CHAPTER 5
CUMULATIVE IMPACTS

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CHAPTER 5.0

CUMULATIVE IMPACTS

A. INTRODUCTION

CEQA Guidelines §15130(a) requires an EIR to discuss cumulative impacts of a project when the project's incremental effect is cumulative considerable, as defined in §15065(c). There are a number of projects proposed for development in the vicinity of the Ultramar refinery that may contribute cumulative impacts to those generated by Ultramar's proposed project. These include extensive improvements to the Ports of Long Beach and Los Angeles, and the Alameda Corridor Transportation Authority projects, as well as the reformulated fuels modifications planned by other petroleum refineries in the South Coast Air Basin. Figure 5-1 shows the locations of the six major southern California refineries. The reformulated fuels modifications are to be completed in order to supply reformulated gasoline as required by Executive Order D-5-99 and the resulting CARB RFG Phase 3 requirements by December 31, 2002. The discussion below lists projects which are reasonably expected to proceed in the foreseeable future, i.e., project information has been submitted to a public agency. Cumulative construction impacts were evaluated herein if the major portion of construction are expected to occur during the same construction period as Ultramar's RFG Phase 3 project, i.e., 2001 and 2002.

Public agencies were contacted to obtain information on projects within the Wilmington area. Figure 5-2 identifies by number the location of each of the projects discussed below. The number is used to identify the related projects throughout the discussion of cumulative impacts. Localized impacts were assumed to include projects which would occur within the same timeframe as the Ultramar RFG Phase 3 project and which are within a one-mile radius of the Ultramar refinery. These projects generally include the RFG Phase 3 project at the British Petroleum (formerly ARCO) refinery; the RFG Phase 3 project at the Tosco refinery; the RFG Phase 3 project at the Equilon refinery; portions of the Port 2020 Plan, the Alameda Corridor projects, and third party distribution terminals. Regional impacts were assumed to include projects throughout the basin, e.g., all refineries.

Some of the resources affected by the proposed Ultramar project would primarily occur during the construction phase, e.g., traffic. Other impacts would primarily occur during the operational phase, e.g., hazards. Other impacts would occur during both phases, e.g., air quality and noise.

LOCAL REFINERIES

1) Tosco

The Tosco refinery (formerly Unocal) consists of facilities at two locations (Wilmington and Carson) approximately three miles apart. The two integrated sites transfer raw

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Figures 5-2 goes here

intermediate, and finished materials primarily by pipelines. Finished products are transferred from the Los Angeles refinery via the Torrance Tank Farm pipeline to distribution terminals in the southern California area or to interstate pipelines. The RFG Phase 3 project will only involve physical changes to the Tosco Wilmington Plant, located at 1660 W. Anaheim Street, Wilmington, California, 90745.

Tosco has proposed to modify existing process units at the Wilmington Plant in order to produce gasoline in compliance with CARB's Phase 3 requirements (SCAQMD, 2001). No new process units are proposed at the Refinery. In addition, no modifications are currently planned at the Carson Plant or the Marine Terminal.

Modifications to the following units are proposed:

- Alkylation Unit (fractionation equipment, refrigeration compressor system, pumps, heaters and exchangers)
- Acid Plant (vapor recovery system)
- Butamer Unit (pumps)
- Catalytic Light Ends Fractionation Unit (fractionation equipment, pumps and piping)
- Rail Car Offloading Facilities
- Butane Storage Tank System
- Storage Tank System
- Utilities (the nitrogen, steam, water, condensate, electrical, hydrocarbon relief, and fresh/spent acid systems)

Associated modifications and additions to storage facilities, pipelines and support facilities are also expected (SCAQMD, 2001).

In addition to the CARB Phase 3 project, Tosco has been issued permits for an Ethanol Import and Distribution Project. In order to produce gasoline without MTBE as required by the Governor's Executive Order and to remain compliant with state and federal reformulated fuel standards, Tosco will replace MTBE with ethanol. This project is comprised of modifying existing facilities to permit ethanol to be received into the Marine Terminal for transshipment through the Wilmington Plant for ultimate blending into gasoline at existing, offsite marketing terminals. A Negative Declaration has been completed (SCAQMD, 2000b) and approved for this project. Because this project was found not to have any significant effect on the environment, no cumulative impacts are expected.

2) Exxon-Mobil

The Exxon-Mobil refinery is located at 3700 W. 190th Street in Torrance, about seven miles from the Ultramar refinery. The RFG Phase 3 project includes modifications and/or additions to the following equipment:

- Light FCCU – Unsaturated Gas Plant Debutanizer
- Light HDC – Stabilizer, Gasoline Component Isolation Piping

- Deisobutanizer Tower – Butane Handling
- Alky Feed – Hydrotreating
- Liquefied Petroleum Rail Facilities – Vessels, Loading and Additional Track
- Fuel Ethanol Storage – Tanks, Rail and Off-loading Facilities
- Gasoline Storage – Tanks
- FCC – Hydrotreater Reactors and Heater Modifications
- Alkylate – Additive Water Wash System and Merox System
- Sulfur Contamination Elimination – Overhead Compressor Modifications
- Light FCC Gasoline – Splitter Modifications
- Torrance Loading Rack (add fuel ethanol off-loading rack; modify vapor recovery unit, piping, and manifolds)
- Vernon Terminal (add rail car off-loading system, two truck off-loading areas, gasoline tank, lighting area and drainage system; modify rail spur, loading rack, vapor recovery unit, vapor destruction unit, and two storage tanks)
- Anaheim (Atwood) Terminal (add two truck off-loading areas, storage tank, lighting area and drainage system; modify truck rack)

Associated modifications and additions to storage facilities, pipelines and support facilities are also expected (SCAQMD, 2001a).

The Exxon-Mobil Southwestern marine terminal is located at 799 South Seaside Avenue on Terminal Island in the Port of Los Angeles. The Southwestern marine terminal consists of approximately 14 acres and has four berths (238, 239, 240B and 240C). RFG Phase 3 projects proposed to take place at the Southwestern marine terminal include the addition of a truck loading rack, a vapor combustor, area lighting, a drainage system; and the modification of two tanks (SCAQMD, 2001a). Exxon-Mobil's distribution terminals are located in Vernon, Anaheim (Atwood) and Terminal Island in the Port of Los Angeles. The Torrance refinery and loading rack, and the Vernon and Anaheim distribution terminals are located at least eight miles (the Torrance Refinery) from Ultramar so cumulative localized impacts are not expected to occur.

