unit, it is currently operating at maximum capacity so any additional electricity will need to be supplied by SCE.

Southern California Edison is the largest electricity utility in southern California with a service area that covers all or nearly all of Orange, San Bernardino, and Ventura counties, and most of Los Angeles and Riverside counties. Southern California Edison Company provides approximately 70 percent of the total electricity demand in southern California. Approximately 69,177 million kilowatt-hours (kWh) of electricity were supplied to southern California in 2005 (CEC, 2007). Sufficient electricity is supplied to southern California to handle the proposed electrical increase from the proposed project modifications; therefore, no significant adverse impacts on SCE are expected because the proposed project modifications will not require expansion of an existing utility.

The proposed installation of a new SCR unit is not expected to increase the demand for natural gas or refinery fuel gas at the Paramount Refinery, so no significant impacts on natural gas are expected. The overall gas usage at the Refinery (natural gas and refinery fuel gas) is expected to be reduced because the rebuilt Heaters H-101/102 will be rated at 35 mmBtu/hr, as compared to their historical rating of 45 mmBtu/hr.

**2.5.6.3 Mitigation Measures**

The April 2004 Final EIR concluded that no significant adverse impacts to energy are expected to occur as a result of the Paramount Clean Fuels project. The proposed modifications to the project will not result in any significant incremental impacts to energy resources nor will the project analyzed in the 2004 Final Environmental Impact Report and the currently proposed project modification cause an overall significant adverse impact on energy. Therefore, no mitigation is necessary or proposed.

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	<b>Potentially Significant Impact</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
<b>2.5.7 GEOLOGY AND SOILS. Would the project:</b>			
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
• 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"/>

	Potentially Significant Impact	Less Than Significant Impact	No Impact
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 2.5.7.1 Significance Criteria

The impacts on the geological environment will be considered significant if any of the following criteria apply:

Topographic alterations would result in significant changes, disruptions, displacement, excavation, compaction or over covering of large amounts of soil.

Unique geological resources (paleontological resources or unique outcrops) are present that could be disturbed by the construction of the proposed project.

Exposure of people or structures to major geologic hazards such as earthquake surface rupture, ground shaking, liquefaction or landslides.

Secondary seismic effects could occur which could damage facility structures, e.g., liquefaction.

Other geological hazards exist which could adversely affect the facility, e.g., landslides, mudslides.

### 2.5.7.2 Environmental Setting and Impacts

2.5.7 a) Geology and soils resources at the Paramount Refinery were discussed in the April 2004 Final EIR, Appendix A, NOP/IS (pages 2-14 through 2-17) and were

determined to be less than significant. There is no change to the geology and soils analysis from the April 2004 Final EIR associated with the proposed project modifications. The SCR unit on heaters H-101/102 and H-501/502, rebuilding H-101/102, phasing out the use of anhydrous ammonia and installing No. 1 HDS Accumulator, would all occur within the confines of the existing Refinery. The project impacts on geology and soils were considered to be less than significant in the April 2004 Final EIR because all new structures would need to comply with the Uniform Building Code Zone 4 earthquake requirements. The same regulatory requirements will apply to the proposed modifications to the Clean Fuels Project. The rebuild of H-101/102 will also need to comply with the Uniform Building code Zone 4 earthquake requirements. As such, the conclusions in the April 2004 Final EIR regarding seismic related ground shaking and soil erosion have not changed.

#### **2.5.7 b) Topography and Soils**

As explained in the April 2004 Final EIR, the proposed project modifications are located within the confines of the existing Paramount Refinery. Concrete pavement presently supports Refinery structures and equipment. Most of the Refinery roads, including all high traffic roads have been paved. Some portions of the site have also been landscaped. The site is relatively flat. Elevations at the site range between 85 feet above sea level at the northeastern portion of the site to 75 feet above sea level at the southwest corner of the site. No unstable earth conditions, changes in topography or changes in geologic substructures are anticipated to occur with the proposed project modifications because of the limited grading and excavation involved. No significant adverse impacts on topography and soils are expected.

The proposed project modifications involve rebuilding heaters H101/102 and adding new air pollution control equipment to existing facilities, requiring only minor grading, foundation work, and minor trenching for piping. Since the proposed project modifications will occur within already developed facilities, 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.

The proposed project modifications 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 will remain relatively unchanged. Further, surface runoff is minimized because surface runoff at all facilities is typically captured, treated, and released to the public sewerage system or storm drain system.

#### **2.5.7 c) and d) Liquefaction and Expansive Soils**

As explained in the April 2004 Final EIR, 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 Paramount Refinery is located in an area of historic liquefaction or one that has the potential for liquefaction (California Division of Mines and Geology, Map of Seismic Hazard Zones, Long Beach Quadrangle). However, site specific soil boring records completed for the Paramount Refinery show that liquefaction is not expected at the locations of the proposed project modification, because ground water levels are greater than 30 feet below the site surface. There is no evidence of expansive soils at the site. 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. No significant impacts from liquefaction are expected since the proposed project modifications will be required to comply with the Uniform Building Codes. The SCR Unit would be placed on the same soils as were analyzed in the April 2004 Final EIR, therefore, the conclusion with respect to liquefaction and expansive soils remains unchanged.

**2.5.7 e) Wastewater Discharge**

The proposed project modifications are not expected to generate any additional wastewater discharged by the Refinery. The Paramount Refinery discharges wastewater to the local sewer system under an Industrial Wastewater Discharge Permit. The Refinery, or the proposed project modifications, will not use septic tanks or alternative wastewater disposal systems, therefore, no significant impacts on soils from alternative wastewater disposal systems are expected from the Clean Fuels Project. This remains true with the proposed project modifications.

**2.5.7.3 Mitigation Measures**

The April 2004 Final EIR concluded that no significant adverse impacts to geology and soils are expected to occur as a result of the Paramount Clean Fuels project. The proposed modifications to the project will not result in any significant incremental impacts to geology and soils nor will the project analyzed in the April 2004 Final EIR and the currently proposed project modification cause an overall significant adverse impact on geology and soils. Therefore, no mitigation is necessary or proposed.

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**2.5.8 HAZARDS AND HAZARDOUS MATERIALS.** Would the project:

	<b>Potentially Significant Impact</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
a) Create a significant hazard to the public or the environment through the routine transport, use, disposal of hazardous materials?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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

### **2.5.8.1 Significance Criteria**

The impacts associated with hazards will be considered significant if any of the following occur:

Non-compliance with any applicable design code or regulation.

Non-conformance to National Fire Protection Association standards.

Non-conformance to regulations or generally accepted industry practices related to operating policy and procedures concerning the design, construction, security, leak detection, spill containment or fire protection.

Exposure to hazardous chemicals in concentrations equal to or greater than the Emergency Response Planning Guideline (ERPG) 2 levels.

### **2.5.8.2 Environmental Setting and Impacts**

#### **2.5.8 a) and b) Potential Hazards**

##### **On-Site Hazards**

As described in the April 2004 Final EIR, Chapter 4 – Hazards (pages 4-15 through 4-24 and Appendix C), the Paramount Refinery uses a number of hazardous materials at the site to manufacture petroleum products. The major types of public safety risks that could occur would consist of impacts from toxic substance releases, fires, and explosions. Toxic substances handled by the Paramount Refinery include hydrogen sulfide, ammonia, regulated flammables like propane and butane, and petroleum products like gasoline, fuel oils, and diesel. Shipping, handling, storing, and disposing of hazardous materials inherently poses a certain risk of a release to the environment.

Exposure to a toxic gas cloud is a potential hazard associated with refining activities. Toxic gas clouds are releases of volatile chemicals (e.g., ammonia, chlorine, and hydrogen sulfide) that could form a cloud and migrate off-site, thus, exposing individuals. “Worst-case” conditions tend to arise when very low wind speeds coincide with accidental release, which can allow the chemicals to accumulate as a dense cloud rather than disperse.

As evaluated in the April 2004 Final EIR, the hazard impacts associated with the Clean Fuels Project were determined to be potentially significant because of a potential hydrogen sulfide release from the Naphtha Splitter. An alternative locations for the Naphtha Splitter was found and eventually implemented that reduced the project impacts on hazards to less than significant.

To further reduce the risk of forming a toxic gas cloud in the event of an accidental release, the proposed modified project will use aqueous ammonia rather than anhydrous ammonia. Unlike anhydrous ammonia, aqueous ammonia does not readily form a dense

gas cloud when released. In addition, the new SCR unit will use an existing aqueous ammonia storage tank to supply aqueous ammonia. There will be no increase in aqueous ammonia storage at the Refinery and, therefore, no incremental increase in the potential exposure or impacts from an accidental release from the existing ammonia storage tank. Conversion from the use of anhydrous ammonia to aqueous ammonia for the existing SCRs will further reduce potential hazards associated with an accidental release of anhydrous ammonia and the associated hazards from exposure to a dense toxic gas cloud.

Additional piping will be required from the existing aqueous ammonia tank to the new SCR and to the SCRs which are being converted from anhydrous to aqueous ammonia. The existing pipe supports and routes will be primarily utilized for the existing SCRs. New piping will be required to support the new SCR. A leak from any pipe that conveys aqueous ammonia would be less than significant because it would be located within the confines of the Refinery, a release would pool (not form vapor clouds) and be contained within the existing containment system at the Refinery. Modifications to the No. 1 HDS unit will involve the installation of a new vessel that will contain the same material as currently handled in the unit (naphtha) so no new hazard impacts are expected.

Based on the above, no new hazards are associated with the proposed project modifications and the proposed project modifications will decrease existing hazards associated with the storage and use of anhydrous ammonia since no anhydrous ammonia will be stored in bulk at the Refinery.

In fact, overall Refinery risk associated with ammonia use will decline as a result of the proposed project modifications. Paramount currently operates two SCR units at the Refinery that use anhydrous ammonia and also operates an existing anhydrous ammonia storage tank. As part of these proposed project modifications, and consistent with an agreement made with SCAQMD regarding anhydrous ammonia, Paramount will be phasing out the use of anhydrous ammonia in SCRs, and will replace anhydrous ammonia with aqueous ammonia refinery-wide by March 31, 2009.

Paramount currently receives both anhydrous ammonia and aqueous ammonia from a local ammonia supplier located in the greater Los Angeles area. As is currently the case with existing ammonia deliveries, deliveries of aqueous ammonia would be made to the facility by tanker truck via public roads. The maximum capacity of a tanker truck transporting aqueous ammonia to the Paramount Refinery is 6,000 gallons. Based on the onsite storage capacity and consumption of ammonia, delivery frequency from the supplier to the facility is expected to be about 12 truck trips per year, an increase of two trucks per year. The proposed project modifications, however, are expected to result in net a decrease in the number of ammonia truck trips by about six trucks per year. (The Refinery currently requires about 18 anhydrous ammonia truck trips per year  $18-12 = 6$ ). Aqueous ammonia is currently delivered to the Refinery in 6,000 gallon trucks, so the proposed project modifications would not introduce any new transportation hazards. In fact, the proposed project modifications would eliminate the use, storage, and transport of anhydrous ammonia for use in the SCRs, which is much more volatile than aqueous ammonia. A release of anhydrous ammonia has much greater impacts than a release of

aqueous ammonia. Therefore, the proposed project modifications will result in a reduction of hazards at the Refinery and during transport of ammonia to the Refinery, providing a reduction in hazards, which is considered to be a beneficial effect.

### **General Hazards for New SCR Unit**

The hazards associated with the use of ammonia are reduced through design, operations, maintenance, regulatory, and administrative controls. Design standards are developed through industry groups, various independent institutes, and government agencies. Operational controls include automatic devices to control and monitor process variables and documented procedures for manual operations. Routine preventative maintenance and inspections of critical equipment help to prevent unscheduled process shutdowns and potential equipment failures. Administrative controls include operator training, documentation of equipment inspection and maintenance history, and procurement prequalification controls over contractors and vendors such as specifying delivery truck routes.

A variety of safety laws and regulations have been in existence for many years to reduce the risk of accidental releases of chemicals at industrial facilities. The Occupational Safety and Health Administration (OSHA) passed the Process Safety Management of Highly Hazardous Chemicals rule in 1992 (29 CFR 910.119). This rule was designed to address the prevention of catastrophic accidents at facilities handling hazardous substances, in excess of specific threshold amounts, through implementation of Process Safety Management (PSM) systems for protection of workers. A major PSM requirement is the performance of process hazard analyses to identify potential process deviations and improved safeguards to prevent accidents.

A federal EPA Risk Management Program (RMP) and a more stringent state RMP, the California Accidental Release Program (CalARP), were developed for the Paramount Refinery and most recently submitted to appropriate agencies in 2005. The RMP's contain hazard assessments of both worst-case and more credible accidental release scenarios, a five year accident history, an accident prevention program, and an emergency response program. The Los Angeles County Fire Department Hazardous Materials Division administers the RMP for the Refinery. Since the preparation of the RMP there have been no changes to the accident release scenarios and the proposed project modifications will not change the potential accident release scenarios. There have been no accidents associated with ammonia at the Refinery and the Refinery has implemented the accident prevention program and emergency response program. The proposed project modifications will require minor updates to the RMP due to the phase out of anhydrous ammonia use for the SCRs. The Refinery has prepared an emergency response manual, which describes the emergency response procedures that would be followed in the event of any of several release scenarios along with the responsibilities of key personnel. A summary of the applicable regulations and safety considerations are summarized below.

- The California Code of Regulations, Title 8 – contains minimum requirements for equipment design.
- Industry Standards and Practices – codes for design of various equipment, including the American National Standards Institute (ANSI), American Society of Mechanical Engineers (ASME), and National Fire Protection Association (NFPA).
- The California Health and Safety Code Fire Protection specifications.
- The applicable Cal-OSHA requirements.
- The Paramount Refinery maintains its own emergency response capabilities, including onsite equipment and trained emergency response personnel who are available to respond to emergencies anywhere within the Refinery.

The standards noted above and other applicable design standards will govern the design of mechanical equipment such as pressure vessels, tanks, pumps, piping, and compressors. No further analysis of these standards is needed in this hazard analysis. Adherence to codes will be verified by the City's building inspector before the new or modified facilities and equipment associated with the proposed project modifications become operational.

**2.5.8 c)** As discussed in the April 2004 Final EIR, the Refinery is located within one-quarter mile of an existing or proposed school. However, based on the analysis above, no increase in hazards associated with the use of aqueous ammonia release would be expected to the local population surrounding the Refinery. In fact, with the Refinery-wide phase-out of anhydrous ammonia in the SCRs, the proposed project modifications will reduce the risk of exposure of the local population from an accidental release of ammonia, both onsite and during transport.

#### **Other Hazard Issues**

**2.5.8 d)** The proposed project modifications are not located on a site which is included on the list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 ([http://www.dtsc.ca.gov/SiteCleanup/Cortese\\_List.cfm](http://www.dtsc.ca.gov/SiteCleanup/Cortese_List.cfm), accessed 5/19/08); therefore, no significant hazards related to hazardous materials at the site on the environment or to the public are expected.

**2.5.8 e) and f)** As described in the April 2004 Final EIR, NOP/IS, Appendix A (page 2-20), the Refinery is not located within an airport land use plan or within two miles of a public or private airport. The nearest airport, Long Beach Airport, is located approximately five miles from the Refinery. Therefore, no safety hazards are expected from the proposed project modifications on any airports in the region.

**2.5.8 g)** As described in the April 2004 Final EIR, NOP/IS, Appendix A (page 2-20), the proposed project modifications are not expected to interfere with an emergency response

plan or emergency evacuation plan. The proposed project modifications will result in modifications to the existing Refinery. All construction activities will occur within the confines of the existing Refinery so that no emergency response plans are expected to be impacted. Paramount has implemented emergency response plans at its facility, but no modifications to the plans are expected as a result of the proposed project modifications because there will be no new materials stored on site, no increase in the quantities of hazardous materials stored onsite, and no change in the manner in which those materials are handled. The RMP will be updated since no anhydrous ammonia will be stored in bulk at the Refinery. The proposed project modifications are not expected to alter the route that employees would take to evacuate the site, as the evacuation routes generally direct employees outside of the main operating portions of the Refinery. The proposed project modifications are not expected to impact any local emergency response plans.

**2.5.8 h) and i)** As described in the April 2004 Final EIR, NOP/IS, Appendix A (page 2-20), the proposed project modifications, will not increase the existing risk of fire hazards in areas with flammable brush, grass, or trees. The Refinery will continue to use and produce flammable materials. The proposed project modifications will not increase the use of flammable materials at the site. No substantial or native vegetation exists within the Refinery. Only landscape vegetation is present near the Administration building. Therefore, no significant increase in fire hazards is expected at the Refinery associated with the proposed project modifications.

### **2.5.8.3 Mitigation Measures**

The 2004 Final EIR concluded that the hazard impacts associated with the Clean Fuels Project were potentially significant because of a potential hydrogen sulfide release from the Naphtha Splitter. An alternative location for the Naphtha Splitter was found and eventually implemented that reduced the project impacts on hazards to less than significant. The proposed modifications to the Clean Fuels Project will not result in any incremental impacts to hazards and hazardous materials nor will the project analyzed in the April 2004 Final EIR and the currently proposed project modification cause greater hazards than were reviewed in the April 2004 Final EIR. The proposed project modifications are expected to result in a decrease in hazards at the Refinery since anhydrous ammonia use will be eliminated and replaced with aqueous ammonia, which is not considered to be an acutely hazardous material. Therefore, no mitigation is necessary or proposed.

