SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

INITIAL STUDY FOR THE DRAFT ENVIRONMENTAL IMPACT REPORT FOR:

ARCO CALIFORNIA AIR RESOURCES BOARD (CARB) PHASE 3 - METHYL TERTIARY BUTYL ETHER (MTBE) PHASE-OUT PROJECT

June 16, 2000

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INTRODUCTION

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PROJECT OVERVIEW

Governor Davis signed Executive Order D-5-99 (Executive Order) on March 25, 1999, which directs that methyl tertiary butyl ether (MTBE) be phased-out of California's gasoline no later than December 31, 2002. The Executive Order also directs California's Air Resources Board (CARB) to adopt gasoline regulations (CARB 3) to facilitate the removal of MTBE without reducing the emission benefits of the existing program.

To comply with these new requirements, the ARCO Los Angeles Refinery (LAR) is proposing to make changes to the configuration of the refinery by modifying existing process operating units, constructing and installing new equipment, and providing additional ancillary facilities. As indicated by LAR, the primary objective of the project is to provide the means for manufacturing gasoline that complies with the MTBE phase-out mandate and CARB 3 gasoline specifications. There would be no change in the rated crude throughput capacity of the refinery as a result of the project.

To meet the oxygenate requirements of the CARB 3 specifications for gasoline without MTBE, ethanol would be blended into the gasoline. California has requested a waiver of the oxygenate requirement. If the waiver is approved, it would not be necessary to add ethanol. While the Federal Government is reviewing California's oxygenate waiver request, the proposed project is being developed with the assumption that the oxygenate mandate will remain in place and that ethanol will be the only permissible oxygenate. The ethanol would not be blended at the refinery, as with MTBE, but at distribution facilities. Therefore, modifications to five distribution facilities and one marine terminal in Southern California would be required. The distribution terminals are located in the cities of Carson, Long Beach, Signal Hill, South Gate, and Rialto. The marine terminal is in the Port of Long Beach.

AGENCY AUTHORITY

The California Environmental Quality Act (CEQA) requires that potential environmental impacts of proposed projects be evaluated and that feasible methods to reduce, avoid, or eliminate identified significant adverse impacts of these projects be included as part of the project. To fulfill the purpose and intent of CEQA, this Initial Study (IS) has been prepared. Based on the project description and the responses to the environmental checklist, the environmental areas for which no significant environmental impact is expected to occur have been identified and thereby eliminated from further evaluation. Environmental areas for which there is a potential for significant environmental impacts have been identified and will be evaluated.

Based on the results of this IS and preliminary meetings between ARCO, the City of Carson, and the South Coast Air Quality Management District (SCAQMD), it has been determined that an Environmental Impact Report (EIR) must be prepared for this project. Because SCAQMD has primary approval authority over the proposed project and must provide air quality permits for several aspects of the project, the City of Carson and the SCAQMD have determined that the SCAQMD is the appropriate lead agency pursuant to the CEQA guidelines. Under CEQA, the lead agency is defined as "the public agency which has the principal responsibility for carrying out or approving a project which may have a significant effect upon the environment" (Public Resources Code § 21067). A letter from the City of Carson discussing the lead agency determination is provided in Appendix A. While we currently do not have letters, we have received verbal notification from the other cities relinquishing lead agency authority to the SCAQMD. Additionally, improvements are required at five distribution facilities and one marine terminal within Southern California. These facilities are located within the jurisdiction of the cities of Carson, Long Beach, Signal Hill, South Gate, Rialto, and the Port of Long Beach. As the terminal improvements are considered a part of this project, these cities will act as responsible agencies for this CEQA process.

PROJECT LOCATION

The locations of the LAR and distribution and marine terminals are shown in Figure 1-1. The LAR is located at 1801 East Sepulveda Boulevard in the City of Carson, California (Figure 1-2). LAR occupies an irregularly shaped parcel of land, between Wilmington Avenue on the west, 223rd Avenue on the north, Alameda Avenue on the east, and Sepulveda Boulevard on the south. LAR and adjacent property are zoned MH (manufacturing heavy). The Dominguez Channel, which originates in the area southeast of the Los Angeles International Airport, traverses LAR property, and eventually flows into the East Channel of the Los Angeles Harbor. The portion of the LAR that is located north of the Dominguez Channel is referred to as the Northeast Property. The Northeast Property is the former site of the John Mansfield facility.

The Carson Terminal is located at 2149 E. Sepulveda Boulevard (Figure 1-3). The Colton Terminal is located at 2395 South Riverside Avenue in the City of Rialto (Figure 1-4). The East Hynes Terminal is located at 5905 Paramount Boulevard in the City of Long Beach (Figure 1-5). The Hathaway Terminal is located at 2350 Hathaway Drive in the City of Signal Hill (Figure 1-6). The Vinvale Terminal is located at 8601 South Garfield Avenue in the City of South Gate (Figure 1-7). The Marine Terminal 2 is located at 1300 Pier B Street within the Port of Long Beach (Figure 1-8).

Due to disc space constraints, the following map has been saved on a separate file. To access the map, please refer to the link Figure 1-1 Regional Location Map

Due to disc space constraints, the following map has been saved on a separate file. To access the map, please refer to the link Figure 1-2 Refinery Layout Map

Due to disc space constraints, the following map has been saved on a separate file. To access the map, please refer to the link Figure 1-3 Carson Terminal Site Location Map

Due to disc space constraints, the following map has been saved on a separate file. To access the map, please refer to the link Figure 1-4 Colton Terminal Site Location Map

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CHAPTER 2

PROJECT DESCRIPTION

Proposed Project

LAR Support Facilities

Construction

Operation

Project Termination and Decommissioning

PROPOSED PROJECT

The initial phase of the proposed project includes phasing out MTBE from reformulated gasoline to comply with the Governor's Executive Order. Phasing out MTBE would allow ARCO to produce reformulated gasoline that complies with CARB 3 fuel specifications and provide for distribution of this gasoline to markets in Southern California.

To meet the oxygenate requirements of the CARB 3 gasoline without MTBE, ethanol would be blended into the gasoline. While the Federal government is reviewing California's oxygenate waiver request (which would allow sale of gasoline containing neither MTBE nor ethanol), the proposed project is being developed with the assumption that the oxygenate requirements will remain. For the most part ethanol is not produced in Southern California and would be transported by ship. (Note that currently large amounts of MTBE are also brought by ship from the Gulf Coast.)