3) Equilon

The Equilon refinery (formerly Texaco) is located at 2101 East Pacific Coast Highway, Wilmington and is immediately north of the Ultramar refinery. Equilon's Wilmington Terminal is located adjacent to the southwestern portion of its Refinery at 1926 East Pacific Coast Highway (adjacent to Ultramar's Olympic Tank Farm), and the marine terminal is located on Mormon Island at Berths 167-169 within the Port of Los Angeles (near Ultramar's Marine Terminal at Berth 164). The proposed project will also require changes to Equilon's other southern California area distribution terminals located in Signal Hill, Carson, Van Nuys, and Colton/Rialto. The RFG Phase 3 project includes the following proposed modifications:

- Alkylation Unit (Contactor and Settler, refrigeration unit, exchangers/pumps, and effluent treating vessels)

- C4 Isomerization Unit (vessels, exchangers, pumps, piping, stabilizer, gas scrubber, and drier)
- Hydrotreater Unit No. 2 (Olefins Saturation Reactor, pretreatment reactor, charge pumps, heat exchangers, trays, stripper reboiler, and control valves)
- Hydrotreater Unit No. 4 (diesel side stripper, feed steam preheater, and heat exchangers)
- Hydrotreater Unit No. 1
- Catalytic Reforming Unit No. 2 (sulfur guard reactor)
- Fractionator Changes (HCU Main Fractionator, FCCU Debutanizer, Feed Prep Tower, Depentanizer, Alky Deisobutanizer, Alky Debutanizer and C4 Isomerization Deisobutanizer, and HCU Depropanizer)
- Refinery Storage Tank modifications
- Storage Tanks (at Wilmington, Carson, Signal Hill, Van Nuys, and Colton/Rialto Terminals)
- Pentane Sphere
- No. 2 (debutanizer tower)
- Flare
- Vapor Recovery Systems
- Carson Terminal (includes storage tanks modifications and a new truck loading rack)
- Lomita Terminal (includes an ethanol railcar unloading facility)
- Signal Hill Terminal (includes storage tank and truck loading rack modifications)
- Colton/Rialto Terminal (includes storage tank and truck loading rack modifications)
- Van Nuys Terminal (includes storage tank and truck loading rack modifications)
- Marine Terminal (includes storage tank modifications)
- Wilmington Terminal (includes storage tank and truck loading rack modifications)

Associated modifications and additions to storage facilities, pipelines and support facilities also are expected (SCAQMD, 2001b). The Equilon terminals in Signal Hill, Van Nuys, and Colton/Rialto are located at least six miles (the Signal Hill Terminal) from Ultramar so localized cumulative impacts with Ultramar are not anticipated. The Van Nuys and Colton/Rialto Terminals are located over 30 miles from the Ultramar Refinery.

4) Chevron

The Chevron refinery is located at 324 West El Segundo Boulevard in El Segundo, California, about 13.5 miles from the Ultramar refinery, which is a sufficient distance (about 14 miles) to avoid cumulative localized impacts with Ultramar. The Chevron refinery has proposed to make changes to the reconfiguration of the Refinery by modifying existing process operating units, constructing and installing new equipment, and providing additional ancillary facilities in order to produce the RFG Phase 3 reformulated gasolines (SCAQMD, 2001c). The proposed new refinery units include:

- Isomax Complex (distillation column, steam reboilers and overhead condensers)
- TAME Plant (steam reboilers and overhead condensers)
- Pentane Storage Sphere
- Pentane Sales (rail loading facilities and railcar storage area)
- TAME Unit (distillation column, reflux pumps, steam reboilers and overhead condensers)

- No. 1 Naphtha hydrotreater (under Option A: one furnace, compressors, exchangers, and pumps. Under Option B: compressors, exchangers, and pumps).
- FCCU Depropanizer
- FCCU Debutanizer
- FCCU Deethanizer (vessels, pumps and exchangers)
- FCCU Propylene Caustic Treating Facilities
- FCCU Butene Caustic Treating Facilities
- FCCU Amine Absorber
- FCCU Relief System (headers)
- FCCU Wet Gas Compressor Insterstage System Upgrades (two exchangers and one vessel)
- Alkylation Plant (two contactors and an acid settler)
- Cooling Tower
- Trim coolers for existing Distillation Columns
- Iso-octene Plant (pressure vessels, exchangers and pumps)
- Two floating roof gasoline component storage tanks

Modifications to existing refinery units are proposed for the following:

- TAME Unit (Depentanizer column)
- No. 1 Naphtha hydrotreater (under Option A: modify one furnace; under Option B: modify two furnaces)
- Deethanizer (column)
- Relief Systems (vapor recovery facilities and flare)
- Main air blower rotor replacement
- Wet Gas Compressor
- Rotor and Gearbox Upgrade
- Recommission Existing Out-of-Service Deisobutanizer
- Retraying Distillation Columns
- MTBE storage tank

The proposed project also includes modifications to the Chevron Montebello Terminal (storage tank and loading rack modifications and a new ethanol railcar unloading facility), the Van Nuys Terminal (storage tank and loading rack modifications), and the Huntington Beach Terminal (storage tank and loading rack modifications).

Due to the distance separating the Chevron refinery from the Ultramar refinery, no cumulative impacts are expected during the construction or operation of the proposed project.

5) British Petroleum (the former ARCO Refinery)

The British Petroleum (BP) Refinery (formerly ARCO), located at 1801 E. Sepulveda Boulevard in Carson, is approximately two miles north of the Ultramar refinery. The BP Carson terminal is located at 2149 E. Sepulveda Boulevard; the Marine Terminal 2 is located at 1300 Pier B Street within the Port of Long Beach. The proposed RFG Phase 3 project will also require changes to BP's other southern California area distribution

terminals located in South Gate, Rialto, Long Beach and Signal Hill. The BP refinery has proposed to make changes to the Refinery by modifying existing process operating units, constructing and installing new equipment, and providing additional ancillary facilities in order to produce the RFG Phase 3 reformulated gasolines (SCAQMD, 2001d). The proposed new refinery units include:

- FCCU Gasoline Fractionation (Option #1) – rerun bottoms splitter (splitter tower, heat exchangers, etc.)