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	Potentially Significant Impact	Less Than Significant Impact	No Impact
<b>2.5.9 HYDROLOGY AND WATER QUALITY.</b>			
Would the project:			
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" type="checkbox"/>
k) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 2.5.9.1 Significance Criteria

Potential impacts on water resources will be considered significant if any of the following criteria apply:

**Water Quality:**

The project will cause degradation or depletion of ground water resources substantially affecting current or future uses.

The project will cause the degradation of surface water substantially affecting current or future uses.

The project will result in a violation of National Pollutant Discharge Elimination System (NPDES) permit requirements.

The capacities of existing or proposed wastewater treatment facilities and the sanitary sewer system are not sufficient to meet the needs of the project.

The project results in substantial increases in the area of impervious surfaces, such that interference with groundwater recharge efforts occurs.

The project results in alterations to the course or flow of floodwaters.

**Water Demand:**

The existing water supply does not have the capacity to meet the increased demands of the project, or the project would use a substantial amount of potable water.

The project increases demand for water by more than five million gallons per day.

**2.5.9.2 Environmental Setting and Impacts**

**2.5.9 a), f), k), l) and o) Wastewater Generation.**

Hydrology and water quality resources at the Paramount Refinery were discussed in the April 2004 Final EIR, Appendix A, NOP/IS (pages 2-21 through 2-25) and were determined to be less than significant. There is no change to the hydrology and water quality analysis from the April 2004 Final EIR associated with the proposed project modifications.

As discussed in the April 2004 Final EIR, the Paramount Refinery currently generates process wastewater, treated sour water, and storm water. Wastewater is treated in the wastewater treatment system, which includes American Petroleum Institute (API) separators to remove oil and induced air floatation units for additional removal of oil and particulates. The treated process wastewater 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 treated storm water is discharged to the Los Cerritos channel in accordance with a National Pollutant Discharge Elimination System (NPDES) permit discharge limits. As discussed in the April 2004 Final EIR, the Clean Fuels Project did not result in an increase in water use or wastewater discharge; therefore, no significant impacts on wastewater discharge or water quality were expected.

The equipment associated with the proposed project modifications do not use water, e.g., the SCR does not require water as part of the NOx control process. Except for water used periodically to clean equipment, the proposed project modifications will not result in an increase in wastewater generated or discharged from the Refinery. As a result, no significant adverse impacts associated with wastewater discharges are expected.

#### **2.5.9 b) and n) Water Demand**

The impacts on water demand were discussed in the April 2004 Final EIR, Appendix A, NOP/IS (page 2-24) and were determined to be less than significant. There is no change in the impacts on water demand from the April 2004 Final EIR.

Water is primarily provided by the City of Paramount Water Department. Approximately 80 percent of the City's water supply is provided by ground water pumped through wells and distributed throughout the City. The remaining 20 percent of the water is purchased through agreements with the Metropolitan Water District. Water service to the site is provided from water utility lines extending from Lakewood and Somerset Boulevards. Paramount Petroleum does not maintain any ground water wells on site. The Refinery currently uses about 600,000 gallons of water per day. The cooling equipment is responsible for the majority of the water used onsite.

As already noted, the equipment associated with the proposed project modifications do not use water. Therefore, no increase in water use is associated with the proposed project modifications, so no significant adverse impacts on water demand are expected. No increase in the amount of ground water supplies used at the Refinery is expected and the proposed project modifications would not substantially deplete ground water supplies or interfere with ground water recharge.

#### **2.5.9 c), d), e) and m) Surface Water**

The impacts on surface water were discussed in the April 2004 Final EIR, Appendix A, NOP/IS (page 2-24) and were determined to be less than significant. There is no change in the impacts on surface water runoff from the April 2004 Final EIR.

The Los Angeles County Flood Control District is responsible for maintaining flood control and storm drainage facilities in the City of Paramount. The City's storm drainage system is supported by the southwestern slope of the area and its proximity to the Los Angeles River. The proposed project modifications are not expected to increase the stormwater runoff from the Paramount Refinery. The Refinery modifications will occur within the existing Refinery units and no increase in paved areas is expected. 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 modifications.

**2.5.9 g), h), i) and j) Flood Hazards**

The impacts on flood hazards were discussed in the April 2004 Final EIR, Appendix A, NOP/IS (pages 2-24 and 2-25) and were determined to be less than significant. There is no change in the impacts on flood hazards from the April 2004 Final EIR.

Based on the topography and/or site elevations in relation to the ocean, the proposed project modifications are not expected to result in an increased risk of flood, seiche, tsunami or mud flow hazards. The proposed project modifications would not locate housing within a 100-year flood hazard area. The Refinery is not located within a 100-year flood hazard zone so no new equipment would be located within a 100-year flood hazard zone. Therefore, no significant impacts associated with flooding are expected.

**2.5.9.3 Mitigation Measures**

The April 2004 Final EIR concluded that no significant adverse impacts to hydrology and water quality are expected to occur as a result of the Paramount Clean Fuels project. The proposed modifications to the project will not result in any significant incremental impacts to water demand, water quality, wastewater discharge or water runoff, nor will the project analyzed in the April 2004 Final EIR and the currently proposed project modifications cause an overall significant adverse impact on hydrology and water quality. Therefore, no mitigation is necessary or proposed.

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	<b>Potentially Significant Impact</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
<b>2.5.10 LAND USE AND PLANNING. Would the project:</b>			
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"/>

**2.5.10.1 Significance Criteria**

Land use and planning impacts will be considered significant if the project conflicts with the land use and zoning designations established by the City of Paramount.

### **2.5.10.2 Environmental Setting and Impacts**

**2.5.10 a), b), and c)** The land use impacts were discussed in the April 2004 Final EIR, Appendix A, NOP/IS (pages 2-26 and 2-27) and were determined to be less than significant. There is no change in the impacts on land use from the April 2004 Final EIR as the location of the proposed project modifications are within the confines of the existing Refinery. .

The proposed modifications to the Paramount Refinery will be developed entirely within the existing Refinery property boundaries. Land use on the Refinery property is designated as M-2, which is heavy manufacturing zoning. The proposed project modifications are consistent with the land use designation of heavy industry and manufacturing.

No new property will be acquired for the Refinery and there will be no division of established communities. Additionally, the proposed project modifications are not expected to conflict with local habitat conservation plans, or natural community conservation plans, as the site of the proposed project modifications is a previously developed industrial facility. The proposed project modifications 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.

The proposed project modifications include construction at an existing industrial facility. The activities and products produced at the facility are the same as existing activities and products produced. No new land would be required for the proposed project modifications, and no zoning and/or land use changes are required as part of the proposed project modifications.

Land use at the Refinery is consistent with the City of Paramount General Plan land use designations. The proposed project modifications are consistent with the heavy manufacturing zoning designation. Therefore, no significant adverse impacts on land use are expected.

### **2.5.10.3 Mitigation Measures**

The April 2004 Final EIR concluded that no significant adverse impacts to land use are expected to occur as a result of the Paramount Clean Fuels project. The proposed modifications to the project will not result in any significant incremental impacts to land use nor will the project analyzed in the April 2004 Final EIR and the currently proposed project modification cause an overall significant adverse impact on land use and planning. Therefore, no mitigation is necessary or proposed.

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	<b>Potentially Significant Impact</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
<b>2.5.11 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"/>

**2.5.11.1 Significance Criteria**

Project-related impacts on mineral resources will be considered significant if any of the following conditions are met:

The project would 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.

The proposed project results 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.

**2.5.11.2 Environmental Setting and Impacts**

**2.5.11 a), b)** Mineral resources were discussed in the April 2004 Final EIR, Appendix A, NOP/IS (page 2-29) and were determined to be less than significant. There is no change in the mineral resources analysis from the April 2004 Final EIR due to the proposed project modifications. As the proposed project modifications will be limited to modifications within the confines of the existing Paramount Refinery boundaries, no loss of availability of known mineral resource that would be of value to the region or the residents of the state or loss in a locally-important mineral resource is expected. No known mineral resources of value are located at the site.

**2.5.11.3 Mitigation Measures**

The April 2004 Final EIR concluded that no significant adverse impacts to mineral resources are expected to occur as a result of the Paramount Clean Fuels project. The proposed modifications to the project will not result in any significant incremental

impacts to mineral resources nor will the project analyzed in the April 2004 Final EIR and the currently proposed project modification cause an overall significant adverse impact on mineral resources. Therefore, no mitigation is necessary or proposed.

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	<b>Potentially Significant Impact</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
<b>2.5.12 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 type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" 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"/>

**2.5.12.1 Significance Criteria**

Noise impacts will be considered significant if:

Construction noise levels exceed the City of Paramount’s noise ordinance or, if the noise threshold is currently exceeded, project noise sources increase ambient noise levels by more than three decibels (dBA) at the site boundary. Construction noise levels will be considered significant if they exceed federal Occupational Safety and Health Administration (OSHA) noise standards for workers.

The proposed project operational noise levels exceed the City of Paramount’s noise ordinance or, if the noise threshold is currently exceeded, project noise sources increase ambient noise levels by more than three dBA at the site boundary.

The City of Paramount’s noise ordinance is summarized in Table 10.

**TABLE 10**

**City of Paramount Noise Ordinance**

<b>NOISE ZONE</b>	<b>Day (Maximum) 6 am to 10 pm</b>	<b>NIGHT (Maximum) 10 pm to 6 am</b>
Industrial and Commercial	82 dBA	77 dBA
Residential (R1 and R2)	62 dBA	57 dBA
Multi-Family Residential (R3 and R4)	67 dBA	62 dBA

Source: City of Paramount, Ordinance No. 317, §1.

**2.5.12.2 Environmental Setting and Impacts**

**2.5.12 a), b) c) and d)** The noise impacts were discussed in the April 2004 Final EIR, Appendix A, NOP/IS (pages 2-30 through 2-35) and were determined to be less than significant. There is no change in the noise impacts from the April 2004 Final EIR. The proposed project modifications are not expected to create new significant noise impacts or make substantially worse existing noise impacts identified in the April 2004 Final EIR.

Construction activity associated with the proposed project modifications will produce noise as a result of operation of construction equipment. The number of construction workers and related construction equipment associated with the proposed project modifications are expected to be less than the construction activities evaluated in the April 2004 Final EIR. The equipment necessary for construction will comply with Paramount Petroleum SP-100-1 Noise Limits for Equipment and Piping which generally limits continuous noise levels to 85 dBA or less. Typical sound levels for typical construction equipment are presented in Table 11.



**TABLE 11**  
**Construction Noise Sources**

EQUIPMENT	TYPICAL RANGE (decibels)(1)	ANALYSIS VALUE (decibels)(2)
Truck	82-92	82
Air compressor	85-91	85
Flatbed Truck	84-87	85
Pickup	70-85	70
Tractor Trailer	75-92	85
Cranes	85-90	85
Pumps	68-72	70
Welding Machines	72-77	72
Pile Driving (peaks)	95-107	95
Saws	72-82	80

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.

**Construction Noise:** The Clean Fuels project noise impacts analyzed in the April 2004 Final EIR were considered to be less than significant for the construction phase, and the proposed modifications will not vary from the type of construction activities considered in that evaluation. The number of construction workers and related construction equipment associated with the proposed project modifications are expected to be less than the construction activities evaluated in the April 2004 Final EIR (see Appendix A for detailed information on the number and types of construction equipment that will be required as it varies by month). The construction equipment associated with the proposed project modifications will generate noise. The construction equipment associated with the proposed project modifications would include an air compressor, backhoe, plate compactor, crane, dump truck, forklifts, welding machines, man lift, pile driving equipment and a concrete saw.

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. Using an estimated six dBA reduction for every doubling distance, the noise levels would drop off to about 62 dBA or less at about 400 feet from the sources associated with the proposed project modifications. The closest residential area would be about 400 feet from construction noise sources, therefore, construction noise levels are expected to comply with the City’s noise ordinance. 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 and equipment has not been included in the analysis.

As discussed in the April 2004 Final EIR, the construction activities that generate noise will be carried out during daytime hours, or as permitted by the City of Paramount. 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, lasting about six to eight months, and will cease following construction activities. Sound levels at the closest residential area 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 at receptors located near the Refinery.. The noise levels from the construction equipment are expected to be within the allowable noise levels established by the local noise ordinance for industrial areas. Noise impacts associated with the proposed project modification's construction activities are expected to be less than the noise ordinance and less than significant.

Workers exposed to noise sources in excess of 85 dBA are required to participate in a hearing conservation program. Workers exposed to noise sources in excess of 90 dBA for an eight-hour period will be required to wear hearing protection devices that conform to Occupational Safety and Health Administration/National Institute for Occupational Safety and Health (NIOSH) standards. Since the maximum noise levels during construction activities are required by Paramount Petroleum to be 85 decibels or less, no significant impacts to workers during construction activities are expected.

**Operational Noise:** As discussed in the April 2004 Final EIR, noise levels from the proposed project will attenuate at a rate such that the new equipment locations will not generate noise beyond what currently exists at the Refinery. Only one small air blower is included with the new SCR unit and no increase in noise is expected from this source. The proposed rebuilt heating units will not result in any new noise sources as most of the existing equipment will be reused or replaced. No increase in noise is expected from the No. 1 HDS Accumulator. No increase in noise is expected from these sources. The new equipment will be located within existing industrial areas where noise is generated by adjacent operational equipment. Further, the location of the new SCR unit and rebuilt heaters will be adjacent to the existing railroad tracks, where significant noise is already generated, so no increase in noise levels in the general area from the proposed project modifications are expected. Therefore, significant noise impacts from the proposed project modifications are not expected.

To ensure that noise impacts from the proposed project modifications remain less than significant, Paramount will comply with all applicable federal, state, and local noise standards and ordinances during construction and operation.

**2.5.12 e) and f)** The proposed project site is not located within an airport land use plan or within the vicinity of a private airstrip, or within two miles of a public or public use airport. The nearest airport, Long Beach Airport, is located approximately five miles from the Refinery. Further, the installation of the SCR will occur at the Paramount Refinery within the same general locations analyzed in the April 2004

Final EIR. Thus, the proposed project modifications would not increase the noise levels to people residing or working in the area.

**2.5.12.3 Mitigation Measures**

The April 2004 Final EIR concluded that no significant adverse noise impacts would occur as a result of the Clean Fuels project. The proposed modifications to the project will not result in any significant incremental impacts to noise nor will the project analyzed in the April 2004 Final EIR and the currently proposed project modifications cause an overall significant adverse impact on noise. Therefore, no mitigation is necessary or proposed.

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	<b>Potentially Significant Impact</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
<b>2.5.13 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"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**2.5.13.1 Significance Criteria**

The impacts of the proposed project on population and housing will be considered significant if the following criteria are exceeded:

The demand for temporary or permanent housing exceeds the existing supply.

The proposed project produces additional population, housing or employment inconsistent with adopted plans either in terms of overall amount or location.

**2.5.13.2 Environmental Setting and Impacts**

**2.5.13 a), b) and c)** The population and housing impacts were discussed in the April 2004 Final EIR, Appendix A, NOP/IS (page 2-36) and were determined to be less than significant. The proposed project would require modifications to the existing Refinery and will not involve an increase, decrease or relocation of population. Labor (a maximum of about 50 workers) for construction is expected to come from the existing labor pool in southern California. Operation of the proposed project modifications are not expected to require any new permanent employees at the Refinery. Therefore, construction and operation of the proposed project modifications are not expected to have significant adverse impacts on population or housing, induce substantial population growth, or exceed the growth projections contained in any adopted plans.

**2.5.13.3 Mitigation Measures**

The April 2004 Final EIR concluded that no significant adverse impacts to population and housing are expected to occur as a result of the Clean Fuels project. The proposed modifications to the project will not result in any significant incremental impacts to population/housing nor will the project analyzed in the April 2004 Final EIR and the currently proposed project modification cause an overall significant adverse impact on population/housing. Therefore, no mitigation is necessary or proposed.

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	<b>Potentially Significant Impact</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
<b>2.5.14 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 type="checkbox"/>	<input checked="" type="checkbox"/>
b) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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"/>

### **2.5.14.1 Significance Criteria**

Impacts on public services will be considered significant if the project results in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the 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 time or other performance objectives.

### **2.5.14.2 Environmental Setting and Impacts**

**2.5.14 a)** Public service impacts associated the Clean Fuels project were discussed in the April 2004 Final EIR, Appendix A, NOP/IS (pages 2-37 and 2-38) and were determined to be less than significant. No significant adverse impacts on public services are expected as a result of the proposed project as modifications will occur in the same location and utilize the same public services as the project analyzed in the April 2004 Final EIR.

The City of Paramount contracts with the Los Angeles County Consolidated Fire District which provides fire protection service to 44 incorporated cities and all unincorporated county areas. The northern portion of the City is served by Fire Station No. 57 located at 5720 Gardendale Street in South Gate. All remaining areas are served by Fire Station No. 31, located at 7521 East Somerset Boulevard in Paramount. The station is located about two miles southwest of the project site with an estimated response time of about 3.4 minutes to the Refinery.