MTBE and ethanol have different physical and chemical properties such that changes in the distribution systems are required beyond merely replacing MTBE in gasoline for ethanol. One key difference is that ethanol has a higher affinity for water. MTBE has been added to gasoline at the refinery and the blended gasoline transported via pipeline to terminals. For ethanol, it is necessary that the gasoline and ethanol be separately transported to distribution terminals via existing pipelines and trucks, and blended only at the point of shipment that immediately precedes delivery at the retail gasoline stations. The gasoline and ethanol would be blended at the five ARCO distribution terminals in Carson, Colton, East Hynes, Vinvale, and Hathaway.

The existing CARB 2 gasoline specifications (April 7, 2000 version) and the key changes required to meet the CARB 3 gasoline specification, that are driving forces for the proposed project, are provided in Table 2-1 below.

Table 2-1

Existing CaRFG2 and New CaRFG3 Gasoline Specifications

Property	Flat Limits		Averaging Limits		Cap Limits	
	CaRFG2	CaRFG3	CaRFG2	CaRFG3	CaRFG2	CaRFG3
RVP, psi max	7.0	7.0[(1)]	NA[(2)]	No change	7.0	6.4 – 7.2
Benzene, vol. % max	1.00	0.80	0.80	0.70	1.20	1.10
Sulfur, ppmw, max	40	20	30	15	80	60/30[(3)]
Aromatic HC, vol. %, max	25	No change	22	No change	30	35

Table 2-1

Existing CaRFG2 and New CaRFG3 Gasoline Specifications

Property	Flat Limits		Averaging Limits		Cap Limits	
	CaRFG2	CaRFG3	CaRFG2	CaRFG3	CaRFG2	CaRFG3
Olefins, vol. %, max	6.0	No change	4.0	No change	10	No change
Oxygen, wt. %	1.8 to 2.2	No change	NA(2)	No change	0 - 3.5(4)	No change
T50 °F, max(5)	210	213	200	203	220	No change
T90 °F, max(6)	300	305	290	295	330	330

1 – Equal to 6.9 psi if using the evaporation element of the Predictive Model
2 – Not applicable
3 – 60 ppmw will apply December 31, 2002; 30 ppmw will apply December 31, 2004
4 – Allow 3.7 weight percent oxygen for gasoline containing more than 3.5 weight percent oxygen, but no more than 10 volume percent ethanol
5 – Temperature at which 50 percent of the hydrocarbons will distill in a standard laboratory test.
6 – Temperature at which 50 percent of the hydrocarbons will distill in a standard laboratory test.

LAR Improvements

The proposed project at the LAR consists almost entirely of modifications to existing processing units. However, there is also some new equipment associated with these modifications to existing units. Table 2-2 presents the proposed modifications and equipment. Each of the proposed modifications is discussed separately.

Table 2-2
Proposed LAR Modifications and Equipment

	Equipment Description	Nature of Change
1.	Light hydro unit (LHU) – heat exchangers Exchangers, piping, pumps, and control systems	Modifications New Equipment
2.	Conversion of Isomerization Sieve (ISO SIV) unit to a hydrotreater – heat exchangers, piping, and control systems Reactor, exchangers, pumps, and control systems	Modifications New Equipment
3.	No. 3 reformer fractionator and overhead condenser, piping, and control systems Pumps	Modifications New Equipment
4.	Gasoline Fractionation Area - retraying, piping, and control systems	Modifications

Table 2-2
Proposed LAR Modifications and Equipment

Equipment Description		Nature of Change
5.	FCCU Gasoline Fractionation	
5a.	*Option #1 - Fluid catalytic cracking unit (FCCU) rerun bottoms splitter (splitter tower, heat exchangers, etc.)	New Unit
5.b.	*Option #2 - Conversion of gasoline fractionation area depentanizer to a FCCU bottoms splitter – retraying	Modifications
	Exchangers, flash drum, and product cooling	New Equipment
6.	North hydrogen plant (use alternate feedstock)	
	Feed drum, pump, and vaporizer	New Equipment
7.	Conversion of existing MTBE unit to Selective Hydrogenation Unit (SHU)/ISO Octene Unit	
7a.	+Option #1 Convert MTBE unit into ISO Octene Unit – heat exchangers, piping, and control systems	Modifications
	Reactive, steam heater, heat exchangers	New Equipment
7b.	+Option #2 Convert MTBE Unit into Selective Hydrogenation Unit – stripper, reboiler, piping, and control systems	Modifications
	Heat exchangers	New Equipment
8.	Modification of existing Cat Poly Unit to a Dimerization Unit Hydrotreater reactor system – piping and control systems	Modifications
	Pumps, heat exchangers, vessels, piping, and control systems	New Equipment
9	Modification of Mid-Barrel Unit to Gasoline Hydrotreater - feed and product piping, hydrogen supply system, and heat exchanger, controls systems	Modifications
10.	Piping modification in tank farm	Modifications
11.	Facilities and equipment for pentane off-loading at existing railcar pentane loading facility	Modifications
	Repressurizing vaporizer system and two railcar spots	New Equipment
12.	Piping modification and substation upgrades to ship pentane by pipeline	Modifications
	Pump	New Equipment
13.	Facilities and equipment for butane off-loading at existing railcar	Modifications
	Propylene loading facility at northeast property	New Equipment

* Only one of the options would be exercised.
\+ Only one of the options would be exercised.

Light Hydro Unit (LHU)

The existing LHU would be modified to enable additional sulfur removal from the refinery FCCU Rerun Bottom stream. This modification would be related to meeting the CARB 3 reduced sulfur specification. Hydrogen is used to remove sulfur from the FCCU Rerun Bottom stream, which would then be routed to the refinery's existing sulfur recovery plant for conversion to elemental sulfur. Other related planned modifications to the LHU include adding new heat exchangers, piping, and pumps. Modifications to some existing heat exchangers and replacement of some existing control systems would also be required.

ISO SIV Unit

The existing ISO SIV unit was originally designed to separate iso-hexane from normal-hexane for gasoline and jet fuel blending. Due to the need to reduce sulfur in gasoline, the ISO SIV unit would be converted to a hydrotreater. As a hydrotreater, it would use hydrogen to remove sulfur from the FCCU rerun bottoms stream. The proposed modifications would include adding new reactors, exchangers, and pumps; along with upgraded control system/instrumentation, and miscellaneous modifications to existing heat exchangers and additional piping.