Modifications to existing refinery units are proposed for the following:

- Light Hydro Unit (modify heat exchangers; new exchangers, piping pumps and control systems)
- Isomerization Sieve (convert unit to hydrotreater; modifications to heat exchangers, piping and control systems; new reactor, exchangers, pumps and control systems)
- No. 3 Reformer Fractionator and Overhead Condenser (piping and control systems; new pumps)
- Gasoline Fractionation Area (retraying, piping and control systems)
- FCCU Gasoline Fractionation (Option #2) – convert gasoline fractionation area depentanizer to a FCCU bottoms splitter (retraying; new exchangers, flash drum, and product cooling)
- North hydrogen plant (new feed drum, pump and vaporizer)
- MTBE Unit (Option #1) – convert into ISO Octene Unit (modify heat exchangers, piping and control systems; new reactive, steam heater and heat exchangers)
- MTBE Unit (Option #2) – convert into Selective Hydrogenation Unit (modify stripper, reboiler, piping and control systems; new heat exchangers)
- Cat Poly Unit – modify to a Dimerization Unit Hydrotreater reactor system (modify piping and control systems; new pumps, heat exchangers, vessels, piping and control systems)
- Mid-Barrel Unit – modify to a Gasoline Hydrotreater (modify feed and product piping, hydrogen supply system and heat exchanger, controls systems)
- Tank Farm – piping modifications
- Pentane railcar loading facility – modify for pentane off-loading (new repressurizing vaporizer system and two railcar spots)
- Propylene railcar loading facility – modify for butane off- loading.

Associated modifications and additions to distribution storage facilities, pipelines and support facilities also are expected (SCAQMD, 2001d).

Other Related Projects

Other proposed projects within the general Wilmington/Carson area are described below.

6) Previously Proposed Metro 2000 Site

About eight years ago the Metro 2000 complex was proposed. It was to be a 1,500,000 square foot factory outlet mall, located in the City of Carson at Del Amo and the 405

Freeway, about five miles from the refinery. This project has been scaled down to a strip type mall with theatres. The developer is still in discussion with the City regarding details of the project. The site was previously a landfill and cleanup will be required. An EIR will also be required (Sean Scully, City of Carson, Personal Communication, January 2002). This project is located about five miles north of the refinery so that cumulative localized impacts with the proposed Ultramar project will be avoided.

7) Port of Los Angeles/Port of Long Beach 2020 Plan

Activity at the ports of Los Angeles and Long Beach is projected to double by the year 2020 (Myra Frank & Associates, 1992a). The 2020 Plan is a long-range, joint-planning effort of the Port of Los Angeles, the Port of Long Beach, and the U.S. Army Corps of Engineers to meet expected trade needs of the region and the nation through the year 2020. It is a phased program of existing facility optimization, dredging, landfilling, and facilities construction, which in total will expand the Port complex by 2,400 acres of new land and 600 acres of development on existing land. (L.A. Harbor Dept., 1993). The Alameda Corridor Transportation Authority ("ACTA") improvements are considered mitigation measures for the adverse effects of the projected growth in port activity on regional rail and truck transportation systems. See below for further discussion of the ACTA projects.

The Port of Long Beach is planning a variety of improvements as supported by the Port of Long Beach Facilities Master Plan (FMP). The FMP describes growth strategies for the Port through the year 2020. The Port plans to rebuild existing facilities and add the equivalent of 1,100 acres of new container cargo space and 400 acres of other types of terminal space to meet future needs. The Port of Long Beach plans to expand several existing marine container terminals. The Port is currently in the process of developing a 150-acre container terminal at Pier S, and has approval to begin Berth T121 Facility modifications. The Port of Long Beach has prepared an EIR for the expansion of the existing marine container terminal at Piers D, E and F, and has completed the Final EIR for the Piers G and J Terminal Development project. Construction for the Piers G and J Terminal Development project began in September of 2000 and is expected to last approximately 12 years. The U.S. Navy is also currently involved in developing a container terminal, liquid bulk facility and satellite launch facility at the Long Beach Naval Complex (Dames and Moore, 2000 and Tom Johnson, Port of Long Beach, Personal Communication, January 2002).

The Port of Los Angeles is continuing to plan and work on a variety of improvements that were begun as part of the 2020 Plan. These projects include dredging and filling to provide access to a proposed dry bulk terminal and a proposed container terminal at Pier 300, and dredging and filling to provide access to proposed liquid bulk terminals and a proposed container terminal at Pier 400. The terminals at Pier 300 would be built on existing land, while the terminals at Pier 400 would be constructed on new landfilled area created from dredge material generated during dredging activities (USACE, 1992).

The Port of Los Angeles is also planning a channel deepening project. In 1992, the United States Army Corps of Engineers (USACE) and the Los Angeles Harbor Department (LAHD) approved the Deep Draft Navigation Improvements Project EIS/EIR to optimize navigation channels in the Outer Los Angeles Harbor and use dredge material to create approximately 600 acres of new land (Pier 400). That project is presently under construction. Included in that planning effort was an assumption that in order to accommodate the anticipated cargo through San Pedro Bay, not only new land would be required, but also navigation channels and other existing facilities would need to be optimized. In accordance with these improvements, the LAHD has been upgrading facilities at the Port including the 212-215 Container Terminal Project; the Evergreen Container Terminal Expansion; the Terminal Island Container Terminal Transfer Facility; the Pier 300 Container Terminal Project and Intermodal Facility; the West Basin Transportation Improvements Project; the Badger Avenue Bridge Replacement Project; and the Alameda Corridor Project. In January 1998, the Port approved the Channel Deepening Project EIR that addressed deepening the main channel, associated channels and turning basins. Dredging and disposal for the Channel Deepening Project are expected to be completed after December of 2002. Dredging will occur 24 hours per day. Wharf upgrades are expected to be ongoing, during and after the dredging project (USACE, 2000a).

In general, many of the 2020 improvements will take place within the harbor area and will include dredging to create additional land. These types of projects would be a sufficient distance from the Ultramar refinery to minimize cumulative localized impacts. However, the regional, transportation-related projects (which are discussed in detail below), are included as mitigation measures for the 2020 Plan and would occur in the vicinity of the Ultramar Refinery, Tank Farms and Marine Terminal.