The Paramount Refinery currently maintains personnel and equipment on-site for fire suppression efforts and posts fire emergency procedures. There are fire hydrants along Lakewood and Somerset Boulevards, and Downey Avenue which provide additional fire water flow in the event of an emergency. The Refinery will continue to operate fire protection services needed at the Refinery. It is not expected that the proposed project modifications will require an increase in the level of fire protection service needed to protect and serve the Refinery because there will be no new flammable materials stored on-site and no increase in quantities of existing flammable materials.

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

Compliance with State and local fire codes is expected to minimize the need for additional fire protection services. The Refinery has its own emergency response team, along with the local fire department and other emergency services. On-site fire training exercises with the City Fire Department staff are conducted. The proposed project modifications 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 the Refinery.

Removing anhydrous ammonia from the Refinery and replacing it with aqueous ammonia is expected to reduce the hazards at the Refinery in the event of a release and limit the potential for ammonia exposure to on-site. This should also help reduce the need for emergency responders, which are typically local fire departments, in the event of an accidental ammonia release.

**2.5.14 b)** As discussed in the April 2004 Final EIR, the City of Paramount contracts with the Los Angeles County Sheriff’s Department for police protection and law enforcement services. Entry and exit are currently monitored and no additional or altered police protection is expected. The operation of the proposed project modifications will not require additional workers. The Paramount Refinery is an existing facility with a 24-hour security force for people and property currently in place. All modifications will occur within the confines of the existing Refinery. Therefore, no impacts to the local police department are expected related to the proposed project modifications.

**2.5.14 c), d) and e)** The local workforce is expected to fill the short-term construction positions required for the proposed project modifications. No increase in the number of permanent workers is expected at the Refinery, therefore, there will be no increase in the local population and thus no impacts, including physical alternations, construction, etc., are expected to schools, parks, or other public facilities.

**2.5.14.3 Mitigation Measures**

The April 2004 Final EIR concluded that no significant adverse impacts to public services are expected as a result of the Clean Fuels project. The proposed modifications to the project will not result in any significant incremental impacts to public services nor will the project analyzed in the April 2004 Final EIR and the currently proposed project modifications cause an overall significant adverse impact on public services.. Therefore, no mitigation is necessary or proposed.

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	<b>Potentially Significant Impact</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
<b>2.5.15 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"/>

### **2.5.15.1 Significance Criteria**

The impacts to recreation will be considered significant if:

The project results in an increased demand for neighborhood or regional parks or other recreational facilities.

The project adversely effects existing recreational opportunities.

### **2.5.15.2 Environmental Setting and Impacts**

**2.5.15 a) and b)** The recreation impacts associated with the Clean Fuels project were discussed in the April 2004 Final EIR, Appendix A, NOP/IS (page 2-39) and were determined to be less than significant. There is no change in the impacts on recreation from the April 2004 Final EIR because fewer construction workers would be required and no permanent workers are anticipated. During the construction phase of the proposed project modifications, there would be no significant changes in population densities resulting from the proposed project modifications since the required construction workers are expected to be drawn from the existing labor pool in southern California. Additionally, the operation of the proposed project modifications will not require additional workers. Thus, there will be no increase in population nor increase in the use of existing neighborhood and regional parks or other recreational facilities.

The proposed project modifications do not include recreational facilities or require the construction or expansion of existing recreational facilities. No significant adverse impacts to recreational facilities are expected.

### **2.5.15.3 Mitigation Measures**

The April 2004 Final EIR concluded that no significant adverse impacts to recreation are expected to occur as a result of the Paramount Clean Fuels project. The proposed modifications to the project will not result in any significant incremental impacts to recreation nor will the project analyzed in the April 2004 Final EIR and the currently proposed project modifications cause an overall significant adverse impact on recreation. Therefore, no mitigation is necessary or proposed.

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	<b>Potentially Significant Impact</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
<b>2.5.16 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 type="checkbox"/>	<input checked="" type="checkbox"/>

**2.5.16.1 Significance Criteria**

The proposed project impacts on solid/hazardous waste will be considered significant if the following occur:

The generation and disposal of hazardous and non-hazardous waste exceeds the capacity of designated landfills or other appropriate disposal facilities.

**2.5.16.2 Environmental Setting and Impacts**

**2.5.16 a) Non-Hazardous Waste**

Non-hazardous waste impacts were discussed in the April 2004 Final EIR, Appendix A, NOP/IS (pages 2-40 and 2-41) and were determined to be less than significant. No significant adverse impacts are expected from the proposed project modifications as they are not expected to result in an increase in waste generated.

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 decades. 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 (see item 2.5.16. b) for further discussion of hazardous waste). The proposed project modifications involve rebuilding heaters and adding new air pollution control equipment to existing facilities, so minor grading/trenching is expected to be necessary which should be limited to foundation work and minor trenching for piping.

Paramount has implemented institutional procedures that govern soil excavation, spill clean-up, trenching, and earthwork to ensure that soil excavation, including soil removal due to spills, is carried out in conformance with applicable regulations. When excavating



soils, the Refinery uses excavation contractors that have a soil mitigation plan for impacted soils pursuant to SCAQMD Rule 1166 (the “Rule 1166 Plan”). The plans are approved by the SCAQMD. Copies of the plans are on file with the SCAQMD, and are kept on-site by the excavating contractor during the excavation. In general, the Rule 1166 plan requires advance notice to the SCAQMD prior to excavating, monitoring for VOCs during the excavation, and covers and/or vapor suppressants on the excavated soil if the VOCs are measured in excess of 50 ppm. Following the excavation, the soil is analyzed by a State-certified laboratory to determine if it is hazardous or non-hazardous.

Additional solid wastes generated during construction activities include scrap metal. Scrap metal from the Refinery is recycled by a local metal salvager. Once construction is complete construction wastes would no longer be generated. It is expected that local landfills can accommodate solid wastes generated during construction of the proposed project modifications.

During operation, the proposed project modifications are not expected to generate significant quantities of additional solid waste, which are primarily generated from administrative or office activities. The proposed project modifications would not result in an increase in permanent employees at the Refinery, so no significant increase in solid waste is expected that cannot be accommodated by local sanitary landfills.

#### **2.5.16 b) Hazardous Waste**

Hazardous waste impacts were discussed in the April 2004 Final EIR, Appendix A, NOP/IS (page 2-41) and were determined to be less than significant. No significant adverse impacts on hazardous waste are expected as a result of the proposed project modifications. The following discussion updates the environmental setting and proposed project modification impacts:

There are two hazardous waste (Class I) facilities in California, the Chemical Waste Management Inc. (CWMI) Kettleman Hills facility in King’s County, and the Safety-Kleen facility in Buttonwillow (Kern County). Kettleman Hills receives an average of 2,700 tons per day and has an estimated two million cubic yard capacity. The facility is expected to continue receiving wastes for approximately three years without an expansion or 25 years with an expansion. The facility operators are in the process of obtaining permits for expansion which would increase the landfill’s life by another five years. The facility operators would then seek a permit for development of a new landfill with a 15-year life (email Communication, Fred Paap, Chemical Waste Management Inc., September 2007). Buttonwillow receives approximately 960 tons of hazardous waste per day and has an approximate remaining capacity of 8.8 million cubic yards. The expectant life of the Buttonwillow Landfill is approximately 40 years (Personal Communication, Marianna Buoni, Clean Harbors Buttonwillow, Inc., September 2007).

Hazardous waste also can be transported to permitted facilities outside of California. The nearest out-of-state landfills are U.S. Ecology, Inc., located in Beatty, Nevada; USPCI, Inc., in Murray, Utah; and Envirosafe Services of Idaho, Inc., in Mountain Home, Idaho.

Incineration is provided at the following out-of-state facilities: Aptus, located in Aragonite, Utah and Coffeyville, Kansas; Rollins Environmental Services, Inc., located in Deer Park, Texas and Baton Rouge, Louisiana; Chemical Waste Management, Inc., in Port Arthur, Texas; and Waste Research & Reclamation Co., Eau Claire, Wisconsin.

The proposed project modifications will generate hazardous waste from spent catalyst in the SCR unit. The catalyst has a life expectancy ranging from about five to ten years, depending on the catalyst reaction rate. Spent catalysts (a maximum of about 4,000 pounds every five to ten years for the new SCR unit) are expected to be removed or recycled offsite for their heavy metal content. Therefore, no significant impacts to hazardous waste disposal facilities are expected due to the operation of the proposed project modifications. The facility is expected to continue to comply with all applicable federal, state, and local statutes and regulations related to solid and hazardous wastes.

**2.5.16.3 Mitigation Measures**

The April 2004 Final EIR concluded that no significant adverse impacts to solid/hazardous wastes are expected to occur as a result of the Clean Fuels project. The proposed modifications to the project will not result in any significant incremental impacts to solid/hazardous wastes nor will the project analyzed in the April 2004 Final EIR and the currently proposed project modifications cause an overall significant adverse impact on solid/hazardous wastes. Therefore, no mitigation is necessary or proposed.

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	<b>Potentially Significant Impact</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
<b>2.5.17 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 type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant Impact	No Impact
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 type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access or access to nearby uses?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Result in inadequate parking capacity?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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"/>

**2.5.17.1 Significance Criteria**

The impacts on transportation/traffic will be considered significant if any of the following criteria apply:

Peak period levels on major arterials are disrupted to a point where level of service (LOS) is reduced to D or F for more than one month.

An intersection’s volume to capacity ratio increase by 0.02 (two percent) or more when the LOS is already D, E or F.

A major roadway is closed to all through traffic, and no alternate route is available.

There is an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system.

The demand for parking facilities is substantially increased.

Water borne, rail car or air traffic is substantially altered.

Traffic hazards to motor vehicles, bicyclists or pedestrians are substantially increased.

### **2.5.17.2 Environmental Setting and Impacts**

The Refinery is bounded by Lakewood Boulevard, Somerset Boulevard, Downey Avenue, and Contreras Street. Regional access to the Refinery is provided by Interstates 605 and 710 which run north-south approximately two and one-quarter miles east and west of the Refinery, respectively. State Route 91 runs east-west and is located approximately two miles south of the Refinery. Interstate 105 is located about three-quarters of a mile north of the Refinery. Primary truck access to the Refinery is provided by Andry Drive, which is accessible from Somerset and Lakewood Boulevards. The main entrance to the administrative offices at the Refinery is at Downey Avenue.

#### **2.5.17 a) and b) Traffic and Circulation**

Traffic and circulation impacts were discussed in the April 2004 Final EIR, Chapter 4 – Transportation and Circulation (pages 4-24 through 4-28 and Appendix D) and were determined to be less than significant with a construction work force of about 60 construction workers. There are minor changes in the impacts on traffic associated with the proposed project modifications from the April 2004 Final EIR.

For the proposed project modifications, about 30 construction workers will be commuting to the Paramount Refinery, during peak construction activities. Construction workers are expected to arrive at the work site between 6:30 – 7:00 a.m., which would generally avoid peak hour traffic conditions and depart about 5:30 – 6:00 p.m. The construction activities are expected to avoid peak hour traffic during morning hours, between 7-9 a.m., but could impact the evening peak hour (between 4 – 6 p.m.). Construction activities are expected to be limited to about a six- to eight-month period. Therefore, the increase in traffic in the area is temporary and will cease following the completion of construction activities. The baseline traffic estimates near the Refinery indicate that the local streets carry between 15,500 and 28,500 vehicles per day (City of Paramount, 1994). Assuming a construction worker average vehicle ridership (AVR) of 1.0, the projected increase in traffic during the construction phase (about 30 construction workers and one delivery truck) of the proposed project modifications is well below a one percent increase in traffic on the local streets and at the local intersections. No change in level of service at any intersection is expected due to the small increase in traffic. Therefore, the impacts on the proposed project modifications on traffic during the construction phase is expected to be less than significant.

Construction will require contractor parking areas, equipment laydown and materials stockpiling areas. Parking for project construction will be in areas within the Refinery currently used for contractor parking and sufficient parking is expected to be available so no significant adverse impacts on parking are expected.

The operation of the proposed project modifications will not result in an increase in permanent workers. Truck traffic is not expected to increase and will decline slightly by approximately six truck trips per year. Based on the above analysis, the impacts of the

proposed project modifications on traffic during the operational phase would be considered less than significant.

**2.5.17 c)** As discussed in the April 2004 Final EIR, Appendix A, NOP/IS (page 2-43), the proposed project includes modifications to existing facilities. The project will not involve the delivery of materials via air so no effects to air traffic are expected.

**2.5.17 d) and e)** As discussed in the April 2004 Final EIR, Appendix A, NOP/IS (page 2-43 and 2-44), the proposed project modifications are not expected to increase traffic hazards due to a design feature (e.g., sharp curves, etc.) or create incompatible uses at or adjacent to the site. The proposed project modifications will result in a maximum increase in traffic of one truck trip per day during project operation. The truck will access the Refinery using existing streets and access points. No new streets or entrances/exits to the Refinery are required. Emergency access at the Refinery will not be adversely affected by the proposed project modifications and Paramount Petroleum will continue to maintain the existing emergency access gates to the Refinery.

**2.5.17 f)** As discussed in the April 2004 Final EIR, Appendix A, NOP/IS (page 2-44) parking for the construction workers will be provided within the confines of the existing site which can be accommodated by existing Refinery parking. No increase in permanent workers is expected. Therefore, the proposed project modifications will not result in significant impacts on parking.

**2.5.17 g)** As discussed in the April 2004 Final EIR, Appendix A, NOP/IS (page 2-44) the proposed project modifications will be constructed within the confines of an existing Refinery and is not expected to conflict with adopted policies, plans, or programs supporting alternative transportation modes (e.g., bus turnouts, bicycle racks).

### **2.5.17.3 Mitigation Measures**

The April 2004 Final EIR concluded that no significant adverse impacts to transportation and traffic are expected to occur as a result of the Paramount NOx Reduction Project. The proposed modifications to the project will not result in any incremental impacts to transportation and traffic nor will the project analyzed in the April 2004 Final EIR and the currently proposed project modification cause an overall significant adverse impact on transportation and traffic. Therefore, no mitigation is necessary or proposed.

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	<b>Potentially Significant Impact</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
<b>2.5.18 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 type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**2.5.18.1 Mandatory Findings of Significance**

**2.5.18 a)** The April 2004 Final EIR concluded that the Clean Fuels Project does not have the potential to significantly adversely affect the environment, reduce or eliminate any plant or animal species or destroy prehistoric records of the past. The Clean Fuels Project is located at a site that is part of an existing industrial facility, which has been previously disturbed, graded and developed, and this project 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 (page 2-25) and Section 5.0 – Cultural Resources (page 2-27). The proposed project modifications do not change this conclusion. The equipment will be installed within the existing Refinery that was evaluated in the April 2004 Final EIR. Thus, the proposed project modifications will not result in any incremental impacts relating to this topic and the overall impact from the Clean Fuels project will be less than significant.

**2.5.18 b)** The proposed project and other cumulative projects at the Paramount Refinery are not expected to result in significant adverse cumulative environmental impacts. The construction activities associated with the Clean Fuels Project modifications will overlap with construction activities for other on-site projects at the Paramount Refinery. As discussed in Section 2.5.3 and Table 7, cumulative construction emissions are expected to be less than significant.

With respect to hazards, the ammonia for the new SCR will be aqueous, and refinery-wide the SCRs will be converted from anhydrous ammonia to aqueous ammonia, resulting in a reduction in overall risk. However the throughput quantity of aqueous ammonia used at the Refinery will increase, but the toxic impact from an accidental release of ammonia is minimized, compared to an accidental release of anhydrous ammonia. The cumulative impact of the four onsite cumulative projects is not expected to generate additional hazard impacts. Two of the projects will result in improved vapor recovery, one involves a modification to a compressor which has no hazard impacts, and one involves the installation of a new vessel that will contain the same material as currently handled in the unit (Naphtha Splitter) so no new hazard impacts are expected.

The construction activities associated with the proposed project modifications, as well as the other four onsite cumulative projects, that generate noise will be carried out during daytime hours, or as permitted by the City of Paramount. Because of the nature of the construction activities, the types, number, operation time and loudness of construction equipment will vary throughout the construction period. 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 and noise impacts are expected to be the same or less than evaluated in the April 2004 Final EIR. Most of the construction activities associated with the proposed project modifications are located near the center of the Refinery. Using an estimated six dBA reduction for every doubling distance, the noise levels would drop off to about 62 dBA or less at about 400 feet from the sources for the proposed project modifications. The closest residential area would be about 400 feet from construction noise sources, therefore, construction noise levels associated with the cumulative onsite projects are expected to comply with the City's noise ordinance. Cumulative noise impacts associated with the construction activities are expected to be less than the noise ordinance and less than significant.