No. 3 Reformer Fractionator

The existing No. 3 reformer fractionator would be modified to help meet the new Reid Vapor Pressure (RVP) gasoline specifications. The removal of MTBE from gasoline and the use of ethanol as a substitute makes it more difficult to meet RVP specifications, especially during the summer months. The modifications to the No. 3 reformer fractionator and related equipment would result in the removal of butanes and pentanes, which would help to meet the RVP standard. Modifications to the overhead condenser and new pumps are also being proposed.

Gasoline Fractionation Area

The overhead product from the No.3 Reformer Fractionator would be further processed in the Gasoline Fractionation Area. The existing debutanizer would be modified to help meet the new RVP gasoline specifications. As was explained above, the removal of MTBE from gasoline and the use of ethanol as a substitute makes it more difficult to meet RVP specifications, especially during the summer months. The modifications to the existing debutanizer and related equipment would result in the removal of butanes, which would help to meet the RVP standard. The equipment changes would be the retraying of the existing debutanizer, along with some changes to piping and control systems.

FCCU Gasoline Fractionation

ARCO is considering two options to concentrate sulfur in the FCCU bottoms stream, which would make the sulfur removal more efficient. The most likely option will become part of the proposed project and the less likely option will be considered as part of a project alternative. Further engineering evaluation is necessary to determine which option to include in the proposed project.

- Option # 1 - FCCU Rerun Bottoms Splitter

One option is to construct a new FCCU rerun bottoms splitter. The new FCCU rerun bottoms splitter would include a splitter tower, heat exchangers, reboiler, product cooler, overhead accumulator/reflux drum, piping, and control systems/ instrumentation.

- Option # 2 - Conversion of Gasoline Fractionation Area Depentanizer to a FCCU Bottoms Splitter

Option # 2 is to convert an existing Depentanizer column in the Gasoline Fractionation Area to a FCCU bottoms splitter. The existing column would be retrayed; new exchangers, steam flash drum, and product cooling would be added. As with the new FCCU rerun bottoms splitter, the overall purpose of the modification is to split the FCCU bottoms stream into a light and heavy fraction. The sulfur would concentrate in the heavy stream, making it more efficient to remove the sulfur.

North Hydrogen Plant

During the summer months when the excess pentanes (removed in the No. 3 Reformer Fractionator to help comply with the RVP requirements after the MTBE is phased out) would be in greatest supply, the pentanes may be used as an alternate feedstock to the North Hydrogen Plant. Pentanes would be fed to the steam hydrocarbon reformer for hydrogen production. This would require a feed drum, additional, pumps, a vaporizer, and new piping. The addition of pentanes to the North Hydrogen Plant would not result in an increase in firing rates of the heaters at the plant.

Conversion of Existing MTBE Unit to SHU or ISO-Octene Unit

With the MTBE phase-out, the refinery's existing MTBE unit would be idled. This modification would involve converting the existing MTBE unit into either a Selective Hydrogenation Unit (SHU) for alkylation feed treating or conversion to an Iso-octene unit. Either option would improve the octane of refinery gasoline components enabling compliance with octane requirements absent MTBE and with less benzene as required by the CARB 3 gasoline specification.

- Option # 1 - Conversion to a SHU would require a new heat exchanger, re-servicing of an existing Methanol Stripper column to a Product Stripper column and modification of associated instrumentation/control systems.
- Option # 2 - Alternatively, should the MTBE Unit be converted to an Iso-octene Unit, a new reactor would be required or the existing reactor may be re-rated. A new heat exchanger, re-servicing of two existing columns and modification of piping and control systems/instrumentation would also be required.

Modification of Existing Cat Poly Unit to a Dimerization Unit

The existing cat poly unit would be modified into a pentanes Dimerization Unit. The existing cat poly unit would be utilized for C5 olefin polymerization to produce a dimerate suitable for jet fuel or diesel. The dimerate would be hydrotreated. A new hydrotreater reactor system would be added. This would require piping and instrument control modifications. These modifications will help to meet RVP specifications by removing pentanes, and are related to a number of other changes needed to offset decreased gasoline volumes resulting from MTBE phase out and CARB 3 gasoline specifications (e.g., increased distillation points and aromatic hydrocarbon caps), and to optimize the value of other refinery streams.

Modification of Mid-Barrel Unit to Gasoline Hydrotreater

The existing refinery mid-barrel unit may be modified to function as a gasoline hydrotreater to improve efficiencies and to meet gasoline sulfur specifications. Modifications would be needed to the feed and product piping, the hydrogen system for supplemental hydrogen, the heat exchanger, and the associated instrument controls. If, at the time the EIR is prepared for the proposed project, there is still uncertainty with regard to modifying the mid-barrel unit, the environmental analysis will include the assumption that the mid-barrel unit would be modified.

LAR SUPPORT FACILITIES

Piping Modifications in Tank Farm

Replacing MTBE with ethanol requires importing additional blending components via existing pipeline systems. Existing MTBE storage tanks and existing finished product storage tanks would be used for gasoline blending components storage. Minor associated piping tie-ins to an existing gasoline blending system would be added.

Facilities and Equipment for Pentane Off-Loading at Existing Railcar Pentane Loading Facility

To comply with RVP specifications, LAR must remove pentanes from the gasoline components. The excess pentanes would then be either sent offsite for storage or sale outside of the Basin, or used as an alternate feedstock to the hydrogen plant for hydrogen production. The existing pentane railcar rack system would require modification to allow off-loading from railcars during winter for importing and blending of pentanes, which would be feasible with the winter RVP parameters. Unloading from railcars would be accomplished by adding a re-pressurizing vaporizer system. Two new railcar spots would be added to the existing rack.

Piping Modification and Substation Upgrades to Ship Pentane Product by Pipeline

During the summer months, it would be necessary to remove and export pentanes to achieve the RVP specification. The pentanes may be exported via rail or via the marine terminal (T-2). For the latter, the pentanes would be pumped from LAR to a storage tank at the marine terminal. Modifications would be required to transport the excess pentanes by pipeline to the marine terminal. These modifications would consist of a pump being added near the existing pentane spheres. To supply power to the new pump, modifications would also be required at the associated electrical substation.