8) Alameda Corridor Transportation Authority (ACTA)

The Alameda Corridor Transportation Authority is an inter-agency, inter-governmental commission that is the lead agency for a number of projects. These projects are designed to improve highway and railroad access to the Ports of Los Angeles and Long Beach by making a substantial number of improvements along Alameda Street between the harbor area and downtown Los Angeles to consolidate truck and railroad traffic. ACTA has prepared an EIR that was finalized in December of 1992, and certified in January of 1993.

In general, Corridor projects include consolidation of the routes currently used by three different common rail carriers; widening Alameda Street to six lanes with left turn pockets and new signalization; grade separation of cross traffic at numerous street intersections; grade separation of train from vehicular traffic; and construction of sound barriers. Traffic conflicts at approximately 200 street-level railroad crossings will be eliminated as a direct result of this program, allowing trains to travel more quickly and easing traffic congestion. The corridor generally parallels Alameda Street along most of the route (www.ACTA.org, July 2000).

Work on a new triple rail bridge over the Los Angeles River began April 1997, and it was dedicated as the project's first completed structure in November 1998. Engineering and additional construction work is continuing along the route. Work commenced on the Mid-Corridor segment in January 1999, with large-scale construction on the trench beginning in mid-1999. The mid-corridor trench project is scheduled for completion in mid-April 2002 (www.ACTA.org, and Harley Martin, ACTA, Personal Communication, January 2002).

South of the 91 Freeway, roadway improvements to the Corridor, which follows Alameda Street and Henry Ford Avenue, are part of the Ports Access Demonstration Project ("PADP"), while railroad work, grade separations and overcrossings are ACTA projects. Upon completion of the improvements, portions of Alameda Street (from Henry Ford Avenue to the Artesia Freeway) and Henry Ford Avenue (from Alameda Street to the Terminal Island Freeway) will become state highways (Personal Communication, Doug Failing, Caltrans, October 2000). Depending on the governmental agency involved and the funding available, different segments of Alameda Street will be under construction at different times; work will not necessarily progress linearly along Alameda.

The southern section of the Alameda Corridor project stretches about seven miles from the end of the ports' rail lines north to State Route 91 in Compton. Several segments of the ACTA/PADP improvements will be located in the vicinity of the Ultramar refinery and may possibly be under construction at the same time as the RFG Phase 3 projects. These are described below:

Farragut Avenue Extension:

Located on City of Los Angeles property with State of California-Department of Transportation (Caltrans) easements, modifications and the extension of Farragut Avenue to the Terminal Island Freeway ramp and "I" Street. Closure of Farragut Avenue, South of Opp Street, and partial lane closures of the Terminal Island Freeway-Anaheim Street Ramp will be implemented during construction. The project begin construction in 2001, and is expected to be complete in June of 2002 (www.ACTA.org, and Harley Martin, ACTA, Personal Communication, January 2002).

Henry Ford Avenue Grade Separation:

This project will separate the ACTA Mainline Tracks from vehicular traffic at the intersection of Henry Ford Avenue, Pier "A" Way and the Terminal Island Freeway off ramp and on ramp. Construction continues atop both the Main Line Viaduct and the second phase (or Western half) of the Henry Ford Avenue Bridge (www.ACTA.org, January 2002).

Construction of this project started in October of 1999. The Terminal Island Freeway (Northbound) Off Ramp has been re-opened to through traffic. The intersection of Pier "A" Way and Henry Ford Avenue remains open to through

traffic, while the Terminal Island Freeway (Southbound) On Ramp remains closed due to pending completion of outstanding work items. During the construction period, alternate Terminal Island Freeway access is provided via Anaheim Street. Construction is expected to be complete in June of 2002 (www.ACTA.org, and Harley Martin, ACTA, Personal Communication, January 2002).

Alameda Street Widening:

Work continues on the widening of Alameda Street from four lanes to six lanes, from Del Amo Boulevard north to state Route 91 in Compton. The improvement and realignment work on Alameda Street is in progress, together with other Los Angeles County Port Access Demonstration Projects (www.ACTA.org, and Harley Martin, ACTA, Personal Communication, January 2002).

Henry Ford Avenue Widening:

ACTA is responsible for widening Henry Ford Avenue south of Anaheim Street, which is currently under construction. Widening Henry Ford Avenue from Anaheim Street north to Alameda Street is a PADP (Henry Ford Units 3 and 5). This project is under the jurisdiction of the City of Los Angeles, Bureau of Engineering, which is currently in the process of bidding the project. The project would widen Henry Ford to about 105 feet with two lanes of traffic in each direction and turn lanes. The construction will be staged so that Henry Ford will be open during construction (i.e., one side of the street will be under construction while the other side is being used for traffic). The project is expected to be complete in about April 2002 (John Korous, ACTA, Personal Communication, November 2000).

Long Beach Lead Bridge (Segment 3-Phase 2)

This project calls for replacement of the existing Long Beach Lead Railroad Bridge over the Dominguez Channel with a new two-track bridge and new track construction from Pacific Coast Highway to Anaheim Street. Construction of the southern half of the Long Beach Lead Bridge has been completed and tracks were placed into service in mid-August 2001. Work on the northern half of the bridge is commencing, and is expected to be complete by April of 2002 (www.ACTA.org, and Harley Martin, ACTA, Personal Communication, January 2002).

Pacific Coast Highway Grade Separation:

Another PADP project is the construction of a grade separation of Pacific Coast Highway at Alameda Street and the railroad tracks. This project consists of constructing a grade separation bridge structure (approximately 2000 feet long) along PCH over the Alameda Corridor railroad tracks, Alameda Street and the Union Pacific Railroad San Pedro Branch railroad track. The project also consists

of construction a connecting ramp from the "O" Street/Alameda Street intersection to the PCH structure and reconstructing a portion of the lower PCH under the new overpass. The project objective is to grade separate PCH vehicular traffic from train crossings on the Alameda Corridor and the Union Pacific's San Pedro Branch track. The project is located within the City of Los Angeles-Harbor District, will begin by September of 2002 and is expected to be complete in November of 2003 (www.ACTA.org, and Harley Martin, ACTA, Personal Communication, January 2002).