About 66 construction workers will be commuting to the Paramount Refinery, during peak construction activities associated with the proposed project modifications and the four cumulative onsite projects. The traffic analysis completed for the April 2004 Final EIR assumed that peak construction activities would require 60 workers and traffic impacts were determined to be less than significant. Construction workers are expected to arrive at the work site between 6:30 – 7:00 a.m., which would generally avoid peak hour traffic conditions and depart about 5:30 – 6:00 p.m. The construction activities are expected to avoid peak hour traffic during morning hours, between 7-9 a.m., but could impact the evening peak hour (between 4-6 p.m.). Construction activities are expected to be limited to about a six- to eight-month period. Therefore, the increase in traffic in the area is temporary and will cease following the completion of construction activities. The

baseline traffic estimates near the Refinery indicate that the local streets carry between 15,500 and 28,500 vehicles per day (City of Paramount, 1994). Assuming a construction worker AVR of 1.0, the projected increase in traffic during the construction phase associated with the onsite cumulative projects (about 66 construction workers and one delivery truck) is well below a one percent increase in traffic on the local streets and at the local intersections. No change in level of service at any intersection is expected due to the small increase in traffic, based on the traffic analysis in the April 2004 Final EIR. Therefore, the impact of the proposed project modifications on traffic during the construction phase is expected to be less than significant. No increase in traffic is expected during the operational phase of the Clean Fuels Project.

As a result, impacts from the proposed project modifications and the four cumulative onsite projects are not considered to be cumulatively considerable (CEQA Guidelines § 15064 (h)(1)). Therefore, the proposed project modifications are not expected to result in significant adverse cumulative impacts.

**2.5.18 c)** The proposed project modifications will result in a decrease in operational NO<sub>x</sub> emissions due to the installation of an SCR unit on existing heaters, providing a local and regional environmental benefit to air quality. Therefore, no significant adverse air quality impacts are expected, either individually or cumulatively. The ammonia for the new SCR will be aqueous, and refinery-wide the SCRs will be converted from anhydrous ammonia to aqueous ammonia, resulting in a reduction in overall risk. However the throughput quantity of aqueous ammonia used at the Refinery will increase, but the toxic impact from an accidental release of ammonia is minimized, compared to an accidental release of anhydrous ammonia. The proposed project modifications are not expected to generate significant adverse impacts to any environmental topic areas evaluated herein, including impacts to humans.

## **2.5.19 CONCLUSION**

In 2004, Paramount proposed the construction of the Clean Fuels Project to produce cleaner-burning gasoline and ULSD for California markets in accordance with the requirements of the U.S. EPA and CARB. The April 2004 Final EIR was prepared to analyze the impacts of the Paramount Clean Fuels Project on the environment. The analysis in the April 2004 Final EIR concluded that the Clean Fuels Project would result in potentially significant air quality impacts associated with VOC emissions and hazard impacts associated with the Naphtha Splitter during project operation. The project impacts on other environmental resources were determined to be less than significant. The Final EIR was certified on April 9, 2004.

The Paramount Refinery has commenced the construction of the Clean Fuels Project, as described in the certified April 2004 Final EIR, and most portions of the project have been completed. One of the last steps in the process is upgrading the No. 1 HDS Unit. Paramount is proposing to integrate NO<sub>x</sub> emission reduction strategies into the final stages of the Clean Fuels Project. In order to upgrade HDS No. 1, Paramount still needs to rebuild Heaters H-101/102, and is currently proposing to install more efficient heaters



with reduced firing rates. In addition to rebuilding those heaters, Paramount is proposing to install a new SCR Unit on Heaters H-101/102 and Heaters H-501/502. (Note: Installing an SCR on Heaters 101/102 and H-501/502 is in lieu of installing an SCR on Heater H-802 as described in the 2007 Negative Declaration for Paramount's NOx Reduction Project, SCH No. 2006121043.) A new overhead product separator vessel is proposed in the No. 1 HDS area of the refinery which will process a wide cut naphtha to facilitate sulfur and/or nitrogen removal from naphtha for optimum reformer operation. Finally, Paramount is also proposing to eliminate the use of anhydrous ammonia by modifying existing SCRs that use anhydrous ammonia to use aqueous ammonia, thereby reducing the risk associated with handling, storing, and using anhydrous ammonia. Based on the environmental analysis prepared for the currently proposed project modifications and, as discussed in Section 1.5, the SCAQMD has quantitatively and qualitatively demonstrated that the proposed project modifications will not generate any significant adverse environmental impacts and meets the qualifications for the preparation of a Subsequent Negative Declaration per the requirements of CEQA Guidelines §15162.

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## ACRONYMS

<b>ABBREVIATION</b>	<b>DESCRIPTION</b>
API	American Petroleum Institute
AFCU	Ammonia Flow Control Unit
AIG	Ammonia Injection Grid
ANSI	American National Standards Institute
AQMP	Air Quality Management Plan
ASME	American Society of Mechanical Engineers
BARCT	Best Available Retrofit Control Technology
CalARP	California Accidental Release Prevention Program
CEQA	California Environmental Quality Act
CIWMB	California Integrated Waste Management Board
CO	Carbon monoxide
CWMI	Chemical Waste Management Inc.
dBA	A-weighted noise level measurement in decibels
DWP	Department of Water and Power
ERPG	Emergency Response Planning Guideline
G	acceleration of gravity
GHG	Greenhouse gases
FGVRS	Flare gas vapor recovery system
HDS	Hydrodesulfurization
hp	Horsepower
IS	Initial Study
LACSD	Los Angeles County Sanitation Districts
LOS	Level of Service
MEIR	Maximum Exposed Individual Resident
MEIW	Maximum Exposed Individual Worker
mmBtu/hr	Million British Thermal Units per hour
NFPA	National Fire Protection Association
NIOSH	National Institute of Occupational Safety and Health
NOP	Notice of Preparation
NOx	nitrogen oxide
NPDES	National Pollutant Discharge Elimination System
OSHA	Occupational Safety and Health Administration
Paramount	Paramount Petroleum Corporation
PM10	particulate matter less than 10 microns in diameter
ppm	parts per million
PSM	Process Safety Management Program
RMP	Risk Management Program
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison Company
scfm	standard cubic feet per minute
SCR	Selective Catalytic Reduction
SOx	sulfur oxide

## CHAPTER 2 – ENVIRONMENTAL CHECKLIST

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TACs	toxic air contaminants
UPRR	Union Pacific railroad
U.S. EPA	United States Environmental Protection Agency
VOC	volatile organic compounds

## GLOSSARY

TERM	DEFINITION
Ambient Noise	The background sound of an environment in relation to which all additional sounds are heard
Anhydrous	Free from water.
Aqueous	Formed from water, having a water base.
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.
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.

## CHAPTER 2 – ENVIRONMENTAL CHECKLIST

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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.												
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.												
Naphtha naphthas	<p>A crude distillation unit cut in the range of C<sub>7</sub>-420°;</p> <p>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	A mixture of hydrocarbon gases that occurs with petroleum deposits, principally methane together with varying quantities of ethane, propane, butane, and other gases.
Octane	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.
Olefins double	Hydrocarbons that contain at least two carbons joined by bonds; olefins do not naturally occur in crude oils but are formed during the processing.
Paleontological	Prehistoric life.
Peak Hour	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.
Pentane	Colorless, flammable isomeric hydrocarbon, derived from petroleum and used as a solvent.
Reactor	Vessels in which desired reactions take place.
Refinery gas for fuel	Gas produced from refinery operations used primarily gas combustion in refinery heaters and boilers.
Reformate	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.
Reformulated Gasoline and	New gasoline required under the federal Clean Air Act 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.

## CHAPTER 2 – ENVIRONMENTAL CHECKLIST

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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 many change in intensity.
Selective Catalyst Reduction	An air pollution control technology that uses a catalyst to remove nitrogen oxides from the flue gas.
Stripper or Splitter	Refinery equipment used to separate two components in a feed stream; examples include sour water strippers and naphtha splitters.

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**APPENDIX A**

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**PROPOSED PROJECT PEAK EMISSION CALCULATIONS**

**Paramount Refinery  
Proposed Project  
Construction Emission Summary**

Emissions from Equipment	2008											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
CO (lb/day)	0.00	0.00	0.00	0.00	0.00	13.32	24.41	33.49	29.90	27.81	22.32	7.33
CO <sub>2</sub> (lb/day)	0.00	0.00	0.00	0.00	0.00	1955.02	3649.27	5545.28	4950.40	4082.37	3172.80	1113.60
NOx (lb/day)	0.00	0.00	0.00	0.00	0.00	24.84	41.33	63.77	57.49	46.91	35.79	14.03
VOC (lb/day)	0.00	0.00	0.00	0.00	0.00	4.15	7.64	10.54	9.48	8.88	7.42	2.33
SOx (lb/day)	0.00	0.00	0.00	0.00	0.00	0.07	0.11	0.16	0.12	0.10	0.08	0.03
PM10 (lb/day)	0.00	0.00	0.00	0.00	0.00	2.09	3.58	4.77	4.23	3.95	3.31	1.13

Emission from Trips	2008											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
CO (lb/day)	0.00	0.00	0.00	0.00	0.00	10.71	15.60	16.33	16.62	15.72	16.74	18.16
CO <sub>2</sub> (lb/day)	0.00	0.00	0.00	0.00	0.00	1159.93	1869.05	1919.63	1910.62	1672.90	1779.77	1901.60
NOx (lb/day)	0.00	0.00	0.00	0.00	0.00	3.26	8.93	7.72	5.82	3.36	3.46	2.33
VOC (lb/day)	0.00	0.00	0.00	0.00	0.00	1.17	1.88	1.91	1.87	1.67	1.77	1.87
SOx (lb/day)	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.02	0.02	0.02	0.02	0.02
PM10 (lb/day)	0.00	0.00	0.00	0.00	0.00	0.68	2.25	2.17	2.00	0.86	0.91	0.85
Exhaust PM (lb/day)	0.00	0.00	0.00	0.00	0.00	0.15	0.39	0.36	0.30	0.18	0.19	0.16
Fugitive PM (lb/day)	0.00	0.00	0.00	0.00	0.00	0.52	1.86	1.81	1.71	0.68	0.72	0.69
PM2.5 (lb/day)	0.00	0.00	0.00	0.00	0.00	0.24	0.71	0.66	0.59	0.30	0.31	0.28

Fugitive PM	2008											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
PM10 (lb/day) <sup>(1)</sup>							14.88	14.88				

Paint	2008											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
VOC (lb/day) <sup>(1)</sup>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.60	0.00

Total Emissions	Thresholds	2008												GHG Emissions (metric tons/yr)
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
CO (lb/day)	550	0.00	0.00	0.00	0.00	0.00	24.04	40.01	49.82	46.52	43.53	39.06	25.49	--
CO <sub>2</sub> (lb/day)	--	0.00	0.00	0.00	0.00	0.00	3114.95	5518.32	7464.91	6861.02	5755.27	4952.57	3015.20	332.8
NOx (lb/day)	100	0.00	0.00	0.00	0.00	0.00	28.10	50.26	71.49	63.32	50.26	39.25	16.36	--
VOC (lb/day)	75	0.00	0.00	0.00	0.00	0.00	5.32	9.52	12.45	11.35	24.15	22.79	4.20	--
SOx (lb/day)	150	0.00	0.00	0.00	0.00	0.00	0.08	0.13	0.17	0.14	0.12	0.10	0.05	--
PM10 (lb/day) <sup>(1)</sup>	150	0.00	0.00	0.00	0.00	0.00	2.77	20.71	21.82	6.23	4.81	4.22	1.98	--
PM2.5 (lb/day) <sup>(2)</sup>	55	0.00	0.00	0.00	0.00	0.00	2.17	7.09	8.15	4.48	3.93	3.36	1.31	--

(1) Mitigated PM.  
(2) [https://www.aqmd.gov/ceqa/handbook/PM2\\_5/pm2\\_5rello.xls](https://www.aqmd.gov/ceqa/handbook/PM2_5/pm2_5rello.xls) : Profile ID #391.

**Paramount  
Proposed Project  
Construction Equipment Emission Rates**

Equipment Type	HP	2008 Emission Factors lb/hr <sup>(1)</sup>					
		VOC	CO	NOx	SOx	PM10	CO <sub>2</sub>
Backhoe	120	0.1083	0.3703	0.6510	0.0006	0.0595	51.7280
Compressor	120	0.1112	0.3395	0.6505	0.0006	0.0578	47.0000
Concrete Pumper	Composite	0.1040	0.3194	0.5999	0.0006	0.0424	49.6067
Concrete Saw	Composite	0.1460	0.4411	0.7263	0.0007	0.0610	58.4636
Crane (RT)	175	0.1345	0.4936	1.0417	0.0009	0.0589	80.3000
Crane (RT)	250	0.1392	0.3881	1.3867	0.0013	0.0535	112.2000
Excavator	25	0.0201	0.0677	0.1291	0.0002	0.0077	16.4401
Forklift	120	0.0724	0.2304	0.4055	0.0004	0.0402	31.2000
Generator	15	0.0189	0.0749	0.1237	0.0002	0.0077	10.2000
Generator	Composite	0.1075	0.3461	0.6980	0.0007	0.0430	61.0000
Manlift	50	0.0833	0.2011	0.2037	0.0003	0.0203	19.6000
Manlift	120	0.0781	0.2542	0.4910	0.0004	0.0386	38.1000
Light Plant	Composite	0.0244	0.0965	0.1739	0.0002	0.0104	16.6983
Plate Compactor	15	0.0052	0.0263	0.0328	0.0010	0.0021	4.3000
Welder	50	0.1344	0.3128	0.2792	0.0003	0.0308	26.0000
Welder	120	0.0891	0.2778	0.5338	0.0005	0.0456	39.5000

(1) SCAQMD, 2006 : [http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07\\_25.xls](http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls)

**Paramount Petroleum  
Proposed Project  
Construction Equipment Emissions**

Equipment	Hours (hr/day)	2008											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Backhoe	8						1	1	1				
Compressor	8						2	2	1	1	2	2	1
Concrete Pumper	4								1	1			
Concrete Saw	9												
Crane (RT) 175 hp	8							1	1	1	1		
Crane (RT) 250 hp	8								1	1			
Excavator	8							2	2				
Forklift	8						1	1	2	2	2	2	1
Generator 15 hp	8												
Generator 250 hp	8						1	1	2	2	2	2	1
Manlift 50 hp	8							1	1	1	2	2	
Manlift 120 hp	8								1	1			
Light Plant	8								1	2	2		
Plate Compactor	6						2	2	2				
Welder 50 hp	8												
Welder 120 hp	8							2	2	2	2	2	

CO	Emission Rate (lb/hr)	2008											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Backhoe	0.370	0.00	0.00	0.00	0.00	0.00	2.96	2.96	2.96	0.00	0.00	0.00	0.00
Compressor	0.340	0.00	0.00	0.00	0.00	0.00	5.43	5.43	2.72	2.72	5.43	5.43	2.72
Concrete Pumper	0.319	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.28	1.28	0.00	0.00	0.00
Concrete Saw	0.441	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Crane (RT)	0.494	0.00	0.00	0.00	0.00	0.00	0.00	3.95	3.95	3.95	3.95	0.00	0.00
Crane (RT)	0.388	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.10	3.10	0.00	0.00	0.00
Excavator	0.068	0.00	0.00	0.00	0.00	0.00	0.00	1.08	1.08	0.00	0.00	0.00	0.00
Forklift	0.230	0.00	0.00	0.00	0.00	0.00	1.84	1.84	3.69	3.69	3.69	3.69	1.84
Generator	0.075	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Generator	0.346	0.00	0.00	0.00	0.00	0.00	2.77	2.77	5.54	5.54	5.54	5.54	2.77
Manlift	0.201	0.00	0.00	0.00	0.00	0.00	0.00	1.61	1.61	1.61	3.22	3.22	0.00
Manlift	0.254	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.03	2.03	0.00	0.00	0.00
Light Plant	0.097	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.77	1.54	1.54	0.00	0.00
Plate Compactor	0.026	0.00	0.00	0.00	0.00	0.00	0.32	0.32	0.32	0.00	0.00	0.00	0.00
Welder	0.313	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Welder	0.278	0.00	0.00	0.00	0.00	0.00	0.00	4.44	4.44	4.44	4.44	4.44	0.00
Total		0.00	0.00	0.00	0.00	0.00	13.32	24.41	33.49	29.90	27.81	22.32	7.33

NOx	Emission Rate (lb/hr)	2008											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Backhoe	0.651	0.00	0.00	0.00	0.00	0.00	5.21	5.21	5.21	0.00	0.00	0.00	0.00
Compressor	0.651	0.00	0.00	0.00	0.00	0.00	10.41	10.41	5.20	5.20	10.41	10.41	5.20
Concrete Pumper	0.600	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.40	2.40	0.00	0.00	0.00
Concrete Saw	0.726	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Crane (RT)	1.042	0.00	0.00	0.00	0.00	0.00	0.00	8.33	8.33	8.33	8.33	0.00	0.00
Crane (RT)	1.387	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.09	11.09	0.00	0.00	0.00
Excavator	0.129	0.00	0.00	0.00	0.00	0.00	0.00	2.07	2.07	0.00	0.00	0.00	0.00
Forklift	0.406	0.00	0.00	0.00	0.00	0.00	3.24	3.24	6.49	6.49	6.49	6.49	3.24
Generator	0.124	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Generator	0.698	0.00	0.00	0.00	0.00	0.00	5.58	5.58	11.17	11.17	11.17	11.17	5.58
Manlift	0.204	0.00	0.00	0.00	0.00	0.00	0.00	1.63	1.63	3.26	3.26	3.26	0.00
Manlift	0.491	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.93	3.93	0.00	0.00	0.00
Light Plant	0.174	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.39	2.78	2.78	0.00	0.00
Plate Compactor	0.033	0.00	0.00	0.00	0.00	0.00	0.39	0.39	0.39	0.00	0.00	0.00	0.00
Welder	0.033	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Welder	0.279	0.00	0.00	0.00	0.00	0.00	0.00	4.47	4.47	4.47	4.47	4.47	0.00
Total		0.00	0.00	0.00	0.00	0.00	24.84	41.33	63.77	57.49	46.91	35.79	14.03