Facilities and Equipment for Butane Off-Loading at Existing Railcar Propylene Loading Facility at Northeast Property

In addition to removing pentanes, LAR would need to remove butanes from the gasoline components in order to meet the summer RVP requirements. The excess butanes would then either be sent offsite or used onsite as a fuel. The existing propylene loading facility in the Northeast Property would be modified by adding eight spots for butane loading and off-loading to and from railcars. Space for storage of 60 railcars is currently available in the Northeast Property.

DISTRIBUTION AND MARINE TERMINAL IMPROVEMENTS

The properties of MTBE are such that the MTBE could be blended into the gasoline at LAR and distributed through a single pipeline distribution system. Unlike MTBE, ethanol has a high affinity for water such that the gasoline and ethanol must remain separated until the point of retail delivery. The following sections describe the modifications that are required at the marine and five distribution terminals to keep the ethanol and gasoline separate until retail delivery.

Vinvale Terminal (City of South Gate)

The improvements at the Vinvale Terminal include piping and metering modifications for off-loading ethanol and new meters to ensure control of the system. Two existing storage tanks would be converted from hydrocarbon service to ethanol service. Additionally, truck-loading systems would be modified (i.e., piping and valves) to allow for the delivery and blending of ethanol at the loading rack.

Carson Terminal (City of Carson)

Modifications required at the Carson Terminal include piping and metering modifications for off-loading and blending of ethanol at the loading rack. Two existing storage tanks would be converted from hydrocarbon service to ethanol service. Additionally, truck-loading systems would be modified (i.e., piping and valves) to allow for the delivery and blending of ethanol at the loading rack.

Colton Terminal (City of Rialto)

Modifications required at the Colton Terminal include piping and metering modifications for off-loading and blending of ethanol at the loading rack. Two existing storage tanks would be converted from hydrocarbon service to ethanol service. Additionally, truck-loading systems would be modified (i.e., piping and valves) to allow for the delivery and blending of ethanol at the loading rack.

East Hynes Terminal (City of Long Beach)

Improvements planned for the East Hynes Terminal include new pumps for ethanol blending, and piping and metering modifications for ethanol offloading. Two existing storage tanks would be converted from hydrocarbon service to ethanol service. Additionally, truck-loading systems would be modified (i.e., piping and valves) to allow for the delivery and blending of ethanol at the loading rack.

Hathaway Terminal (City of Signal Hill)

At the Hathaway Terminal piping, metering, and truck loading rack modifications would be required for handling ethanol. Two existing storage tanks would be converted from hydrocarbon service to ethanol service. Additionally, truck-loading systems would be modified (i.e., piping and valves) to allow for the delivery and blending of ethanol at the loading rack.

Marine Terminal 2 (Port of Long Beach)

At this terminal, ethanol would be offloaded and pentanes would be loaded. Modifications at Marine Terminal 2 include converting existing tanks into ethanol

service with modifications to associated piping and metering. A new 100,000 barrel refrigerated tank would be constructed at the marine terminal for accumulation and storage of pentanes prior to loading for export. Addition of the refrigerated tank and associated pumping requirements would increase the requirements for electrical power at the marine terminal.

Los Angeles Basin Pipelines

Numerous ARCO pipelines exist within the Los Angeles Basin for transport of hazardous materials. The proposed project would continue to use these existing pipelines to transport ethanol and other petroleum products. Many of these pipelines currently ship a variety of petroleum hydrocarbons and will continue to do so as a result of the proposed project. Although pentanes and butanes are currently shipped in these pipelines, a greater quantity would move through the pipelines as a result of the project. No changes to the classification or permits of the pipelines would be required.

PERMITS AND APPROVALS

The proposed project will require a number of permits and approvals before construction and operation can commence. The majority of the permits and approvals will include SCAQMD air permits (e.g., permits for new sources, and changes to existing permits). While no changes in land use are proposed at any of the facilities, approvals typically in the form of building permits will be required from each of the cities where LAR and the terminals are located. Modifications to existing wastewater and stormwater discharge permits, and other ministerial permits such as grading, and electrical permits will also be required.

CONSTRUCTION SCHEDULE

Refinery Improvements and Modifications

Construction of the proposed project at LAR is scheduled to begin in January 2001 and be completed in December 2002. Construction is anticipated to take place four days per week, Monday through Thursday, from 6:00 a.m. to 5:00 p.m. Occasional night, Friday, or weekend shifts may be required to maintain the construction schedule. For the most part the construction would occur during process turnarounds when the units would be undergoing scheduled maintenance.

Distribution and Marine Terminal Improvements and Modifications

The construction activities at the terminals would occur between January 2001 and December 2002. The maximum duration for construction at an individual terminal would be 12 months. Construction activities would occur Monday through Thursday, from 6:00 a.m. to 5:00 p.m. Occasional night, Friday, or weekend shifts may be required to maintain the construction schedule.

OPERATION

The proposed project would require an additional 10 workers for operations and maintenance of the new and modified equipment, technical and laboratory support, and product marketing. The proposed project would not affect LAR's current operating schedule, which is 24 hours per day for 365 days per year.

PROJECT TERMINATION AND DECOMMISSIONING

The estimated lifetime of the proposed project additions and modifications to the LAR is over 40 years. The appropriate equipment may then be shut down and/or decommissioned, modified, and/or expanded in accordance with the applicable regulations and market conditions prevailing at the time of termination. The form of decommissioning would likely involve a combination of salvage or disposal at an approved landfill, as well as site restoration.

CHAPTER 3

ENVIRONMENTAL CHECKLIST

INTRODUCTION

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

GENERAL INFORMATION

Project Title:	ARCO California CARB 3 - MTBE Phase-Out Project
Lead Agency Name:	South Coast Air Quality Management District
Lead Agency Address:	21865 E. Copley Drive Diamond Bar, CA 91765
Contact Person:	Jonathan D. Nadler
Contact Phone Number:	(909) 396-3071
Project Sponsor's Name:	ARCO Products Company
Project Sponsor's Address:	1801 E. Sepulveda Boulevard Carson, CA 90749
General Plan Designation:	Colton Terminal – General Industrial Vinvale Terminal – Mixed Use Commercial/Industrial East Hynes Terminal – LUD 9G, General Industry Marine Terminal 2 – LUD 12, Harbor/Airport District LAR, Hathaway Terminal and Carson Terminal – Industrial
Zoning:	Colton Terminal - H-IND, Heavy Industrial Vinvale Terminal – M-3, Heavy Manufacturing East Hynes Terminal – IG, Industrial, General Hathaway Terminal – GI, General Industrial Marine Terminal 2 – IP, Port Related Industrial LAR and Carson Terminal – MH, Manufacturing, Heavy
Description of Project:	ARCO is proposing modifications to its existing refinery and related terminals in order to blend and distribute ethanol instead of MTBE as an oxygenate in gasoline, to meet CARB 3 gasoline specifications, and to comply with State and Federal reformulated fuels requirements. Ethanol is currently the only oxygenate that is approved by CARB as a replacement for MTBE in gasoline.