Street Improvements by Other Agencies:

Bridges will be built at four locations where trains and vehicles now cross at the same level, causing delays to both. The locations are Laurel Park Road, Del Amo Boulevard, Sepulveda Boulevard and Pacific Coast Highway. In addition, Alameda Street is being widened to six lanes from four lanes. These projects are the responsibility of the County of Los Angeles, the City of Los Angeles, and the City of Carson (www.ACTA.org, July 2000).

Partial lane closures and detours remain in effect to accommodate through traffic movement during continuing construction of the Alameda Street Grade Separation, Del Amo Boulevard Grade Separation and the Sepulveda Boulevard Grade Separation. The Los Angeles County-Department of Public Works is responsible for the Construction Management of these projects (www.ACTA.org, January 2002).

9) 223rd Street Re-Development Projects

The City of Carson is planning to turn the portion of 223rd Street, between Lucerne and Alameda into mostly a large section of auto dealerships (Sean Scully, City of Carson, Personal Communication, January 2002). Two major facility expansions are currently proposed, and two others are in planning.

Westrux International, at 1505 E. 223rd Street, has City funding allowing it to acquire land for future expansion of their truck sales and service facility. It is expected that the expansion would take approximately 24 months to complete (Sean Scully, City of Carson, Personal Communication, January 2002).

The Carson Toyota Car Sales facility (1355-1463 E. 223rd Street) is currently in negotiations to buy land for the expansion of its facility. The scope for this project is approximately two to two and one-half years (Sean Scully, City of Carson, Personal Communication, January 2002).

Also along the auto row, Cormeir Chevrolet plans to expand its existing facility and Nissan is proposing to build a new facility. These projects are in the planning stages and are expected to commence (upon approval) sometime in 2002 (Sean Scully, City of Carson, Personal Communication, January 2002).

10) City of Long Beach

The City of Long Beach has several projects planned for the near future. An EIR has been prepared and approved, and permits issued for the Carnival Cruise Terminal at the port. Carnival is currently seeking financing for the project. Once funds are procured, the project will take approximately two years to complete. In support of the Carnival Cruise Terminal, the RMS Queen Mary Seaport project as been approved. This project will consist of a variety of retail and entertainment uses and parking structures (Thomas Jelenic, Long Beach Harbor Department, Personal Communications, January 2002).

Development of the residential units and office building or hotel known as the Camden Project in the downtown area has broken ground, with construction expected to last one and one-half years (Jill Griffiths, City of Long Beach, Personal Communications, January 2002).

The California State University Long Beach (CSULB), in alliance with the City of Long Beach, is in the process of creating the CSULB Technology Park on land formerly used as military family housing by the U.S. Department of the Navy. The CSULB Technology Park is located on 30 acres on west Pacific Coast Highway in Long Beach, between the Terminal Island Freeway (CA-47) and the Long Beach Freeway (I-710). The CSULB Technology Park will provide a wide range of buildable sites, new buildings, high quality infrastructure and a high quality technology park environment. Training facilities for a wide variety of instructional programs will also be built. Although site preparations are complete, construction of the buildings has been delayed due to financial constraints. Current scheduling calls for the start of construction of the first phase of buildings in March 2002, with completion in October 2002. Then two other phases of building construction will begin according to how quickly the phase one buildings are leased out. Current projections are that the final two phases of the buildings will be built out over the next three years (www.CSULB.edu, and Mo Tidemanis, CSULB, Personal Communication, January 2002).

11) Third Party Terminals

Ultramar uses third party terminals to distribute its fuel to gasoline stations. The terminals that will be used to distribute gasoline with ethanol include the Equilon Carson Terminal, the Equilon Wilmington Terminal, the Kinder Morgan Orange Terminal, and the Kinder Morgan Colton Terminal. The modifications, changes, and environmental impacts associated with the Equilon Terminals have been included and are a part of the Equilon CARB Phase 3 Final EIR (SCAQMD, 2001b).

The modifications to the Kinder Morgan Orange and Colton Terminals included the conversion of an existing fixed roof tank to an internal floating roof tank and a change in service of the tank from diesel to ethanol. In addition, new truck unloading racks were added to both the Orange and Colton Terminals.

B. AIR QUALITY

CONSTRUCTION IMPACTS

Air quality impacts due to construction at the refineries for their RFG Phase 3 projects and other nearby projects are expected to be temporarily significant since the SCAQMD thresholds will be exceeded (see Table 5-1). The air quality impacts due to construction will be significant and exceed the SCAQMD thresholds of significance. A number of the projects (Tosco, BP, Ultramar, and Equilon) are located within or near the Wilmington area.

Emissions from construction of the RFG Phase 3 projects will be from two main sources, vehicles used by commuting workers, and use of heavy equipment. All refineries are expected to be undergoing construction during the same time period because CARB Phase 3 specifications become effective January 1, 2003. The construction phase of the Ultramar proposed project will exceed the significance thresholds for CO, VOC, NOx, and PM10 (see Chapter 4, Table 4-5). Therefore, the air quality impacts associated with construction activities are considered significant. A large portion of the total emissions is associated with on-site construction equipment and mobile sources (trucks and worker vehicles). It is expected that the other refineries would have similar RFG Phase 3 construction emission impacts. Mitigation measures to reduce air emissions associated with construction activities are necessary and have been imposed primarily to control emissions from heavy construction equipment and worker travel.

Construction emissions associated with the Port of Los Angeles Channel Deepening Project would vary depending on the depth the channel is deepened. The project has a 50-foot alternative, a 53-foot alternative and a 55-foot alternative. For each alternative, emissions would increase with depth, i.e., require more dredging. Emissions also vary within each alternative, depending on which disposal site is chosen. Since the dredge and disposal volumes for the 55-foot alternative would be greater than those associated with the 50-foot and 53-foot alternatives, total construction emissions would generally be greater than those associated with the shallower alternatives (USACE, 2000a).

The Port of Long Beach Piers G and J terminal development project would be constructed in four phases over an 11-year period. A number of construction activities would overlap. Construction emissions for all four phases would exceed the SCAQMD daily significance thresholds for all pollutants. The Port of Long Beach Piers G and J terminal development project has proposed several mitigation measures to reduce air quality impacts during the construction period. After implementation of the proposed mitigation measures, however, construction air quality impacts would remain significant (Dames and Moore, 2000).