VOC	Emission Rate (lb/hr)	2008											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Backhoe	0.108	0.00	0.00	0.00	0.00	0.00	0.87	0.87	0.87	0.00	0.00	0.00	0.00
Compressor	0.111	0.00	0.00	0.00	0.00	0.00	1.78	1.78	0.89	0.89	1.78	1.78	0.89
Concrete Pumper	0.104	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.42	0.42	0.00	0.00	0.00
Concrete Saw	0.146	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Crane (RT)	0.135	0.00	0.00	0.00	0.00	0.00	0.00	1.08	1.08	1.08	1.08	0.00	0.00
Crane (RT)	0.139	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.11	1.11	0.00	0.00	0.00
Excavator	0.020	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.32	0.00	0.00	0.00	0.00
Forklift	0.072	0.00	0.00	0.00	0.00	0.00	0.58	0.58	1.16	1.16	1.16	1.16	0.58
Generator	0.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Generator	0.108	0.00	0.00	0.00	0.00	0.00	0.86	0.86	1.72	1.72	1.72	1.72	0.86
Manlift	0.083	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.67	0.67	1.33	1.33	0.00
Manlift	0.078	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.62	0.62	0.00	0.00	0.00
Light Plant	0.024	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19	0.39	0.39	0.00	0.00
Plate Compactor	0.005	0.00	0.00	0.00	0.00	0.00	0.06	0.06	0.06	0.00	0.00	0.00	0.00
Welder	0.134	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Welder	0.089	0.00	0.00	0.00	0.00	0.00	0.00	1.43	1.43	1.43	1.43	1.43	0.00
Total		0.00	0.00	0.00	0.00	0.00	4.15	7.64	10.54	9.48	8.88	7.42	2.33

**Paramount Refinery  
Proposed Project  
Construction Equipment Emissions (Cont.)**

	Emission Rate (lb/hr)	2008												
		2008	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
SOx														
Backhoe	0.001	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00
Compressor	0.001	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.01	0.01	0.02	0.02	0.01
Concrete Pumper	0.001	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Saw	0.001	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Crane (RT)	0.002	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.00	0.00
Crane (RT)	0.003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.00	0.00	0.00
Excavator	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00
Forklift	0.001	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Generator	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Generator	0.001	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.02	0.02	0.02	0.02	0.01
Manlift	0.001	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00
Manlift	0.001	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00
Light Plant	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00
Plate Compactor	0.002	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.02	0.00	0.00	0.00	0.00
Welder	0.001	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Welder	0.001	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.02	0.02	0.02	0.00
Total		0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.11	0.16	0.12	0.10	0.08	0.03

	Emission Rate (lb/hr)	2008												
		2008	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
PM10														
Backhoe	0.059	0.00	0.00	0.00	0.00	0.00	0.00	0.48	0.48	0.48	0.00	0.00	0.00	0.00
Compressor	0.058	0.00	0.00	0.00	0.00	0.00	0.00	0.92	0.92	0.46	0.46	0.92	0.92	0.46
Concrete Pumper	0.042	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.17	0.00	0.00	0.00
Concrete Saw	0.061	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Crane (RT)	0.059	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.47	0.47	0.47	0.47	0.00	0.00
Crane (RT)	0.054	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.43	0.43	0.00	0.00	0.00
Excavator	0.008	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.12	0.00	0.00	0.00	0.00
Forklift	0.040	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.32	0.64	0.64	0.64	0.64	0.32
Generator	0.008	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Generator	0.043	0.00	0.00	0.00	0.00	0.00	0.00	0.34	0.34	0.69	0.69	0.69	0.69	0.34
Manlift	0.020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.16	0.16	0.32	0.32	0.00
Manlift	0.039	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.31	0.31	0.00	0.00	0.00
Light Plant	0.010	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.17	0.17	0.00	0.00
Plate Compactor	0.002	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03	0.03	0.00	0.00	0.00	0.00
Welder	0.031	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Welder	0.046	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.73	0.73	0.73	0.73	0.73	0.00
Total		0.00	0.00	0.00	0.00	0.00	0.00	2.09	3.58	4.77	4.23	3.95	3.31	1.13

	Emission Rate (lb/hr)	2008												
		2008	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
CO <sub>2</sub>														
Backhoe	51.728	0.00	0.00	0.00	0.00	0.00	0.00	413.82	413.82	413.82	0.00	0.00	0.00	0.00
Compressor	47.000	0.00	0.00	0.00	0.00	0.00	0.00	752.00	752.00	376.00	376.00	752.00	752.00	376.00
Concrete Pumper	49.607	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	198.43	198.43	0.00	0.00	0.00
Concrete Saw	58.464	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Crane (RT)	80.300	0.00	0.00	0.00	0.00	0.00	0.00	0.00	642.40	642.40	642.40	642.40	0.00	0.00
Crane (RT)	112.200	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	897.60	897.60	0.00	0.00	0.00
Excavator	16.440	0.00	0.00	0.00	0.00	0.00	0.00	0.00	263.04	263.04	0.00	0.00	0.00	0.00
Forklift	31.200	0.00	0.00	0.00	0.00	0.00	0.00	249.60	249.60	499.20	499.20	499.20	499.20	249.60
Generator	10.200	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Generator	61.000	0.00	0.00	0.00	0.00	0.00	0.00	488.00	488.00	976.00	976.00	976.00	976.00	488.00
Manlift	19.600	0.00	0.00	0.00	0.00	0.00	0.00	0.00	156.80	156.80	156.80	313.60	313.60	0.00
Manlift	38.100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	304.80	304.80	0.00	0.00	0.00
Light Plant	16.698	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	133.59	267.17	267.17	0.00	0.00
Plate Compactor	4.300	0.00	0.00	0.00	0.00	0.00	0.00	51.60	51.60	51.60	0.00	0.00	0.00	0.00
Welder	26.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Welder	39.500	0.00	0.00	0.00	0.00	0.00	0.00	0.00	632.00	632.00	632.00	632.00	632.00	0.00
Total		0.00	0.00	0.00	0.00	0.00	0.00	1955.02	3649.27	5545.28	4950.40	4082.37	3172.80	1113.60

**Paramount Refinery  
Proposed Project  
Construction Vehicle Trip Emissions**

Vehicle	Miles per Day	2008											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Commuters	32.4						24	27	33	39	39	42	50
Pickup Trucks	10						3	4	4	6	6	6	6
Van	10												
<b>Total Light Vehicle Miles</b>		0	0	0	0	0	807.6	914.8	1109.2	1323.6	1323.6	1420.8	1680
Flatbed Truck	10							2	2	2	2	2	1
Stakebed Truck	10												
Bin Truck	10												
Concrete Truck	50							1	1				
Delivery Truck	50							1	1	1	1	1	
Dump Truck	50						2	2	1				
Fuel Truck	10							1			1	1	1
Water Truck	10							1	1	1			
<b>Total Medium/Heavy Duty Truck Miles</b>		0	0	0	0	0	100	240	180	90	80	80	20
Semi Tractor	50							1	1	1			
<b>Total Heavy-Heavy Duty Truck Miles</b>		0	0	0	0	0	0	50	50	50	0	0	0

CO	Emission Rate (lb/mi) <sup>(1)</sup>	2008											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Light Duty	0.0105484	0.00	0.00	0.00	0.00	0.00	8.52	9.85	11.70	13.96	13.96	14.99	17.72
Medium Duty	0.0219492	0.00	0.00	0.00	0.00	0.00	2.19	5.27	3.95	1.98	1.76	1.76	0.44
Heavy Duty	0.0136137	0.00	0.00	0.00	0.00	0.00	0.00	0.68	0.68	0.68	0.00	0.00	0.00
<b>Total</b>		0.00	0.00	0.00	0.00	0.00	10.71	15.60	16.33	16.62	15.72	16.74	18.16

NOx	Emission Rate (lb/mi) <sup>(1)</sup>	2008											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Light Duty	0.0011029	0.00	0.00	0.00	0.00	0.00	0.89	1.01	1.22	1.46	1.46	1.57	1.85
Medium Duty	0.0237126	0.00	0.00	0.00	0.00	0.00	2.37	5.69	4.27	2.13	1.90	1.90	0.47
Heavy Duty	0.0445802	0.00	0.00	0.00	0.00	0.00	0.00	2.23	2.23	2.23	0.00	0.00	0.00
<b>Total</b>		0.00	0.00	0.00	0.00	0.00	3.26	8.93	7.72	5.82	3.36	3.46	2.33

CO <sub>2</sub>	Emission Rate (lb/mi) <sup>(1)</sup>	2008											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Light Duty	1.0995323	0.00	0.00	0.00	0.00	0.00	887.98	1005.85	1219.60	1455.34	1455.34	1562.22	1847.21
Medium Duty	2.7194340	0.00	0.00	0.00	0.00	0.00	271.94	652.66	489.50	244.75	217.55	217.55	54.39
Heavy Duty	4.2106715	0.00	0.00	0.00	0.00	0.00	0.00	210.53	210.53	210.53	0.00	0.00	0.00
<b>Total</b>		0.00	0.00	0.00	0.00	0.00	1159.93	1869.05	1919.63	1910.62	1672.90	1779.77	1901.60

VOC	Emission Rate (lb/mi) <sup>(1)</sup>	2008											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Light Duty	0.0010792	0.00	0.00	0.00	0.00	0.00	0.87	0.99	1.20	1.43	1.43	1.53	1.81
Medium Duty	0.0029927	0.00	0.00	0.00	0.00	0.00	0.30	0.72	0.54	0.27	0.24	0.24	0.06
Heavy Duty	0.0035158	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.18	0.18	0.00	0.00	0.00
<b>Total</b>		0.00	0.00	0.00	0.00	0.00	1.17	1.88	1.91	1.87	1.67	1.77	1.87

SOx	Emission Rate (lb/mi) <sup>(1)</sup>	2008											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Light Duty	0.0000108	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.02	0.02
Medium Duty	0.0000257	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
Heavy Duty	0.0000414	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total</b>		0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.02	0.02	0.02	0.02	0.02

PM10	Emission Rate (lb/mi) <sup>(1)</sup>	2008											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Light Duty Exhaust	0.0000851	0.00	0.00	0.00	0.00	0.00	0.07	0.08	0.09	0.11	0.11	0.12	0.14
Medium Duty Exhaust	0.0008561	0.00	0.00	0.00	0.00	0.00	0.09	0.21	0.15	0.08	0.07	0.07	0.02
Heavy Duty Exhaust	0.0021564	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.11	0.11	0.00	0.00	0.00
<b>Total Exhaust PM</b>		0.00	0.00	0.00	0.00	0.00	0.15	0.39	0.36	0.30	0.18	0.19	0.16
Light Duty Fugitive <sup>(2)</sup>	0.00038589	0.00	0.00	0.00	0.00	0.00	0.31	0.35	0.43	0.51	0.51	0.55	0.65
Medium Duty Fugitive <sup>(2)</sup>	0.00210368	0.00	0.00	0.00	0.00	0.00	0.21	0.50	0.38	0.19	0.17	0.17	0.04
Heavy Duty Fugitive <sup>(2)</sup>	0.02011945	0.00	0.00	0.00	0.00	0.00	0.00	1.01	1.01	1.01	0.00	0.00	0.00
<b>Total Fugitive PM</b>		0.00	0.00	0.00	0.00	0.00	0.52	1.86	1.81	1.71	0.68	0.72	0.69
<b>Total</b>		0.00	0.00	0.00	0.00	0.00	0.68	2.25	2.17	2.00	0.86	0.91	0.85

(1) Based on 2007 SCAQMD on-road emission rates. (<http://www.aqmd.gov/ceqa/handbook/onroad/onroad.html>)

(2) Emission Calculations for travel on paved roads from EPA AP-42 Section 13.2.1, December 2003

$$E = k(eL/2)^{0.85} \times (W/3)^{1.5} - C$$

Where: k = 0.016 lb/VMT for PM10, sL = road silt loading (gms/m<sup>2</sup>) from CARB Methodology 7.9 for paved roads (0.240 for local roads and 0.037 for major/collector roads), W = weight of vehicles (2.4 tons for light; 5 for medium trucks, and 20 for heavy trucks), and C = emission factor for 1980's vehicle fleet exhaust, brake wear and tire wear (0.00047 lbs/VMT).



**Paramount Refinery  
Proposed Project  
Fugitive PM Construction Emissions**

Construction Activities <sup>(1)</sup>	Average Pieces of Equipment Operating	Peak Pieces of Equipment Operating	Hours of Operation	PM10 Emission Factor (lb/hour)	Water Control Factor <sup>(6)</sup>	Controlled Emissions		Uncontrolled Emissions		SCAQMD Emission Factor Source
						Average PM10 Emissions (lbs/day)	Peak PM10 Emissions (lbs/day)	Average PM10 Emissions (lbs/day)	Peak PM10 Emissions (lbs/day)	
Grading Operations	0	1	4	5.837	0.39	0.00	9.11	0	23,349,1543	Table A9-9-F
Construction Activities <sup>(1)</sup>										

TRENCHING OPERATIONS (Backhoe)	Average Tons of Materials Handled Per Day	Peak Tons of Materials Handled Per Day	PM10 Emission Factor (lb/ton)	Water Control Factor <sup>(5)</sup>	Controlled Emissions		Uncontrolled Emissions		SCAQMD Emission Factor Source
					Average PM10 Emissions Pounds/day	Peak PM10 Emissions Pounds/day	Average PM10 Emissions Pounds/day	Peak PM10 Emissions Pounds/day	
TEMPORARY STOCKPILES	0	250	0.0035	0.39	0	0.34125	0	0.875	Table A9-9-G
Construction Activities <sup>(2)</sup>									

Assumptions: 1 cubic yard trench spoils = 1 ton

WIND EROSION Disturbed Area and Temporary Stockpiles	Days of Construction	Average Acreage Disturbed Per Day	Peak Acreage Disturbed Per Day	PM10 Emission Factor (lb/day/acre)	Controlled Emissions		Uncontrolled Emissions		SCAQMD Emission Factor Source
					Average PM10 Emissions Pounds/day	Peak PM10 Emissions Pounds/day	Average PM10 Emissions Tons/Year	Peak PM10 Emissions Tons/Year	
Construction Activities <sup>(3)</sup>	0	1	2.394	0.000	2.394	0.000	0.000	0.000	Table A9-9-E

TRUCK FILLING/DUMPING	Estimated Materials Handled Per Day (tons)	Peak Tons of Materials Handled Per Day	PM10 Emission Factor (lb/ton)	Water Control Factor <sup>(6)</sup>	Controlled Emissions		Uncontrolled Emissions		SCAQMD Emission Factor Source
					Average PM10 Emissions Pounds/day	Peak PM10 Emissions Pounds/day	Average PM10 Emissions Pounds/day	Peak PM10 Emissions Pounds/day	
Truck Filling <sup>(4)</sup>	0	250	0.02205	0.39	0	2.149875	0	5.5125	Table A9-9
Truck Dumping	0	250	0.009075	0.39	0	0.8848125	0	2.26875	Table A9-9

TOTAL PM10 Pounds/day	Average	Peak
(Controlled Emissions)	0.0000	14,87658
(Uncontrolled Emissions)	0.000	34,400

- Emissions (lbs/hr) =  $10.75 \times (G^{1.5}) / (H^{1.4}) \times J$   
where G = silt content (7.5%), H = moisture content (2.0%) and J = hrs of operation (EPA AP-42 Table 11.9-1 for bulldozing overburden).
- Emissions (lbs/ton) =  $0.00112 \times [(G/5)^{1.5} / (H/2)^{1.4}] \times I \times J$   
where G=mean wind speed (12 mph), H=moisture content of surface material (2%), I=lbs of dirt handled per day, and J=2,000 lbs/ton
- Emissions (lbs/day/acre) =  $1.7 \times [(G/1.5)^{1.5} / (365-H/235)] \times I/15 \times J$   
where G = silt content (7.5%); H = days with >0.01 inch of rain (34); I = percentage of time wind speed exceeds 12 mph (6%) and J= fraction of TSP (0.5). Wind speed data from 1981 SCAQMD Lynwood meteorological data.
- Used SCAQMD Table 9-9 Default emission factors.
- Controlled Emissions assume that watering 3 times per day controls emissions by 61 percent (Uncontrolled Emissions x 0.39)

**Paramount Refinery  
Proposed Project  
Paint Primer Architectural Coating Emissions**

**Oct-08**

Activity	Amount	Notes
Volume Applied (gallons/day)	4	
VOC Content (lb/gallon)	3.4	SCAQMD Rule 1113 Limit
VOC Emissions (lbs/day)	13.6	