Surrounding Land Uses and Setting:	The refinery and terminals are located in industrial areas of San Bernardino and Los Angeles Counties. See Chapter 1, page 1-2 for additional project location and setting information.
Other Public Agencies Whose Approval is Required:	Various local agencies where the project sites are located, including the cities of Carson, South Gate, Long Beach, Signal Hill, and Rialto, as well as the Port of Long Beach.

POTENTIALLY SIGNIFICANT IMPACT AREAS

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

☐ Aesthetics	☐ Agriculture Resources	☑ Air Quality
☐ Biological Resources	☑ Cultural Resources	☑ Energy
☑ Geology/Soils	☑ Hazards & Hazardous Materials	☑ Hydrology/ Water Quality
☑ Land Use/Planning	☐ Mineral Resources	☑ Noise
☐ Population/Housing	☑ Public Services	☐ Recreation
☑ Solid/Hazardous Waste	☑ Transportation/ Traffic	☑ Mandatory Findings of Significance

DETERMINATION

On the basis of this initial evaluation:

- ☐ I find the proposed project COULD NOT have a significant effect on the environment, and that a NEGATIVE DECLARATION will be prepared.

- ☐ I find that although the proposed project could have a significant effect on the environment, there will not be significant effects in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

- ☑ I find that the proposed project MAY have a significant effect(s) on the environment, and an ENVIRONMENTAL IMPACT REPORT 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:_____ Signature:_____

Steve Smith, Ph.D.
Program Supervisor

ENVIRONMENTAL CHECKLIST AND DISCUSSION

Issues identified that may result in significant impacts will be fully evaluated in the EIR for the proposed project. As appropriate, baseline information contained in the ARCO Los Angeles Refinery Polypropylene EIR (SCH No. 97011049) (SCAQMD, 1997) and the Clean Fuels EIR (SCH No. 92091041) (SCAQMD, 1993) have been incorporated into this IS. These documents were prepared to evaluate potential impacts from refinery modifications resulting from compliance with gasoline specifications contained in the 1990 Clean Air Act Amendments and the CARB reformulated gasoline regulations. The SCAQMD 1997 EIR is herein referred to as the Polypropylene EIR, and the 1993 EIR is herein referred to as the Clean Fuels EIR.

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

The LAR is located in an industrial area surrounded by similar 'heavy industry' facilities. There is no scenic vista, nor are there scenic resources (including but not limited to trees, rock outcroppings, historic buildings, or a state scenic highway) in or proximal to the project area. The construction of the plant is not expected to cause the deterioration of visual resources. The refinery and terminal equipment to be installed for this project includes equipment similar in appearance to, and not as large as, the equipment currently located at LAR and the terminals. Therefore no significant impacts are anticipated to the existing visual character or quality of the site and its surroundings.

Additional permanent light sources required as part of the proposed project would be consistent with *ARCO Products Company Engineer Standard – Lighting*. Under most circumstances, construction would take place during daylight hours, requiring no additional lighting. If the construction schedule is such that nighttime activities are necessary, temporary lighting may be required. Since the project locations are completely within the boundaries of existing ARCO facilities, additional temporary lighting is not expected to be discernible from the existing lighting. No significant impacts to light and glare are anticipated as part of this project.

		Potentially Significant Impact	**Less Than Significant Impact**	**No Impact**
II.	**AGRICULTURE RESOURCES.** 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?	☐	☐	☑
b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☑
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?	☐	☐	☑

The proposed project includes improvements and modifications at existing industrial facilities. No agricultural resources occur on the refinery or terminal sites and no new land would be acquired. Therefore, the project would not convert Farmland (as defined above) to non-agricultural use or involve other changes in the existing environment that could convert Farmland to non-agricultural use.

Additionally, no land in the vicinity of the refinery or terminal sites is currently zoned for agricultural use. Therefore, the project does not conflict with existing agricultural zone or Williamson Act contracts.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
III. AIR QUALITY. Would the project:			
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☑	☐
b) Violate any air quality standard or contribute to an existing or projected air quality violation?	☑	☐	☐
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)?	☑	☐	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☑	☐	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☑

		Potentially Significant Impact	Less Than Significant Impact	No Impact
f)	Diminish an existing air quality rule or future compliance requirement resulting in a significant increase in air pollutant(s)?	☐	☐	☑

Overall, the project would contribute to implementation of the air quality plan by producing CARB Phase 3 reformulated gasoline, thereby improving air quality in the Basin. Project construction would, however, generate emissions of nitrogen oxides (NO_x), sulfur oxides (SO_x), carbon monoxide(CO), volatile organic compounds (VOCs), and fugitive dust (PM_{10}). These emissions would result primarily from construction-related traffic, the operation of construction equipment, and related disturbances to the ground surface. Construction emissions will be analyzed in the EIR.

An increase in emissions would also occur during the operation of the project. The project may result in an increase in emissions of VOCs due to fugitive components and process vents and/or drains. The increase in VOCs could contribute to the formation of ozone in the atmosphere. Emissions would also occur from mobile sources (e.g., commuter, truck, and rail trips and ship movements) during operation of the project. There may also be decreases in tankage emissions due to a decrease in the RVP of stored gasoline. There potentially could be increases in SO_x emissions due to additional sulfur being processed at the sulfur plant.

If significant increases in criteria pollutants, except VOC, are expected to result, air dispersion modeling will be performed to determine the potential project impacts on localized ambient concentrations of criteria pollutants. The results of the modeling will be included in the EIR.

The project may also change the amount and nature of toxic air contaminant emissions from the refinery and terminals. Toxic emissions changes from the refinery will be evaluated and a human health risk assessment to assess the net effect of expected changes in air toxic emissions from the refinery will be performed and addressed in the EIR. As the change in toxic emissions, if any, from the terminals is expected to be minimal, screening level health risk assessments will be performed for the terminals. The potential effects to air quality will be analyzed in the EIR. If significant effects are identified, appropriate mitigation will be defined and included in the EIR.