TABLE 5-1

CUMULATIVE PROJECT PEAK DAY CONSTRUCTION EMISSIONS[1] (lbs/day)

ACTIVITY	CO	VOC	NOx	SOx	PM10
Ultramar RFG Phase 3 Project (see Table 4-16 for mitigated emissions)	467	399	509	100	288
BP CARB Phase 3 Project	756	146	716	51	241
Tosco CARB Phase 3 Project	989	170	702	74	122
Tosco Ethanol Import & Dist. Project	9	-54	10	--	57
Equilon CARB Phase 3 Project	1,390	750	1,088	88	387
Mobil CARB Phase 3 Reformulated Gasoline Project	12,139	1,530	1,635	131	552
Chevron CARB Phase 3 Clean Fuels Project	1,704	429	1,911	164	616
Port of LA Channel Deepening Project (mitigated peak daily emissions)	1,218	307	7,089	213	186
Port of Long Beach Pier G & J Project[2] (mitigated peak daily emissions)					
Phase I	1,097	368	665	56	2,369
Phase II	1,758	214	884	88	2,312
Phase III	1,265	414	901	75	3,365
Phase IV	1,743	360	778	65	2,657
Kinder Morgan Terminals	124	185	147	13	58
Cumulative Total Emissions	20,554	4,364	14,708	922	5,872
SCAQMD Threshold Level	**550**	**75**	**100**	**150**	**150**
Significant?	**YES**	**YES**	**YES**	**YES**	**YES**

(1) Includes only those projects where public information is available.
(2) The cumulative total emissions include the construction phase with the highest estimated emission for each pollutant.

There will be construction emissions associated with other projects in the area including the Alameda Corridor projects (e.g., the widening of Henry Ford Avenue), but these emissions were not estimated and sufficient information does not currently exist to estimate these emissions. Therefore, additional adverse air quality impacts may occur due to construction activities. Some projects will have minimal or no construction overlap with the Ultramar project so will not contribute to cumulative construction air quality impacts (e.g, some of the port projects).

Construction activities will be required at the Kinder Morgan facilities to convert the tanks from fixed roof to internal floating roofs and to construct the new loading rack. The permits for the Kinder Morgan terminal in Orange were issued in 2000 and it is assumed that the construction activities have been completed. The construction emissions at the Kinder Morgan Colton Terminal were calculated using data associated with construction activities at the Equilon terminals (SCAQMD 2001b), which will have similar construction activities as the Kinder Morgan facilities.

Table 5-1 summarizes the available construction emissions of the related projects. On a cumulative basis, construction emissions would exceed the thresholds established by the SCAQMD assuming they occur at the same time. Therefore, the cumulative air quality construction impacts are considered significant.

OPERATIONAL IMPACTS - CRITERIA POLLUTANTS

During operation, the transportation improvement projects and the various refinery RFG Phase 3 projects are all expected to reduce overall air emissions. However, there are localized increases for certain air pollutants (see Table 5-2).

Direct stationary emission sources are generally subject to regulation. The emissions associated with the proposed project modifications are shown in Chapter 4, Table 4-16.

Stationary emission sources include fugitive emissions. The operation of the Ultramar RFG Phase 3 project will exceed SCAQMD thresholds for VOC, NOx, SOx and PM10, so air quality impacts are significant.

Operational emissions associated with the Tosco CARB RFG Phase 3 project were considered significant for CO, VOC, NOx, SOx and PM10 and mitigation measures were imposed. Operational emissions associated with the Tosco Ethanol Import and Distribution Project will not exceed the SCAQMD significance thresholds and are considered less than significant. Based on the analysis, no mitigation measures were required for operational emissions.

Operational emissions associated with the BP CARB Phase 3 project were determined to be less than significant for CO, NOx, SOx, and PM10. Operational VOC emissions are expected to exceed the SCAQMD significance thresholds and are considered significant. The VOC emission increases are primarily due to butane and pentane loading into railcars at the Refinery, pentane loading into marine tankers, the new pentane storage

tank at Marine Terminal No. 2, and loading ethanol into tanker trucks at the Hathaway terminal.

TABLE 5-2

**CUMULATIVE PROJECT
STATIONARY AND INDIRECT SOURCES
OPERATIONAL EMISSIONS[(1)]
(lbs/day)**

SOURCE	CO	VOC	NOx	SOx	PM10
Total Ultramar CARB RFG Phase 3[(2)]	***514***	***146***	***2,164***	***2,678***	***437***
Tosco Ethanol Import & Dist. Proj.	9	-54[(3)]	10	--	1
Tosco CARB RFG Phase 3	134	116	503	402	43
BP CARB Phase 3 Project	42	86	49	0	57
Equilon CARB Phase 3 Project	2,133	468	2,003	71	57
Mobil CARB Phase 3 Reformulated Gasoline Project	29	288	138	12	103
Chevron CARB Phase 3 Clean Fuels Project	393	347	3,103	2,498	843
Kinder Morgan Terminals	-	4	-	-	-
Port of Long Beach Pier G & J (after mitigation)	11	5	132	13	-2040[(4)]
Cumulative Total Emissions	***3,265***	***1,406***	***8,102***	***5,674***	***-499***
SCAQMD Thresholds	**550**	**55**	**55**	**150**	**150**
Significant?	**YES**	**YES**	**YES**	**YES**	**NO**

(1) Includes only those projects where public information is available.
(2) Following mitigation - See Table 4-17.
(3) Negative numbers represent emission reductions.
(4) Emission reductions are due to the decreased number of trucks associated with the proposed project.

Implementation of the Los Angeles and Long Beach Harbors 2020 improvements will allow for doubling of cargo handling through the port, resulting in a significant increase in truck and rail traffic in the vicinity of the port. Construction of the Alameda Corridor improvements is intended to mitigate the impact of the increase in port-related traffic. The improved efficiency of the consolidated railway along the Alameda Corridor is expected to reduce emissions of locomotive exhaust over the No Project alternative. Elimination of railway/roadway intersections through consolidation of rail traffic and construction of grade separations will reduce motor vehicle idling emissions and improve the efficiency of truck transport.

The operational emissions associated with the Kinder Morgan terminals are based on permits to construction operate issued to the Orange Terminal and emission estimates in the permit applications submitted for the Colton Terminal. VOC emission increases are associated with the conversion of the tanks from diesel to ethanol and associated with the new truck unloading rack. BACT has been incorporated into the Orange Terminal and will be required at the Colton Terminal. Further, the VOC emissions at the Orange Terminal were offset and will be required to be offset at the Colton Terminal.