**Nov-08**

Activity	Amount	Notes
Volume Applied (gallons/day)	4	
VOC Content (lb/gallon)	3.4	SCAQMD Rule 1113 Limit
VOC Emissions (lbs/day)	13.6	

**Paramount Proposed Project**

**On-Road Operational Emissions**

On Road Mobile Emission Factors from California ARB EMFAC2007 Scenario Year 2008 (Model Years 1965 to 2008)

Vehicle Type	CO Emissions Factor (lb/mile)	VOC Emissions Factor (lb/mile)	NOx Emissions Factor (lb/mile)	SOx Emissions Factor (lb/mile)	CO <sub>2</sub> Emissions Factor (lb/mile)	PM10 Emissions Factor (lb/mile)	PM2.5 Emissions Factor (lb/mile)
Cars and Light Trucks <sup>(1)</sup>	0.01054844	0.00107919	0.00110288	0.00001075	1.036635232	0.00008505	0.00005293
Delivery Trucks <sup>(1)</sup>	0.02194915	0.0029927	0.02371258	0.00002565	2.805502885	0.00085607	0.00073933
Heavy-Heavy Duty Trucks <sup>(2)</sup>	0.01361368	0.00351579	0.04458017	0.00004136	4.21067145	0.00215635	0.00185503

Source	Parameters		Peak Day Emissions, lbs/day						
	Number of Vehicles	Total Number of Trips	CO Emissions	VOC Emissions	NOx Emissions	SOx Emissions	CO <sub>2</sub> Emissions	PM10 Emissions	PM2.5 Emissions
Construction Workers	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Commuting	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
On-site Cars	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Light Duty Trucks	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily Delivery Trucks	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heavy-Heavy Duty Trucks	1	2	1.36	0.35	4.46	0.00	421.07	0.22	0.19

PM10 Emissions Factor for Fugitive Road Dust (lb/mile)	PM2.5 Emissions from Fugitive Road Dust (lbs/day) <sup>(4)</sup>
0.020119449	0.93

Source	Parameters	CO	VOC	NOx	SOx	CO <sub>2</sub>	PM10	PM2.5
Total Emissions for Construction Workers	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Emissions for Delivery Trucks	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Emissions for Heavy-Heavy Duty Trucks	1	1.36	0.35	4.46	0.00	421.07	1.22	1.11
Total Emissions (lb/day)		1.36	0.35	4.46	0.00	421.07	1.22	1.11

(1) Source: www.aqmd.gov/ceqa/handbook/onroad/onroadEF07\_26.xls  
 (2) Source www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHD07\_26.xls

## Baseline H-101 and H-102 Emission Calculations

### H101 and H102

Duty	45 MMBTU/HR	
HHV	988 BTU/SCF	Used H-501/502 data
F	7550 dscf/MMBTU	Used H-501/502 data
Heater Flowrate	45547 SCF/HR	
Stack Flow	396,691 DSCFH	
	6,612 DSCFM	

Contaminant		Unit	
NOx	38.475	PPM	Permit Limit
SOx	800	PPM	Rule 431.1
CO	400	PPM	Permit Limit
PM	0.1	Grains/dscf	Permit Limit
ROG	7	lbs/MMSCF	(emission default factor)

H-101/102			
	Emm. Lb/hr	Emm. Lb/day	Emm. Lb/yr
<b>NOx</b>	2.53	60.83	22,203
<b>SOx</b>	37.88	909.08	331,813
<b>CO</b>	11.53	276.68	100,986
<b>PM10</b>	5.67	136.01	49,643
<b>ROG</b>	0.32	7.65	2,793

### Emission Rates, lb/MMBTU

$$\text{lb /MMBTU} = \frac{\text{ppm} * \text{MW} * \text{F} * 20.9}{\text{SV} * 10^6 (20.9 - \% \text{O}_2)}$$

SV =	385.4
NOx MW =	64
SOx MW =	46
CO MW =	28
ROG MW =	16

### H-101/102 Permitting Calculations

**H101/102**  
 Duty 35 MMBTU/HR  
 HHV 988 BTU/SCF  
 F 7550 dscf/MMBTU  
 Heater Flowrate 35425 SCF/HR  
 Stack Flow 308,538 DSCFH  
 5,142 DSCFM

Contaminant	Pre SCR	Post SCR	Unit	Permit Limit
NOx	38.475	5	PPM	Permit Limit
SOx	40	40	PPM	Permit Limit
CO	400	400	PPM	Permit Limit
PM	0.1	0.1	Grains/dscf	Permit Limit
ROG	7	7	lbs/MMSCF	(emission default factor)

#### Rebuild Heaters H-101/102 Emissions (Pre SCR)

Contaminant	H-101/102		Emm. Lb/yr
	Emm. Lb/hr	Emm. Lb/day	
NOx	1.97	47.31	17,289
SOx	1.47	35.35	12,904
CO	8.97	215.19	78,545
PM10	4.41	105.78	38,611
ROG	0.25	5.95	2,172

#### Post SCR Emissions

Contaminant	H-101/102		Emm. Lb/yr
	Emm. Lb/hr	Emm. Lb/day	
NOx	0.26	6.15	2,244
SOx	1.47	35.35	12,904
CO	8.97	215.19	78,545
PM10	4.41	105.78	38,611
ROG	0.25	5.95	2,172

Contaminant	Pre-Permit		Emm. Lb/yr	Post-Permit		Emm. Lb/yr	Delta		% Reduction
	Emm. Lb/hr	Emm. Lb/day		Emm. Lb/hr	Emm. Lb/day		Emm. Lb/hr	Emm. Lb/day	
NOx	2.53	60.83	22,203	0.26	6.15	2,244	(2.28)	(54.68)	89.89%
SOx	37.88	909.08	331,813	1.47	35.35	12,904	(36.41)	(873.72)	96.11%
CO	11.53	276.68	100,986	8.97	215.19	78,545	(2.56)	(61.48)	22.22%
PM10	5.67	136.01	49,643	4.41	105.78	38,611	(1.26)	(30.22)	22.22%
PM2.5	5.55	133.15	48,601	4.32	103.56	37,800	(1.23)	(29.59)	22.22%
ROG	0.32	7.65	2,793	0.25	5.95	2,172	(0.07)	(1.70)	22.22%

**Emission Rates, lb/MMBTU**  
 $\text{lb/MMBTU} = \frac{\text{ppm} \cdot \text{MW} \cdot \text{F} \cdot 20.9}{\text{SV} \cdot 10^6 \cdot (20.9 - \% \text{O}_2)}$

SV = 385.4  
 NOx MW = 64  
 SOx MW = 46  
 CO MW = 28  
 ROG MW = 16



**Paramount Proposed Project  
Localized Significance Threshold Analysis**

	Emissions (lbs/day)			
	CO	NOx	PM10	PM2.5
Total Construction Emissions	33.5	63.8	19.6	7.5
LST Allowable Emissions <sup>(1)</sup>	1496	190	39	10
Significant	No	No	No	No

(1) Source: Localized Significance Threshold Methodology, SCAQMD, 2003 for source receptor area No. 5, southeast Los Angeles County.  
2 acre project with receptor at 100m using mass rate LST look-up table.

**Paramount Proposed Project  
Cumulative Health Risk Assessment**

TAC	CP (mg/kg-d) <sup>-1</sup>	REL (mg/m <sup>3</sup> )		Q <sub>yr</sub> (tons/yr)	Q <sub>hr</sub> (lbs/hr)	MICR <sub>w</sub>	MICR <sub>r</sub>	HIA	HIC
		Acute	Chronic						
<b>Ammonia Tank Fugitives<sup>(1)</sup></b>									
Ammonia	--	3200	200	7.20E+00	0.164			1.58E-02	1.78E-01
<b>Other Project - Vapor Recovery System<sup>(1)</sup></b>									
Benzene	0.1	1300	60	7.57E-03	1.73E-03	2.12E-07	1.09E-06	4.11E-04	6.25E-04
Ethyl Benzene	--	--	2000	4.36E-03	9.95E-04				1.08E-05
Hexane	--	--	7000	2.64E-02	6.03E-03				1.87E-05
Toluene	--	37000	300	7.79E-03	1.78E-03			1.49E-05	1.29E-04
Xylenes	--	22000	700	7.08E-03	1.62E-03	--	--	2.27E-05	5.01E-05
<b>HDS #1 Surge Drum D-125<sup>(2)</sup></b>									
<b>Other Project - Naphtha Splitter Surge Drum D-1604<sup>(2)</sup></b>									
<b>Other Project Total</b>						3.81E-07	1.68E-06	2.05E-03	1.44E-03
<b>Cumulative Total</b>						<b>3.81E-07</b>	<b>1.68E-06</b>	<b>1.79E-02</b>	<b>1.80E-01</b>

(1) Health risk is calculated using SCAQMD Risk Assessment Procedures for Rules 1401 and 212 using a Tier 2 assessment.

The cancer risk for a resident (MICR<sub>r</sub>) and worker (MICR<sub>w</sub>) are based on the equation:

$$\text{MICR} = \text{CP} \times \text{Q}_{\text{yr}} \times \text{X}/\text{Q} \times \text{AF}_{\text{ann}} \times \text{MET} \times \text{DBR} \times \text{DBR} \times \text{EVF} \times 10^{-6} \times \text{MP}$$

The acute hazard index (HIA) is based on the equation:

$$\text{HIA} = \text{Q}_{\text{hr}} \times \text{X}/\text{Q}_{\text{hr}} / \text{REL}_{\text{acute}}$$

The chronic hazard index (HIC) is based on the equation:

$$\text{HIC} = \text{Q}_{\text{yr}} \times \text{X}/\text{Q} \times \text{MET} \times \text{MP} / \text{REL}_{\text{chronic}}$$

Values:

$$\begin{aligned} \text{X}/\text{Q} \text{ (chronic \& carcinogenic)} (\mu\text{g}/\text{m}^3)/(\text{tons}/\text{yr}) &= 7.18 \text{ for receptor at 100 meters} \\ \text{X}/\text{Q}_{\text{hr}} \text{ (acute)} (\mu\text{g}/\text{m}^3)/(\text{lbs}/\text{hr}) &= 309 \text{ for receptor at 100 meters} \end{aligned}$$

$$\text{AF}_{\text{ann}} = 1.0$$

$$\text{MET} = 0.69$$

$$\text{DBR}_{\text{w}} = 149 \text{ l/kg-d}$$

$$\text{DBR}_{\text{r}} = 302 \text{ l/kg-d}$$

$$\text{EVR}_{\text{w}} = 0.38$$

$$\text{EVF}_{\text{r}} = 0.96$$

$$\text{MP} = 1$$

(2) Health risk is calculated using SCAQMD Risk Assessment Procedures for Rules 1401 and 212 using a Tier 4 assessment.

Tier 4 analysis on file at the SCAQMD. HDS #1 Surge Drum included in the Clean Fuels Project EIR and HRA.



**APPENDIX B**

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**PEAK EMISSION CALCULATIONS FOR  
CUMULATIVE PROJECTS**

# Paramount Refinery Cumulative Projects Construction Emission Summary

Emissions from Equipment	2008											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
CO (lb/day)	0.00	0.00	0.00	0.00	0.00	0.00	3.95	9.84	13.36	10.44	12.24	2.50
CO <sub>2</sub> (lb/day)	0.00	0.00	0.00	0.00	0.00	0.00	642.76	1466.87	1859.56	1449.05	1742.98	207.66
NOx (lb/day)	0.00	0.00	0.00	0.00	0.00	0.00	8.33	19.01	21.08	15.61	20.17	0.26
VOC (lb/day)	0.00	0.00	0.00	0.00	0.00	0.00	1.08	2.87	4.20	3.27	3.81	1.07
SOx (lb/day)	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.04	0.04	0.04	0.01
PM10 (lb/day)	0.00	0.00	0.00	0.00	0.00	0.00	0.47	1.43	1.75	1.27	1.51	0.25

Emission from Trips	2008											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
CO (lb/day)	0.00	0.00	0.00	0.00	0.00	3.06	3.73	5.30	5.98	5.30	5.65	6.22
CO <sub>2</sub> (lb/day)	0.00	0.00	0.00	0.00	0.00	307.17	379.19	676.46	743.65	534.30	567.89	624.71
NOx (lb/day)	0.00	0.00	0.00	0.00	0.00	0.53	0.82	3.14	3.21	0.98	1.02	1.08
VOC (lb/day)	0.00	0.00	0.00	0.00	0.00	0.30	0.37	0.63	0.69	0.52	0.55	0.61
SOx (lb/day)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01
PM10 (lb/day)	0.00	0.00	0.00	0.00	0.00	0.14	0.19	1.33	1.36	0.26	0.27	0.29
Exhaust PM (lb/day)	0.00	0.00	0.00	0.00	0.00	0.02	0.03	0.13	0.13	0.04	0.04	0.04
Fugitive PM (lb/day)	0.00	0.00	0.00	0.00	0.00	0.12	0.16	1.20	1.23	0.22	0.23	0.25
PM2.5 (lb/day)	0.00	0.00	0.00	0.00	0.00	0.04	0.06	0.33	0.34	0.07	0.08	0.08

Fugitive PM	2008											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
PM10 (lb/day) <sup>(1)</sup>								7.41				

Paint	2008											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
VOC (lb/day) <sup>(1)</sup>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.40	0.00

Total Emissions	Thresholds	2008											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
CO (lb/day)	550	0.00	0.00	0.00	0.00	0.00	3.06	7.67	15.14	19.35	15.74	17.89	8.73
CO <sub>2</sub> (lb/day)	--	0.00	0.00	0.00	0.00	0.00	307.17	1021.94	2143.33	2603.21	1983.35	2310.87	832.38
NOx (lb/day)	100	0.00	0.00	0.00	0.00	0.53	0.53	9.15	22.15	24.29	16.60	21.19	1.34
VOC (lb/day)	75	0.00	0.00	0.00	0.00	0.30	0.30	1.45	3.50	4.89	7.19	7.76	1.68
SOx (lb/day)	150	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.04	0.05	0.04	0.05	0.01
PM10 (lb/day) <sup>(1)</sup>	150	0.00	0.00	0.00	0.00	0.14	0.14	0.66	1.11	1.11	1.52	1.78	0.54
PM2.5 (lb/day) <sup>(2)</sup>	55	0.00	0.00	0.00	0.00	0.04	0.04	0.49	0.49	1.95	1.24	1.47	0.31

(1) Mitigated PM.

(2) [https://www.aqmd.gov/ceqa/handbook/PM2\\_5/pm2\\_5ratio.xls](https://www.aqmd.gov/ceqa/handbook/PM2_5/pm2_5ratio.xls) ; Profile ID #391.