The project would not significantly alter air movement, moisture, or temperature, or cause climatic changes. There are no changes that would contribute to odors from the refinery or terminals; therefore, the project is not expected to impact odors.

The purpose of the project is to comply with CARB requirements to replace MTBE with ethanol and to produce reformulated gasoline. Since these actions would be to comply with CARB mandates, they will not diminish an air quality rule or future compliance requirement.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES. 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?	☐	☐	☑
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?	☐	☐	☑
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?	☐	☐	☑

		Potentially Significant Impact	Less Than Significant Impact	No Impact
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?	☐	☐	☑
e)	Conflicting with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☑
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.?	☐	☐	☑

The refinery portion of this project would be located within the existing boundaries of the LAR , which is zoned heavy manufacturing and that has already been greatly disturbed. As described in the Polypropylene EIR, there are no special-status plant or animal species located in the project area at the refinery. One species listed as a federal- and state species of special concern, the burrowing owl, *Athene cunicularia*, was reported in 1985 as occurring in the southwest area of the LAR and in an inactive tank farm located across Sepulveda Boulevard (ENSR 1993). However, excavation, grading, and/or storage of rubble in this area would have eliminated any potential habitat long ago . Therefore, it is unlikely that the species is still on the LAR site. While no specific surveys have been performed for this IS, based on the criteria presented above and the information presented in the Polypropylene EIR, and summarized above, no listed species occur in the area of the refinery that would be affected by this project and the project would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate sensitive, or special status species.

This project would not increase the likelihood of discharges from the refinery of untreated wastewater or stormwater runoff from process or product areas to the Dominquez Channel. Thus, no impacts to riparian habitat or any other sensitive natural community are expected. Similarly, no adverse effects on federally protected wetlands are anticipated.

The construction at the refinery would be performed on an existing industrial site and would not impinge on any waterbodies or wildlife corridors. Therefore the project would not 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.

The project would not impact any known biological resources and thus would not conflict with any local policies or ordinances protecting biological resources. Nor would it conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

As with the refinery improvements, the terminal improvements would occur within existing developed industrial facilities that are devoid of sensitive or protected species or habitat. Therefore, there similarly would be no significant impacts to special-status plant or animal life or any sensitive habitats from this project.

	Potentially Significant Impact	**Less Than Significant Impact**	**No Impact**
V. CULTURAL RESOURCES. Would the project:			
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☑	☐	☐
b) Cause a substantial adverse change in the significance of a archaeological resource as defined in §15064.5?	☐	☐	☑

		Potentially Significant Impact	Less Than Significant Impact	No Impact
c)	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☑	☐	☐
d)	Disturb any human remains, including those interred outside a formal cemeteries?	☐	☐	☑

There will be minimal construction below ground level associated with the construction of a pad for the FCC Rerun Bottoms Reformer at the LAR and the new pentane tank at the marine terminal. The Marine Terminal (T-2) is located on fill materials that are unlikely to contain cultural resources. However, cultural resources have been removed in a prior excavation at LAR and cultural and paleontological resources will be addressed in the EIR.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
VI.	**ENERGY.** Would the project:			
a)	Conflict with adopted energy conservation plans?	☐	☐	☑
b)	Result in the need for new or substantially altered power or natural gas utility systems?	☐	☐	☑
c)	Create any significant effects on local or regional energy supplies and on requirements for additional energy?	☐	☐	☑
d)	Create any significant effects on peak and base period demands for electricity and other forms of energy?	☐	☑	☐

	Potentially Significant Impact	Less Than Significant Impact	No Impact
e) Comply with existing energy standards?	☐	☐	☑

The project is not expected to conflict with energy conservation plans. It is in the economic interest of the proponent to conserve energy and comply with existing energy standards in order to minimize operating costs. There will be no increase in the amount of natural gas consumed by the LAR or at the Terminals. The project will not result in the need for new or substantially altered power or natural gas utility systems. The project would result in an increase in electrical power use of about 680,000 kilowatt hours per year due to an increase in pumping and refrigeration requirements. Therefore, the increased use of electrical power for project requirements and the potential to create significant effects on peak and base period demands for electricity will be addressed in the EIR. If appropriate, mitigation measures will be identified.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
VII. GEOLOGY AND SOILS. Would the project:			
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:			
• 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?	☑	☐	☐
• Strong seismic ground shaking?	☑	☐	☐
• Seismic–related ground failure, including liquefaction?	☐	☐	☑
• Landslides?	☐	☐	☑

		Potentially Significant Impact	Less Than Significant Impact	No Impact
b)	Result in substantial soil erosion or the loss of topsoil?	☐	☐	☑
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?	☐	☐	☑
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?	☐	☐	☑
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?	☐	☐	☑

The project will be constructed in an area of known seismic activity. The construction of the project elements will conform to the Uniform Building Code and other applicable codes. Where appropriate, the project design will be reviewed and approved by a civil or structural engineer with training in design methods to prevent damage from a possible earthquake. The potential for impacts from seismic shaking or ground rupture from a known earthquake fault will be addressed in the EIR. If appropriate, mitigation measures will be identified.

As the project improvements at the terminals do not include structures or buildings, with the exception of one new tank at Marine Terminal 2, no impacts are expected to occur at the terminals due to seismicity. As the project includes transporting a different material (ethanol and pentanes) in existing hazardous liquid pipelines, the EIR will analyze the potential impacts that would result from a seismic event, if the event were to occur with ethanol in the pipeline.