Data show that by completion of the Port of Los Angeles Channel Deepening Project, operation of each of the proposed scenarios would produce less emissions for a given throughput of cargo, versus future baseline conditions (USACE, 2000a).

The Port of Long Beach Piers G and J terminal development project would increase overall on-site operational activities. However, annual vessel calls would decrease by approximately five vessels after all phases of the project are built since larger ships would be able to arrive at the terminal, generating fewer vessel trips. The amount of emission reductions due to this decrease is proportionally very small, and was not included in the emissions inventory. The number of trucks used to transport cargo containers is also expected to decrease, thus reducing the associated emissions. This would provide partial offsets for increased on-site operational activities. The Port of Long Beach Piers G and J terminal development project has proposed several mitigation measures to reduce air quality impacts during project operations. After implementation of the proposed mitigation measures, however, operational air quality impacts for NOx would remain significant (Dames and Moore, 2000).

The RFG Phase 3 projects at all of the local refineries will increase the criteria pollutants emitted from the refineries. Due to the large number of changes at the refineries that are concentrated in the Wilmington/Carson areas, operational impacts are significant.

On a regional basis, the RFG Phase 3 fuels produced by the refineries are expected to result in a reduction in emissions from mobile sources that utilize the reformulated fuels. Table 5-3 summarizes the expected statewide emission decreases from the mobile sources which use the reformulated fuels.

TABLE 5-3

CARB PHASE 3 EXPECTED STATEWIDE EMISSION CHANGES
(Tons per Day)

POLLUTANT	1998 Average In-Use Fuel		Future Representative In-Use Fuel Based on Flat Limits		Difference
	2005	2010	2005	2010	2005
NOx	2.1	1.7	-16.6	-13.6	-18.7
Exhaust Hydrocarbons	-16.0	-9.3	-16.5	-9.6	-0.5
Evaporative Hydrocarbons	-14.4	-11.3	-14.4	-11.3	0
Total Hydrocarbons	-30.4	-20.6	-30.9	-20.9	-0.5

Negative numbers indicate emission reductions. Source: CARB, 1999

Air quality impacts associated with operation of the six RFG Phase 3 projects are considered significant since SCAQMD mass emissions thresholds are expected to be exceeded. Although operations will exceed the VOC significance threshold, there will be large regional benefits from the use of the reformulated fuels by mobile sources. Emissions of mobile sources will be reduced for NOx and VOCs counteracting the emissions being produced by the refineries and providing an environmental benefit. The emission reductions are expected to be far greater than the direct cumulative emissions from the refineries. In addition, the RFG Phase 3 compliant fuels are expected to result in a 7.2 percent reduction in potency-weighted emissions of toxic air contaminants from mobile sources using the fuel providing additional emissions benefits.

OPERATIONAL IMPACTS - TOXIC AIR CONTAMINANTS

In order to determine the cumulative impacts of toxic air contaminants, the emissions from the implementation of the proposed project, along with modifications made since the baseline scenario, were analyzed. This is referred to as the post-project scenario and includes all the existing emission sources at the Ultramar Refinery, Marine and Olympic Tank Farms, and Marine Terminal plus the proposed modified emission sources associated with the revised reformulated fuels program. In addition, the potential cumulative impacts associated with the overlap of emissions from other refineries were addressed in the analysis provided below.

Ultramar Refinery Post-Project Scenario

A comprehensive air dispersion modeling analysis and a Health Risk Assessment (HRA) were performed for the projected refinery emissions following completion of the proposed project. This section discusses the results of the air dispersion modeling and health risk assessment. The procedures used to complete the projected HRA are the same

as those used to complete the project specific HRA (see Chapter 4, Air Quality). The HRA is contained in Volume II, which should be consulted for further details.

Hazard Identification

The list of TACs evaluated in the post-project scenario are the same as those identified in the baseline assessment (see Table 3-6).

Emission Estimations and Sources

The estimated mass emissions of toxic air contaminants were based on a combination of the most recent AB2588 Air Toxics Inventory Report and engineering estimates that reflect operation of the proposed project. For further details on the emission estimates see Chapter 4, Air Quality and Volume II.

HRA Methodology

The source parameters for the post-project scenario were used as input to the ISCST3 model to determine unitized ground-level concentrations. The output from the ISCST3 model was combined with estimated emissions for each TAC in the ACE2588 model. The ACE2588 model calculated the health risks associated with the post-project scenario. The ISCST3 model used the same assumptions as the baseline model for receptor grids, meteorological data, and so forth. The ACE2588 model used the same assumptions for the post-project scenario as the baseline model for multi-pathway analysis, pathways to exposures, and default exposure assumptions. The model was used to identify the MEIW and MEIR for the post-project scenario. The ACE2588 model calculated both carcinogenic and non-carcinogenic health impacts.

Post-Project HRA Results - Carcinogenic Health Impacts

Maximum Exposed Individual Worker

The predicted maximum cancer risk at the MEIW area due to exposure to projected post-project emissions was calculated to be 1.55×10^{-6} or 1.6 per million. The location of the MEIW is the same as that for the baseline scenario and is shown in Figure 3-2. Table 5-4 shows major source contributions to the MEIW. Emissions from Source Numbers 79, 82, and 77, which includes the fugitive emissions from Unit 94 – the Tank Farm, account for about 83 percent of the MEIW cancer risk. Emissions of PAHs are responsible for about 86 percent of the MEIW risk, followed by benzene (eight percent) (see Table 5-5). The cancer risk at the MEIW does not exceed the cancer risk significance threshold in Table 4-1 and is less than significant.