**Paramount  
Cumulative Projects  
Construction Equipment Emission Rates**

Equipment Type	HP	2008 Emission Factors lb/hr <sup>(1)</sup>					
		VOC	CO	NOx	SOx	PM10	CO <sub>2</sub>
Backhoe	120	0.1083	0.3703	0.6510	0.0006	0.0595	51.7000
Compressor	120	0.1112	0.3395	0.6505	0.0006	0.0578	47.0000
Concrete Pumper	Composite	0.1040	0.3194	0.5999	0.0006	0.0424	49.6067
Concrete Saw	Composite	0.1460	0.4411	0.7263	0.0007	0.0610	58.4636
Crane (RT)	175	0.1345	0.4936	1.0417	0.0009	0.0589	80.3446
Crane (RT)	250	0.1392	0.3881	1.3867	0.0013	0.0535	112.1589
Excavator	25	0.0201	0.0677	0.1291	0.0002	0.0077	16.4401
Forklift	120	0.0724	0.2304	0.4055	0.0004	0.0402	31.2249
Generator	15	0.0189	0.0749	0.1237	0.0002	0.0077	10.2077
Generator	Composite	0.1075	0.3461	0.6980	0.0007	0.0430	60.9927
Manlift	50	0.0833	0.2011	0.2037	0.0003	0.0203	19.6128
Manlift	120	0.0781	0.2542	0.4910	0.0004	0.0386	38.0718
Light Plant	Composite	0.0244	0.0965	0.1739	0.0002	0.0104	16.6983
Plate Compactor	15	0.0052	0.0263	0.0328	0.0001	0.0021	4.3138
Welder	50	0.1344	0.3128	0.2792	0.0003	0.0308	25.9581
Welder	120	0.0891	0.2778	0.5338	0.0005	0.0456	39.5014

(1) SCAQMD, 2006 : [http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07\\_25.xls](http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls)

**Paramount Petroleum  
Cumulative Projects  
Construction Equipment Emissions**

Equipment	Hours (hr/day)	2008											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Backhoe	8								1				
Compressor	8								1	1			
Concrete Pumper													
Concrete Saw													
Crane (RT) 175 hp	8							1	1	1	1	2	
Crane (RT) 250 hp													
Excavator													
Forklift	8									1	1	1	
Generator 15 hp	8									1	1		
Generator 250 hp													
Manlift 50 hp													
Manlift 120 hp	8												
Light Plant	8									2	2		
Plate Compactor	8								1	1			
Welder 50 hp	8										1	1	1
Welder 120 hp													

CO	Emission Rate (lb/hr)	2008											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Backhoe	0.370	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.96	0.00	0.00	0.00	0.00
Compressor	0.339	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.72	2.72	0.00	0.00	0.00
Concrete Pumper	0.319	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Saw	0.441	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Crane (RT)	0.494	0.00	0.00	0.00	0.00	0.00	0.00	3.95	3.95	3.95	3.95	7.90	0.00
Crane (RT)	0.388	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Excavator	0.068	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Forklift	0.230	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.84	1.84	1.84	0.00
Generator	0.075	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.60	0.60	0.00	0.00
Generator	0.346	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Manlift	0.201	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Manlift	0.254	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Light Plant	0.097	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.54	1.54	0.00	0.00
Plate Compactor	0.026	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.21	0.00	0.00	0.00
Welder	0.313	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.50	2.50	2.50	2.50
Welder	0.278	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		0.00	0.00	0.00	0.00	0.00	0.00	3.95	9.84	13.36	10.44	12.24	2.50

NOX	Emission Rate (lb/hr)	2008											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Backhoe	0.651	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.21	0.00	0.00	0.00	0.00
Compressor	0.651	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.20	5.20	0.00	0.00	0.00
Concrete Pumper	0.600	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Saw	0.726	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Crane (RT)	1.042	0.00	0.00	0.00	0.00	0.00	0.00	8.33	8.33	8.33	8.33	16.67	0.00
Crane (RT)	1.387	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Excavator	0.129	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Forklift	0.405	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.24	3.24	3.24	0.00
Generator	0.124	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.99	0.99	0.00	0.00
Generator	0.698	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Manlift	0.204	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Manlift	0.491	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Light Plant	0.174	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.78	2.78	0.00	0.00
Plate Compactor	0.033	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.26	0.26	0.00	0.00	0.00
Welder	0.033	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.26	0.26	0.26	0.26
Welder	0.279	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		0.00	0.00	0.00	0.00	0.00	0.00	8.33	19.01	21.08	15.61	20.17	0.26

VOC	Emission Rate (lb/hr)	2008											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Backhoe	0.108	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.87	0.00	0.00	0.00	0.00
Compressor	0.111	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.89	0.89	0.00	0.00	0.00
Concrete Pumper	0.104	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Saw	0.146	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Crane (RT)	0.135	0.00	0.00	0.00	0.00	0.00	0.00	1.08	1.08	1.08	1.08	2.15	0.00
Crane (RT)	0.139	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Excavator	0.020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Forklift	0.072	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.58	0.58	0.00
Generator	0.019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.15	0.00	0.00
Generator	0.107	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Manlift	0.083	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Manlift	0.078	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Light Plant	0.024	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.39	0.39	0.00	0.00
Plate Compactor	0.005	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04	0.00	0.00	0.00
Welder	0.134	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.07	1.07	1.07	1.07
Welder	0.089	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		0.00	0.00	0.00	0.00	0.00	0.00	1.08	2.87	4.20	3.27	3.81	1.07

**Paramount Refinery  
Cumulative Projects  
Construction Equipment Emissions (Cont.)**

	Emission Rate (lb/hr)	2008												
		2008	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
SOx														
Backhoe	0.001	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
Compressor	0.001	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00
Concrete Pumper	0.001	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Saw	0.001	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Crane (RT)	0.002	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.03	0.00	0.00
Crane (RT)	0.003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Excavator	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Forklift	0.001	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.00
Generator	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Generator	0.001	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Manlift	0.001	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Manlift	0.001	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Light Plant	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00
Plate Compactor	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Welder	0.001	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01
Welder	0.001	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.04	0.04	0.04	0.04	0.01

	Emission Rate (lb/hr)	2008												
		2008	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
PM10														
Backhoe	0.059	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.48	0.00	0.00	0.00	0.00	0.00
Compressor	0.058	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.46	0.46	0.00	0.00	0.00	0.00
Concrete Pumper	0.042	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Saw	0.061	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Crane (RT)	0.059	0.00	0.00	0.00	0.00	0.00	0.00	0.47	0.47	0.47	0.47	0.94	0.00	0.00
Crane (RT)	0.053	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Excavator	0.008	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Forklift	0.040	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.32	0.32	0.00	0.00
Generator	0.008	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.06	0.06	0.00	0.00
Generator	0.043	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Manlift	0.020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Manlift	0.039	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Light Plant	0.010	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.17	0.00	0.00	0.00
Plate Compactor	0.002	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.00	0.00	0.00	0.00
Welder	0.031	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.25	0.25	0.25	0.25
Welder	0.046	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		0.00	0.00	0.00	0.00	0.00	0.00	0.47	1.43	1.75	1.27	1.51	0.25	0.25

	Emission Rate (lb/hr)	2008												
		2008	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
CO <sub>2</sub>														
Backhoe	51.700	0.00	0.00	0.00	0.00	0.00	0.00	0.00	413.60	0.00	0.00	0.00	0.00	0.00
Compressor	47.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	376.00	376.00	0.00	0.00	0.00	0.00
Concrete Pumper	49.607	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Saw	58.464	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Crane (RT)	80.345	0.00	0.00	0.00	0.00	0.00	0.00	642.76	642.76	642.76	642.76	1285.51	0.00	0.00
Crane (RT)	112.159	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Excavator	16.440	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Forklift	31.225	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	249.80	249.80	249.80	0.00	0.00
Generator	10.208	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	81.66	81.66	0.00	0.00	0.00
Generator	60.993	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Manlift	19.613	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Manlift	38.072	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Light Plant	16.698	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	267.17	267.17	0.00	0.00	0.00
Plate Compactor	4.314	0.00	0.00	0.00	0.00	0.00	0.00	0.00	34.51	34.51	0.00	0.00	0.00	0.00
Welder	25.958	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	207.66	207.66	207.66	207.66	207.66
Welder	39.501	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total		0.00	0.00	0.00	0.00	0.00	0.00	0.00	642.76	1466.87	1859.56	1449.05	1742.98	207.66

**Paramount Refinery  
Cumulative Projects  
Construction Vehicle Trip Emissions**

Vehicle	Miles per Day	2008											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Commuters	32.4					0	8	9	11	13	13	14	16
Pickup Trucks	10					0	1	2	4	4	4	4	3
Van	10												
<b>Total Light Vehicle Miles</b>		0	0	0	0	0	269.2	311.6	396.4	461.2	461.2	493.6	548.4
Flatbed Truck	10										1	1	1
Stakebed Truck	10												
Bin Truck	10												
Concrete Truck	50												
Delivery Truck	50												
Dump Truck	50												
Lube Truck	10												
Water Truck	10						1	2	2	2	1	1	1
<b>Total Medium/Heavy Duty Truck Miles</b>		0	0	0	0	0	10	20	20	20	20	20	20
Semi Tractor	50								1	1			
<b>Total Heavy-Heavy Duty Truck Miles</b>		0	0	0	0	0	0	0	50	50	0	0	0

CO	Emission Rate (lb/mi) <sup>(1)</sup>	2008											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Light Duty	0.0105484	0.00	0.00	0.00	0.00	0.00	2.84	3.29	4.18	4.86	4.86	5.21	5.78
Medium Duty	0.0219492	0.00	0.00	0.00	0.00	0.00	0.22	0.44	0.44	0.44	0.44	0.44	0.44
Heavy Duty	0.0136137	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.68	0.68	0.00	0.00	0.00
<b>Total</b>		0.00	0.00	0.00	0.00	0.00	3.06	3.73	5.30	5.98	5.30	5.65	6.22

NOx	Emission Rate (lb/mi) <sup>(1)</sup>	2008											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Light Duty	0.0011029	0.00	0.00	0.00	0.00	0.00	0.30	0.34	0.44	0.51	0.51	0.54	0.60
Medium Duty	0.0237126	0.00	0.00	0.00	0.00	0.00	0.24	0.47	0.47	0.47	0.47	0.47	0.47
Heavy Duty	0.0445802	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.23	2.23	0.00	0.00	0.00
<b>Total</b>		0.00	0.00	0.00	0.00	0.00	0.53	0.82	3.14	3.21	0.98	1.02	1.08

CO <sub>2</sub>	Emission Rate (lb/mi) <sup>(1)</sup>	2008											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Light Duty	1.0368352	0.00	0.00	0.00	0.00	0.00	279.12	323.08	411.00	478.19	478.19	511.78	568.60
Medium Duty	2.8055029	0.00	0.00	0.00	0.00	0.00	28.06	56.11	56.11	56.11	56.11	56.11	56.11
Heavy Duty	4.1869739	0.00	0.00	0.00	0.00	0.00	0.00	0.00	209.35	209.35	0.00	0.00	0.00
<b>Total</b>		0.00	0.00	0.00	0.00	0.00	307.17	379.19	676.46	743.65	534.30	567.89	624.71

VOC	Emission Rate (lb/mi) <sup>(1)</sup>	2008											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Light Duty	0.0010051	0.00	0.00	0.00	0.00	0.00	0.27	0.31	0.40	0.46	0.46	0.50	0.55
Medium Duty	0.0029281	0.00	0.00	0.00	0.00	0.00	0.03	0.06	0.06	0.06	0.06	0.06	0.06
Heavy Duty	0.0034094	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.17	0.00	0.00	0.00
<b>Total</b>		0.00	0.00	0.00	0.00	0.00	0.30	0.37	0.63	0.69	0.52	0.55	0.61

SOx	Emission Rate (lb/mi) <sup>(1)</sup>	2008											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Light Duty	0.0000102	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
Medium Duty	0.0000274	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heavy Duty	0.0000399	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total</b>		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01

PM10	Emission Rate (lb/mi) <sup>(1)</sup>	2008											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Light Duty Exhaust	0.0000397	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.02	0.02	0.02	0.02	0.02
Medium Duty Exhaust	0.0008391	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.02	0.02	0.02	0.02	0.02
Heavy Duty Exhaust	0.0019783	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.10	0.00	0.00	0.00
<b>Total Exhaust PM</b>		0.00	0.00	0.00	0.00	0.00	0.02	0.03	0.13	0.13	0.04	0.04	0.04
Light Duty Fugitive <sup>(2)</sup>	0.00038589	0.00	0.00	0.00	0.00	0.00	0.10	0.12	0.15	0.18	0.18	0.19	0.21
Medium Duty Fugitive <sup>(2)</sup>	0.00210368	0.00	0.00	0.00	0.00	0.00	0.02	0.04	0.04	0.04	0.04	0.04	0.04
Heavy Duty Fugitive <sup>(2)</sup>	0.02011945	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.01	1.01	0.00	0.00	0.00
<b>Total Fugitive PM</b>		0.00	0.00	0.00	0.00	0.00	0.12	0.16	1.20	1.23	0.22	0.23	0.25
<b>Total</b>		0.00	0.00	0.00	0.00	0.00	0.14	0.19	1.33	1.36	0.26	0.27	0.29

(1) Based on 2007 SCAQMD on-road emission rates. (<http://www.aqmd.gov/ceqa/handbook/onroad/onroad.html>)

(2) Emission Calculations for travel on paved roads from EPA AP-42 Section 13.2.1, December 2003

$$E = k(aL^2)^{0.9} \times (W/3)^{1.5} \times C$$

Where: k = 0.016 lb/VMT for PM10, aL = road silt loading (gms/m<sup>2</sup>) from CARB Methodology 7.9 for paved roads (0.240 for local roads and 0.037 for major/collector roads), W = weight of vehicles (2.4 tons for light; 5 for medium trucks, and 20 for heavy trucks), and C = emission factor for 1980's vehicle fleet exhaust, brake wear and tire wear (0.00047 lbs/VMT).

**Paramount Refinery  
Cumulative Projects  
Fugitive PM Construction Emissions**

Grading Operations Construction Activities <sup>(1)</sup>	Average Pieces of Equipment Operating	Peak Pieces of Equipment Operating	Hours of Operation	PM10 Emission Factor (lb/hour)	Water Control Factor(5)	Controlled Emissions		Uncontrolled Emissions		SCAQMD Emission Factor Source Table A9-9-F
						Average PM10 Emissions (lbs/day)	Peak PM10 Emissions (lbs/day)	Average PM10 Emissions (lbs/day)	Peak PM10 Emissions (lbs/day)	
0	1	3	5.837	0.39	0.00	6.83	0	17.5118658		

TRENCHING OPERATIONS (Backhoe)	Average Tons of Materials Handled Per Day	Peak Tons of Materials Handled Per Day	PM10 Emission Factor (lb/ton)	Water Control Factor <sup>(5)</sup>	Controlled Emissions		Uncontrolled Emissions		SCAQMD Emission Factor Source Table A9-9-G
					Average PM10 Emissions Pounds/day	Peak PM10 Emissions Pounds/day	Average PM10 Emissions Pounds/day	Peak PM10 Emissions Pounds/day	
0	25	0.0035	0.39	0	0.034125	0	0.0875		

Assumptions: Tcubic yard trench spoils = 1 ton

WIND EROSION Disturbed Area and Temporary Stockpiles	Days of Construction	Average Acres Disturbed Per Day	Peak Acres Disturbed Per Day	PM10 Emission Factor (lb/day/acre)	Controlled Emissions		Uncontrolled Emissions		SCAQMD Emission Factor Source Table A9-9-E
					Average PM10 Emissions Tons/Year	Peak PM10 Emissions Tons/Year	Average PM10 Emissions Tons/Year	Peak PM10 Emissions Tons/Year	
0	0	0.1	2.394	0.000	0.239	0.000	0.000		

TRUCK FILLING/DUMPING	Estimated Materials Handled Per Day (tons)	Peak Tons of Materials Handled Per Day	PM10 Emission Factor (lb/ton)	Controlled Emissions		Uncontrolled Emissions		SCAQMD Emission Factor Source Table A9-9
				Average PM10 Emissions Pounds/day	Peak PM10 Emissions Pounds/day	Average PM10 Emissions Pounds/day	Peak PM10 Emissions Pounds/day	
0	25	0.02205	0.39	0	0.2149875	0	0.55125	
0	25	0.009075	0.39	0	0.08848125	0	0.226875	

TOTAL PM10 Pounds/day (Controlled Emissions)	Average	Peak
	0.0000	7.40667
TOTAL PM10 Pounds/day (Uncontrolled Emissions)	0.000	18.617

- Emissions (lbs/hr) =  $[0.75 \times (G^{1.5}) / (H^{1.4})] \times J$   
where G = silt content (7.5%), H = moisture content (2.0%), and J = hrs of operation (EPA AP-42 Table 11.9-1 for bulldozing overburden).
- Emissions (lbs/ton) =  $0.00112 \times [(G/5)^{1.3} / (H/2)^{1.4}] \times I/J$   
where G=mean wind speed (12 mph), H=moisture content of surface material (2%); I=lbs of dirt handled per day; and J=2,000 lbs/ton
- Emissions (lbs/day/acre) =  $1.7 \times [(G/1.5)^{1.3} / (365-H)/235] \times I/15 \times J$   
where G = silt content (7.5%); H = days with >0.01 inch of rain (34); I = percentage of time wind speed exceeds 12 mph (6%) and J= fraction of TSP (0.5). Wind speed data from 1981 SCAQMD Lynwood meteorological data.
- Used SCAQMD Table 9-9 Default emission factors.
- Controlled Emissions assume that watering 3 times per day controls emissions by 61 percent (Uncontrolled Emissions x 0.34)

**Paramount Cumulative Projects  
Paint Primer Architectural Coating Emissions**

**Oct-08**

Activity	Amount	Notes
Volume Applied (gallons/day)	1	
VOC Content (lb/gallon)	3.4	SCAQMD Rule 1113 Limit
VOC Emissions (lbs/day)	3.4	

**Nov-08**

Activity	Amount	Notes
Volume Applied (gallons/day)	1	
VOC Content (lb/gallon)	3.4	SCAQMD Rule 1113 Limit
VOC Emissions (lbs/day)	3.4	

\* Emission Calculations from SCAQMD CEQA Air Quality Handbook, Table A9-9



**Paramount Cumulative Projects  
Localized Significance Threshold Analysis**

	Emissions (lbs/day)			
	CO	NOx	PM10	PM2.5
Total Construction Emissions	13.4	21.1	8.8	2.9
LST Allowable Emissions <sup>(1)</sup>	1496	190	39	10
Significant	No	No	No	No

(1) Source: Localized Significance Threshold Methodology, SCAQMD, 2003 for source receptor area No. 5, southeast Los Angeles County.  
2 acre project with receptor at 100m using mass rate LST look-up table.