As discussed in the Polypropylene EIR, the soil types present at the LAR are not particularly susceptible to expansion or liquefaction. Because salt water is being reinjected in place of oil and gas removed from fields beneath this area, subsidence has not been a problem for recent projects and is not expected to be a problem during construction or operation of the proposed project. The area is not prone to landslides and no unique geologic features are located on the property. The project improvements are primarily modifications to existing structures, with the exception of a new FCC Rerun Bottoms Reformer at LAR and a new pentane storage tank at Marine Terminal 2. Minimal grading is planned and therefore, the proposed project is not expected to result in substantial soil erosion or the loss of topsoil.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
VIII.	**HAZARDS AND HAZARDOUS MATERIALS.** Would the project:			
a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☑	☐	☐
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?	☑	☐	☐
c)	Emit hazardous emissions, or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☑
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?	☐	☑	☐

		Potentially Significant Impact	Less Than Significant Impact	No Impact
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?	☐	☐	☑
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?	☐	☐	☑
g)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☑
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?	☐	☐	☑
i)	Significantly increased fire hazard in areas with flammable materials?	☑	☐	☐

The proposed project would result in the storage, use, and transportation of different types of hazardous materials. The hazardous materials include: pentane, butane, ethyl alcohol, hydrogen, gasoline constituents (such as benzene or H_2S) and hazardous petroleum waste products from tank cleaning. Pentane and butane are regulated flammable substances under the Federal Risk Management Program and the California Accidental Release Program. Based on these considerations, the potential exists that significant hazard impacts could occur. The potential effects of an accidental release of hazardous materials being stored, used, and transported will be evaluated in the EIR. If significant impacts are identified, appropriate mitigation will be included in the EIR.

Upset and accident conditions may release hazardous materials into the environment. Various release scenarios and the potential impacts of the releases will be modeled in the EIR. Mitigations to reduce the potential frequency and severity of releases will be recommended.

Hazardous materials that are constituents of products (such as benzene in gasoline) were not specifically identified as hazardous materials for risk of upset estimates. Also, emissions (such as H_2S) from processes such as desulfurization are addressed in sections concerned with air emissions and health risks and were not identified specifically as hazardous materials used in the process when estimating risk of upset.

None of the proposed facility modifications would create hazardous emissions within one-quarter of a mile of an existing or proposed school. This information will be verified during the EIR for all the municipalities in which the project sites are located.

Some of the modifications required for the project would be at sites that are on the Government Code § 65962.5 list. This includes the LAR, which is a Calsite and a leaking underground storage tank (LUST) site. Colton, Carson, and East Hynes are also LUST sites. These issues will be addressed in the EIR.

The proposed project is within two miles of a public airport and is in the vicinity of a private airport. However, the modifications to the facilities required for the project are comparable to existing facilities and would not increase safety hazards for people residing or working in the project area. Also, the project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evaluation plan.

The project is located in an urban area and would not impact wildlands.

The project makes extensive use of flammable materials. Increased fire hazards will be addressed in the EIR.

Procedures for emergency response are provided to all employees along with training guidelines and the use of personal protective equipment. All construction and operation personnel would be safety-trained in accordance with ARCO procedures. No adverse occupational health impacts are expected as a result of construction and operation of this project. Therefore, this specific issue does not warrant further analysis in the EIR.

Ethanol is less flammable and less reactive than gasoline so an increase in risk is not expected over the same pipeline routes. Incremental risk may arise for ethanol and pentane that are transported by pipeline routes that were not used for this purpose before. These risks will be calculated and their potential impacts assessed in the EIR.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
IX.	**HYDROLOGY AND WATER QUALITY.** Would the project:			
a)	Violate any water quality standards or waste discharge requirements?	☑	☐	☐
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)?	☐	☐	☑
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?	☐	☐	☑

		Potentially Significant Impact	Less Than Significant Impact	No Impact
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?	☐	☐	☑
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?	☐	☑	☐
f)	Otherwise substantially degrade water quality?	☐	☑	☐
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?	☐	☐	☑
h)	Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☑
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?	☐	☐	☑
j)	Inundation by seiche, tsunami, or mudflow?	☐	☐	☑
k)	Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☑	☐

		Potentially Significant Impact	Less Than Significant Impact	No Impact
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?	☐	☑	☐
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?	☐	☐	☑
n)	Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☑	☐
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?	☐	☑	☐

As the project would be constructed at existing facilities and has few new surface features, no significant changes in stormwater runoff, drainage patterns, groundwater characteristics or flow would result. There will also be no increased risk of flood, seiche, tsunami or mud flow hazards.

An increase of up to 100,000 gallons per day of water would be required for the proposed project. The affects of the additional water use will be addressed in the EIR. The project would result in an increase of up to 75,000 gallons per day of wastewater generation from LAR. Potential impacts will be assessed in the EIR.

Based on information provided by CARB, the use of ethanol will have lesser impacts on groundwater quality than from the use of MTBE. Information from CARB and other sources on impacts to surface and groundwater due to contamination with MTBE and potential impacts of ethanol contamination will be summarized in the EIR.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
X.	**LAND USE AND PLANNING.** Would the project:			
a)	Physically divide an established community?	☐	☐	☑
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?	☐	☑	☐
c)	Conflict with any applicable habitat conservation or natural community conservation plan?	☐	☐	☑

The proposed project includes improvements and modifications at existing industrial facilities. The overall activities and products produced would remain the same. No new land would be acquired for the project and no zoning and/or land use changes are anticipated to be necessary as part of the project. There nonetheless may be less than significant impacts associated with consistency with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the project. This topic will be discussed in the EIR to determine if the project would conflict with the various local planning/development requirements.

Because the project locations are located in industrialized areas, the project is not expected to conflict with local habitat conservation plans or natural community conservation plans. Additionally, no established communities occur on the project sites, and the project would not divide an established community.

No established communities occur on the property, therefore, the project would not disrupt an established community.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XI. MINERAL RESOURCES. 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?	☐	☐	☑
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?	☐	☐	☑

The project would be constructed on land within existing industrial uses. There are no known mineral resources on the project sites. Therefore the project would not result in the loss of a known mineral resource that would be of value to the region and residents of the state. Similarly, because there are no known mineral resources on the project sites, the project would not 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.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XII. NOISE. 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?	☐	☑	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☑	☐	☐

		Potentially Significant Impact	Less Than Significant Impact	No Impact
c)	A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☑
d)	A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☑	☐
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?	☐	☐	☑
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?	☐	☐	☑

The proposed project improvements at the refinery would be located within the existing LAR, and construction would be conducted over the course of approximately 24 months. The nearest residences to the LAR facility are located along 223rd Avenue. As the project would occur within an existing industrial setting and noises are anticipated to be comparable to existing activity, it is unlikely that the project would result in human exposure to excessive noise levels. However, potential noise impacts will be qualitatively evaluated in the EIR because the project consists of various new noise sources at the project site.