**Paramount Refinery  
Proposed Project Plus Cumulative Projects  
Construction Emission Summary**

**NOx Reduction Project Emissions**

Total Emissions	Thresholds	2008											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
CO (lb/day)	550	0.00	0.00	0.00	0.00	0.00	24.04	40.01	49.82	46.52	43.53	39.06	25.49
CO <sub>2</sub> (lb/day)	--	0.00	0.00	0.00	0.00	0.00	3114.95	5518.32	7464.91	6861.02	5755.27	4952.57	3015.20
NOx (lb/day)	100	0.00	0.00	0.00	0.00	0.00	28.10	50.26	71.49	63.32	50.26	39.25	16.36
VOC (lb/day)	75	0.00	0.00	0.00	0.00	0.00	5.32	9.52	12.45	11.35	24.15	22.79	4.20
SOx (lb/day)	150	0.00	0.00	0.00	0.00	0.00	0.08	0.13	0.17	0.14	0.12	0.10	0.05
PM10 (lb/day) <sup>(1)</sup>	150	0.00	0.00	0.00	0.00	0.00	2.77	2.77	19.11	6.23	4.81	4.22	1.98
PM2.5 (lb/day) <sup>(2)</sup>	55	0.00	0.00	0.00	0.00	0.00	2.55	2.55	8.15	5.75	4.43	3.89	1.83

**Cumulative Projects Emissions**

Total Emissions	Thresholds	2008											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
CO (lb/day)	550	0.00	0.00	0.00	0.00	0.00	3.06	7.67	15.14	19.35	15.74	17.89	8.73
CO <sub>2</sub> (lb/day)	--	0.00	0.00	0.00	0.00	0.00	307.17	1021.94	2143.33	2603.21	1983.35	2310.87	832.38
NOx (lb/day)	100	0.00	0.00	0.00	0.00	0.00	0.53	9.15	22.15	24.29	16.60	21.19	1.34
VOC (lb/day)	75	0.00	0.00	0.00	0.00	0.00	0.30	1.45	3.50	4.89	7.19	7.76	1.68
SOx (lb/day)	150	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.04	0.05	0.04	0.05	0.01
PM10 (lb/day) <sup>(1)</sup>	150	0.00	0.00	0.00	0.00	0.00	0.14	0.66	10.16	3.11	1.52	1.78	0.54
PM2.5 (lb/day) <sup>(2)</sup>	55	0.00	0.00	0.00	0.00	0.00	0.04	0.49	3.19	1.95	1.24	1.47	0.31

(1) Mitigated PM.

(2) [https://www.aqmd.gov/ceqa/handbook/PM2\\_5/pm2\\_5ratio.xls](https://www.aqmd.gov/ceqa/handbook/PM2_5/pm2_5ratio.xls) : Profile ID #391.

**Total Projects Emissions**

Total Emissions	Thresholds	2008											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
CO (lb/day)	550	0.00	0.00	0.00	0.00	0.00	27.09	47.68	64.96	65.87	59.27	56.95	34.21
CO <sub>2</sub> (lb/day)	--	0.00	0.00	0.00	0.00	0.00	3422.12	6540.26	9608.24	9464.23	7738.62	7263.44	3847.58
NOx (lb/day)	100	0.00	0.00	0.00	0.00	0.00	28.63	59.41	93.64	87.61	66.86	60.45	17.70
VOC (lb/day)	75	0.00	0.00	0.00	0.00	0.00	5.62	10.97	15.95	16.25	31.34	30.55	5.89
SOx (lb/day)	150	0.00	0.00	0.00	0.00	0.00	0.08	0.15	0.21	0.19	0.16	0.14	0.06
PM10 (lb/day) <sup>(1)</sup>	150	0.00	0.00	0.00	0.00	0.00	2.91	3.43	29.27	9.34	6.33	6.00	2.52
PM2.5 (lb/day) <sup>(2)</sup>	55	0.00	0.00	0.00	0.00	0.00	2.59	3.04	11.33	7.70	5.67	5.35	2.13

**Paramount Proposed Project and Cumulative Projects  
Localized Significance Threshold Analysis**

	Emissions (lbs/day)			
	CO	NOx	PM10	PM2.5
Construction Emissions - Proposed Project	33.5	63.8	19.6	7.5
Construction Emissions - Cumulative Projects	13.4	21.1	8.8	2.9
Total Construction Emissions	46.9	84.9	28.5	10.3
LST Allowable Emissions <sup>(1)</sup>	1809.7	218.7	46	11.7
Significant	No	No	No	No

(1) Source: Localized Significance Threshold Methodology, SCAQMD, 2003 for source receptor area No. 5, southeast Los Angeles County. Interpolated for a 3 acre project with receptor at 100m using mass rate LST look-up table.

**APPENDIX C**

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**COMMENTS AND RESPONSE TO COMMENTS RECEIVED ON DRAFT  
SUBSEQUENT NEGATIVE DECLARATION**

**APPENDIX C**  
**FINAL SUBSEQUENT NEGATIVE DECLARATION**  
**PARAMOUNT PETROLEUM REFINERY**  
**CLEAN FUELS PROJECT**  
**RESPONSE TO COMMENTS**

**INTRODUCTION**

This Appendix, together with the Draft Negative Declaration, constitutes the Final Subsequent Negative Declaration for the Paramount Petroleum Refinery Clean Fuels Project. The Draft Subsequent Negative Declaration was circulated for a 30-day public review and comment period, which started on June 6, 2008 and ended July 8, 2008. The Draft Subsequent Negative Declaration is available at the SCAQMD Headquarters located at 21865 Copley Drive, Diamond Bar, California 91765 or by phone at (909) 396-2039.

The Draft Subsequent Negative Declaration included a detailed project description, the environmental setting for each environmental resource, and an analysis of the each environmental resource on the California Environmental Quality Act (CEQA) checklist, including all potentially significant environmental impacts. Based on the Draft Subsequent Negative Declaration, no significant adverse environmental impacts were identified associated with the proposed project.

The SCAQMD received one comment letter on the Draft Subsequent Negative Declaration during the public comment period. Responses to the comment letter is presented in this Appendix. The comments are bracketed and numbered. The related responses are identified with the corresponding number and are included in the following pages. Pursuant to CEQA Guidelines §15073.5(c)(2), recirculation is not necessary since the information provided in response to written comments on the project's effects does not identify any new, avoidable significant effects.

STATE OF CALIFORNIA

Arnold Schwarzenegger, Governor

**NATIVE AMERICAN HERITAGE COMMISSION**

815 CAPITOL MALL, ROOM 384  
 SACRAMENTO, CA 95814  
 (916) 653-6281  
 Fax (916) 657-5380  
 Web Site [www.nahc.ca.gov](http://www.nahc.ca.gov)  
 e-mail: [ds\\_nahc@pacbell.net](mailto:ds_nahc@pacbell.net)



June 17, 2008

Dr. Steve Smith, Ph.D., Program Supervisor  
**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**  
 21865 Copley Drive  
 Diamond Bar, CA 91765-4182

Re: SCH#2003031044: CEQA Notice of Completion; Subsequent Negative Declaration for Paramount Petroleum Refinery Clean Fuels Project; Paramount Community; Los Angeles County; California

Dear Dr. Smith:

The Native American Heritage Commission is the state agency designated to protect California's Native American Cultural Resources. The California Environmental Quality Act (CEQA) requires that any project that causes a substantial adverse change in the significance of an historical resource, that includes archaeological resources, is a 'significant effect' requiring the preparation of an Environmental Impact Report (EIR) per the California Code of Regulations §15064.5(b)(6) (CEQA guidelines). Section 15382 of the 2007 CEQA Guidelines defines a significant impact on the environment as "a substantial, or potentially substantial, adverse change in any of physical conditions within an area affected by the proposed project, including ... objects of historic or aesthetic significance." In order to comply with this provision, the lead agency is required to assess whether the project will have an adverse impact on these resources within the 'area of potential effect (APE)', and if so, to mitigate that effect. To adequately assess the project-related impacts on historical resources, the Commission recommends the following action:

✓ Contact the appropriate California Historic Resources Information Center (CHRIS) for possible 'recorded sites' in locations where the development will or might occur. Contact information for the Information Center nearest you is available from the State Office of Historic Preservation (916/653-7278) <http://www.ohp.parks.ca.gov>. The record search will determine:

- If a part or the entire APE has been previously surveyed for cultural resources.
  - If any known cultural resources have already been recorded in or adjacent to the APE.
  - If the probability is low, moderate, or high that cultural resources are located in the APE.
  - If a survey is required to determine whether previously unrecorded cultural resources are present.
- ✓ If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
- The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure.
  - The final written report should be submitted within 3 months after work has been completed to the appropriate regional archaeological information center.
- ✓ Contact the Native American Heritage Commission (NAHC) for:
- \* A Sacred Lands File (SLF) search of the project area and information on tribal contacts in the project vicinity that may have additional cultural resource information. Please provide this office with the following citation format to assist with the Sacred Lands File search request: USGS 7.5-minute quadrangle citation with name, township, range and section.
  - The NAHC advises the use of Native American Monitors, when professional archaeologists or the equivalent are employed by project proponents, in order to ensure proper identification and care given cultural resources that may be discovered. The NAHC recommends that contact be made with Native American Contacts on the attached list to get their input on potential project impact (APE). In some cases, the existence of a Native American cultural resources may be known only to a local tribe(s).
- ✓ Lack of surface evidence of archaeological resources does not preclude their subsurface existence.
- Lead agencies should include in their mitigation plan provisions for the identification and evaluation of accidentally discovered archaeological resources, per California Environmental Quality Act (CEQA) §15064.5 (f). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American, with knowledge in cultural resources, should monitor all ground-disturbing activities.
  - A culturally-affiliated Native American tribe may be the only source of information about a Sacred Site/Native American cultural resource.
  - Lead agencies should include in their mitigation plan provisions for the disposition of recovered artifacts, in consultation with culturally affiliated Native Americans.

1-1

1-2

1-3

1-4

1-5

APPENDIX C – RESPONSE TO COMMENTS

√ Lead agencies should include provisions for discovery of Native American human remains or unmarked cemeteries in their mitigation plans.

\* CEQA Guidelines, Section 15064.5(d) requires the lead agency to work with the Native Americans identified by this Commission if the initial Study identifies the presence or likely presence of Native American human remains within the APE. CEQA Guidelines provide for agreements with Native American, identified by the NAHC, to assure the appropriate and dignified treatment of Native American human remains and any associated grave sites.

1-6

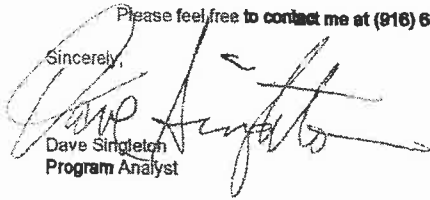
√ Health and Safety Code §7050.5, Public Resources Code §5097.98 and Sec. §15064.5 (d) of the California Code of Regulations (CEQA Guidelines) mandate procedures to be followed, including that construction or excavation be stopped in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery until the county coroner or medical examiner can determine whether the remains are those of a Native American. Note that §7052 of the Health & Safety Code states that disturbance of Native American cemeteries is a felony.

1-7

√ Lead agencies should consider avoidance, as defined in §15370 of the California Code of Regulations (CEQA Guidelines), when significant cultural resources are discovered during the course of project planning and implementation

Please feel free to contact me at (916) 653-6251 if you have any questions.

Sincerely,



Dave Singleton  
Program Analyst

Attachment: List of Native American Contacts

Cc: State Clearinghouse

**Native American Contacts**  
Los Angeles County  
June 17, 2008

LA City/County Native American Indian Comm  
Ron Andrade, Director  
3175 West 6th Street, Rm. 403  
Los Angeles , CA 90020  
(213) 351-5324  
(213) 386-3995 FAX

Gabrielino/Tongva Council / Gabrielino Tongva Nation  
Sam Dunlap, Tribal Secretary  
761 Terminal Street; Bldg 1, 2nd floor Gabrielino Tongva  
Los Angeles , CA 90021  
office @tongvatribes.net  
(213) 489-5001 - Office  
(909) 262-9351 - cell  
(213) 489-5002 Fax

Ti'At Society  
Cindi Alvitre  
6515 E. Seaside Walk, #C Gabrielino  
Long Beach , CA 90803  
calvitre@yahoo.com  
(714) 504-2468 Cell

Gabrielino Tongva Indians of California Tribal Council  
Robert Dorame, Tribal Chair/Cultural Resources  
5450 Slauson, Ave, Suite 151 PMB Gabrielino Tongva  
Culver City , CA 90230  
gtongva@verizon.net  
562-761-6417 - voice  
562-925-7989 - fax

Tongva Ancestral Territorial Tribal Nation  
John Tommy Rosas, Tribal Admin.  
Gabrielino Tongva  
tattnlaw@gmail.com  
310-570-6567

Gabrielino/Tongva San Gabriel Band of Mission  
Anthony Morales, Chairperson  
PO Box 693 Gabrielino Tongva  
San Gabriel , CA 91778  
ChiefRBwife@aol.com  
(626) 286-1632  
(626) 286-1758 - Home  
(626) 286-1262 Fax

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed SCH#2003031044; cEQA Notice of Completion; Subsequent Negative Declaration for Paramount Petroleum Refinery Clean Fuels Project; located in the City of Paramount; Los Angeles County, California.



**COMMENT LETTER NO. 1**  
**NATIVE AMERICAN HERITAGE COMMISSION**  
**JUNE 17, 2008**

**Response 1-1**

The SCAQMD is aware of the requirements of CEQA Guidelines §15064.5 and has complied with this section as well as all other relevant CEQA requirements. As stated on pages 2-28 and 2-29 of the Subsequent Negative Declaration for the Paramount Petroleum Refinery Clean Fuels Project, potential significant adverse impacts on cultural resources are not anticipated. The entire Paramount Petroleum Refinery site has been previously graded and developed.

There are no prehistoric or historic structures or objects within the Refinery's boundaries, or adjacent areas. No significant adverse impacts to cultural resources are expected since the proposed project modifications will occur within the confines of the existing refinery and only minor ground disturbing activities are proposed.

There are no known prehistoric or historic structures or objects within the Refinery boundaries or adjacent areas. Most of the proposed project modifications at the Refinery are expected to be completed on or adjacent to existing foundations. No significant adverse impacts to cultural resources are expected since any new foundations will be limited to existing graded and developed areas. Past construction activities have not identified any prehistoric or historic artifacts.

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. As a result, no impacts to historical, archaeological or paleontological resources (as defined in §15064.5 of the CEQA Guidelines) will occur as a result of the implementation of the proposed project.

**Response 1-2**

The Paramount Petroleum Refinery Clean Fuels Project modifications will occur within the boundaries of an existing facility. The primary objective of the proposed project is to upgrade existing heaters and to install pollution control equipment. The sites adjacent to the existing equipment have been previously disturbed to accommodate refinery projects associated with the placement and relocation of infrastructure (i.e., underground utilities and piping) and no cultural resources or native American remains were found during these subsurface activities in or surrounding the property (i.e., area of potential effect).

As a result, based on historical activities at the sites, the proposed project was determined to not cause a potential “substantial adverse change in the significance of any historical resource” which would require a further evaluation of cultural resources. See also Response 1-1.

**Response 1-3**

An archaeological inventory survey was not required to be performed for the proposed project because cultural resources have not been found during subsurface construction activities in or surrounding the refinery. See Responses 1-1 and 1-2 for information regarding why another survey was not required.

**Response 1-4**

As noted in Responses 1-1 and 1-2, additional archaeological investigations are not required, so it is not necessary to contact the Native American Heritage Commission.

**Response 1-5**

As noted in response 1-1, no previous excavation activities at the Refinery have discovered any cultural or archaeological resources. Further, as concluded on pages 2-28 and 2-29 of the Subsequent Negative Declaration for the Paramount Petroleum Refinery Clean Fuels Project, no impacts to cultural resources were determined to result from the proposed project. As a result, no further analysis of cultural resources was required.

Based on the historical use of the site and the numerous construction activities, which included subsurface activities, the likelihood of encountering cultural resources is low. It should be noted, however, that construction activities for the proposed project at the Paramount Petroleum Refinery include standard procedures for accidentally encountering any archaeological, Native American, or cultural resources on-site. Compliance with all local, state and federal regulations (and notifications) will occur in the event of an accidental discovery of any cultural or historic resources.

**Response 1-6**

With regard to the potential for discovery of Native American remains, refer to responses 1-1, 1-2 and 1-5.

As stated on pages 2-28 and 2-29, the Subsequent Negative Declaration did not identify the presence or likely presence of Native American human remains. Therefore, agreements with Native Americans to assure appropriate treatment of Native American human remains are not required unless Native American human remains are discovered during site excavation. See also Responses 1-1, 1-2 and 1-5. Since no significant adverse impacts to cultural resources were identified, mitigation measures and a mitigation monitoring plan were not required.

**Response 1-7**

As noted in Responses 1-1 and 1-2, discovery of human remains relative to the proposed project is not anticipated as modifications, upgrades and new equipment installation are expected to be completed on or adjacent to existing foundations so no further ground disturbance would be expected. However, the Paramount Petroleum Refinery’s Clean Fuels Project construction activities will cease to prevent further disturbance if human remains are unearthed, until the County Coroner has made the necessary findings with respect to origin and disposition, as required by Public Resources Code §5097.98-99, Health and Safety Code §7050.5, and California Code of Regulations (CEQA Guidelines) §15064.5(d).

CEQA Guidelines §15370(a) defines avoidance as: “Avoiding the impact altogether by not taking a certain action or parts of an action.” As stated on pages 2-28 and 2-29 of the Subsequent Negative Declaration, the presence or likely presence of Native American human remains was not identified. However, in the event significant cultural resources in the form of Native American human remains are discovered, construction activities will cease and Paramount Petroleum will comply with proper federal, state and local regulations as described in Response 1-5.