There would be some construction at the terminals, as well as an increase in truck trips at the terminals. Therefore the potential exists for significant construction and operation noise impacts at the terminals. These potential impacts will be evaluated in the EIR.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XIII. POPULATION AND HOUSING. 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)?	☐	☐	☑
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☑
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☑

The project would occur within existing industrial facilities located in highly urbanized areas. Because of the large population base in the greater Los Angeles area, it is expected that the existing labor pool would accommodate the labor requirements for both construction and operation of the project. No significant growth in population is expected as a result in this project, therefore, no further analysis is warranted.

Construction of the proposed project would require up to 24 months. Ten operations jobs would be created by the proposed project, as well as up to 310 temporary construction jobs. Because the project is proposed within existing facilities located near highly urbanized areas, it is unlikely that additional housing would be necessary for the labor force needed for construction and operation of the project. No existing housing would be displaced. Substantial housing growth in the area would not occur as a result of the project. Therefore, no further analysis is warranted.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XIV. PUBLIC SERVICES. 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?	☑	☐	☐
b) Police protection?	☐	☐	☑
c) Schools?	☐	☐	☑
d) Parks?	☐	☐	☑
e) Other public facilities?	☐	☐	☑

LAR maintains an onsite fire department, which is supplemented by public fire departments, to respond to emergency requirements. Due to the addition of a process unit and the quantities of different materials being shipped from the LAR, the proposed project may increase demands for fire protection resources in support of the refinery. This issue will be assessed in the EIR.

At the inland terminals, the project includes conversion of existing hydrocarbon tanks to ethanol service. The total storage capacity for potentially flammable liquids at the terminals would be the same. For the Marine Terminal (T-2), three existing storage tanks will be decommissioned and one new storage tank will be constructed. The total hydrocarbon storage capacity at T-2 will remain approximately the same. The existing fire protection systems at the terminals should be adequate to accommodate the proposed modifications/additions.

LAR also has an onsite security department that provides protective services for people and property within the refinery bounds. Because the project primarily involves modifications to existing facilities, there would be no increased need for new or expanded police protection.

The local workforce is more than adequate to fill the ten additional operational positions. Therefore, there will be no increase in local population, and thus no impacts are expected to schools, parks, or other public facilities.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XV. RECREATION.			
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.?	☐	☐	☑
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?	☐	☐	☑

There would be no changes in population densities resulting from the project and the project will not result in an increase in the use of existing neighborhood and regional parks or other recreational facilities. Similarly the project will not necessitate the construction or expansion of recreational facilities, and thus will not have an adverse physical effect on the environment.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XVI. SOLID/HAZARDOUS WASTE. Would the project:			
a) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☑	☐
b) Comply with federal, state, and local statutes and regulations related to solid and hazardous waste?	☐	☐	☑

Solid waste generation and disposal would increase during construction. The wastes would most likely consist of concrete, asphalt, wood, and metal debris. The solid waste generated during construction would be disposed of in an appropriately classified disposal facility by a licensed contractor.

The portion of the LAR that is located north of the Dominguez Channel is referred to as the Northeast Property. The Northeast Property is the former site of the John Mansfield facility.

The Northeast Property has undergone remediation for asbestos contamination. In furtherance of efforts to insure that public health and safety continues to be protected, a Health and Safety Plan has been prepared for this area that specifically addresses the asbestos materials that may remain in the soil of the property. ARCO has further developed a Soils Handling Plan, which augments and replaces the Health and Safety Plan. The Soils Handling Plan is enforced by the SCAQMD as part of a Rule 1150 permit process, if applicable.

If contaminated soils are encountered during the project construction, the soils would be removed for proper disposal in accordance with SCAQMD's Rule 1150 and ARCO's Soils Handling Plan. The potential environmental impacts from the occurrence of contaminated soils and the removal procedure will be evaluated in the EIR.

Wastes generated by the operation of the project would be properly managed and/or disposed of in compliance with federal, state, and local statutes and regulations related to solid and hazardous waste management.

Potential impacts of solid/hazardous waste disposal will be evaluated in the EIR.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XVII. TRANSPORTATION/TRAFFIC. 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)?	☑	☐	☐
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☑	☐	☐
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?	☐	☐	☑

		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)?	☐	☐	☑
e)	Result in inadequate emergency access or?	☐	☐	☑
f)	Result in inadequate parking capacity?	☐	☑	☐
g)	Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g. bus turnouts, bicycle racks)?	☐	☐	☑

Increased vehicle trips during construction may potentially affect the transportation/ circulation system in the area of LAR and the terminals. Transportation/circulation impacts are expected to be of greater concern in the vicinity of LAR, as the terminal projects would require substantially fewer construction workers and equipment. Additional parking facilities may be required for the additional construction employees. Transportation/circulation and parking issues will be assessed in the EIR.

During operation of the project there would be additional truck trips for the delivery of ethanol to the terminals. Additional motor vehicle trips at the refinery during operation of the project are expected to be negligible; however there may be an increase in the number or length of trains from the refinery due to the additional butane and pentane to be produced and sold. This potential impact will also be addressed in the EIR.

The project would involve marine import of ethanol and marine export of pentanes. This would be offset by the discontinuance of marine import of MTBE. The net change in marine trips will be determined and the impacts assessed in the EIR.

The project would take place at existing facilities and would not result in hazards due to road design, hazards to pedestrians, or conflicts with alternative transportation. The project would also not result in inadequate emergency access.

The potential effects to road, rail, and marine transportation/circulation will be analyzed in the EIR. If significant effects are identified, appropriate mitigation will be defined and included in the EIR.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
XVIII.	**MANDATORY FINDINGS OF SIGNIFICANCE.**			
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?	☑	☐	☐
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)	☑	☐	☐
c)	Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☑	☐	☐

The proposed project has the potential to degrade the quality of the environment.

No special-status species are known to exist in the proposed project areas. The project does not have the potential to 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 California history or prehistory.

The proposed project may have impacts that are individually limited, but cumulatively considerable. The incremental effects of the proposed project in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects will be evaluated in the EIR.

The project has environmental effects that have the potential to cause substantial adverse effects on human beings, either directly or indirectly. Hydrology/water quality, air quality, transportation/traffic, energy, cultural resources, hazards and hazardous materials, noise, public services, solids/hazardous waste, and geology/soils may be impacted as a result of the project. These environmental issues will be evaluated in the EIR.

No impacts to aesthetics, agriculture resources, population/housing, biological resources, recreation, and mineral resources are expected as a result of the project. Therefore, these environmental issues will not be discussed in the EIR.

APPENDIX A

City of Carson Lead Agency Letter