TABLE 5-4

EMISSION SOURCE CONTRIBUTION TO CANCER RISK FOR POST-PROJECT SCENARIO MEIW

Source No.	Source Name	Percent Contribution
79	Fugitive Emissions from Southern Portion of Unit 94 - Tank Farm	46.4%
82	Fugitive Emissions from Western Portion of Unit 94 - Tank Farm	27.4%
77	Fugitive Emissions from Northern Portion of Unit 94 - Tank Farm and Fuel Dispensing Facility	8.7%
68	Fugitive Emissions from Crude Unit 10, Vacuum Unit 20, and Delayed Coking Unit 30	4.4%
83	Fugitive Emissions from Units 50,61,63,64,65,66, & 69	1.2%
73	Fugitive Emissions from Unit 81- Phase II Tank Farm North	1.1%
53	EFR Distillate Feed Tank 94TK9012	1.0%
57	EFR Gasoline Tank 94TK9031	0.6%
17	Boiler B-9001	0.6%
22	Fire Water IC Engines 9008A & B	0.6%

TABLE 5-5

TAC CONTRIBUTION TO CANCER RISK FOR POST-PROJECT SCENARIO MEIW

Toxic Air Contaminant	Cancer Risk	Percent Contribution
Acetaldehyde	4.40E-09	0.29
Aniline	7.72E-10	0.05
Arsenic	2.26E-08	1.46
Benzene	1.25E-07	8.08
Beryllium	3.18E-12	<0.01
1,3-Butadiene	1.39E-08	0.90
Cadmium	4.42E-09	0.29
Chromium (Hex.)	4.01E-09	0.26
Dibenzochloropropane	1.72E-11	<0.01
Formaldehyde	2.17E-08	1.41
Lead	4.13E-10	0.03
Nickel	1.35E-08	0.87
Perchloroethylene	1.31E-09	0.08
PAHs	1.33E-06	86.26
Selenium	9.63E-14	<0.01
Styrene	4.65E-10	0.03
1,1,2,2-Tetrachloroethane	4.43E-11	<0.01
Total	**1.55E-06**	**100**

Maximum Exposed Individual Resident

The predicted maximum cancer risk at the MEIR area due to exposure to projected post-project emissions was calculated to be 9.39×10^{-7} or about one per million. The location of the MEIR is the same as the baseline assessment and is shown in Figure 3-2. Table 5-6 shows major source contributions to the MEIR. Emissions from Source Numbers, 79, 82, and 77, which includes the Unit 94 – Tank Farm, account for 51 percent of the MEIR cancer risk. Emissions of PAHs are responsible for about 56 percent of the MEIR risk, followed by benzene (17 percent) (see Table 5-7).

TABLE 5-6

EMISSION SOURCE CONTRIBUTION TO CANCER RISK FOR POST-PROJECT SCENARIO MEIR

Source No.	Source Name	Percent Contribution
79	Fugitive Emissions from Southern Portion of Unit 94 - Tank Farm	28.9
82	Fugitive Emissions from Western Portion of Unit 94 - Tank Farm	13.2
19	FCC Reaction/Separation Heater & Exhaust	8.5
77	Fugitive Emissions from Northern Portion of Unit 94 - Tank Farm and Fuel Dispensing Facility	6.9
68	Fugitive Emissions from Crude Unit 10, Vacuum Unit 20, and Delayed Coking Unit 30	5.1
83	Fugitive Emissions from Units 50,61,63,64,65,66, & 69	2.8
73	Fugitive Emissions from Unit 81- Phase II Tank Farm North	2.7
2	Crude Heater 11-H-1000	2.3
1	Crude Heater 10-H-100	2.1
9	Platformer Heater 70-H-1/2/3	1.6
95	New Tank 82-TK-1	1.6
12	Unibon Heater 80-H-1	1.4
90	Phase 2 Flare 75-FT-1	1.3
21	IC Engines for Emergency Fire Water 77-P-001A & B	1.3
6	Coke Heater 31-H-3000	1.2
3	Vacuum Heater 20-H-200	1.1
18	Sulfur Recovery Thermal Oxidizer 41-IN-2	1.0

TABLE 5-7

TAC CONTRIBUTION TO CANCER RISK FOR POST-PROJECT SCENARIO MEIR

Toxic Air Contaminant	Cancer Risk	Percent Contribution
Acetaldehyde	1.15E-08	1.21
Aniline	1.01E-09	0.11
Arsenic	1.14E-07	11.90
Benzene	1.63E-07	17.10
Beryllium	2.72E-12	<0.01
1,3-Butadiene	2.23E-08	2.33
Cadmium	1.79E-08	1.88
Chromium (Hex.)	3.55E-09	0.37
1,2-Dibromo-3-chloropropane	7.73E-12	<0.01
Formaldehyde	5.17E-08	5.42
Lead	1.33E-09	0.14
Nickel	3.34E-08	3.50
Perchloroethylene	1.84E-09	0.20
PAHs	5.32E-07	55.69
Selenium	5.23E-14	<0.01
Styrene	1.40E-09	0.15
1,1,2,2-Tetrachloroethane	3.65E-11	<0.01
Total	**9.39E-07**	**100**

The one per million cancer risk isopleth for the post-project scenario is shown in Figure 5-3. This isopleth was calculated based on the same assumptions used to calculate the residential cancer risk including a 70-year exposure and multi-pathway assumptions. The cancer risk at the MEIR does not exceed the cancer risk significance threshold in Table 4-1 and is less than significant.

Cancer Burden

The cancer burden for the area surrounding the Ultramar Refinery was calculated using the same assumptions as the baseline cancer burden calculations. The total excess cancer burden within the area of influence was predicted to be 1.14×10^{-3} and 6.77×10^{-3} for the residential and occupational populations, respectively. (See Volume II for further details.) The combined excess cancer risk was predicted to be 7.91×10^{-3} or approximately 0.008. The cancer burden does not exceed the cancer risk significance threshold in Table 4-1 and is less than significant.

Figure 5-3 goes here

Sensitive Receptors

The maximum cancer risk to a sensitive receptor was estimated to be 0.77×10^{-6} or approximately one per million at the Edison School. This risk estimate is overly conservative as it is based on a 70-year continuous exposure period. The cancer risk at the sensitive receptors does not exceed the cancer risk significance threshold in Table 4-1 and is less than significant.

Post-Project HRA Results - Non-Carcinogenic Health Impacts

Chronic Hazard Index

The highest chronic hazard index for any single toxicological endpoint was estimated to be 0.063, at an occupational receptor, for the respiratory system, primarily due to exposure to hydrogen sulfide (62 percent) (see Table 5-8). The chronic hazard index does not exceed the significance threshold in Table 4-1 and is less than significant.

Acute Hazard Index

The highest total acute hazard index for any single toxicological endpoint was estimated to be 0.80, at an occupational receptor, for the respiratory system, primarily due to exposure to acrolein (71 percent) (see Table 5-9). The acute hazard index does not exceed the significance threshold in Table 4-1 and is less than significant.

The cumulative impacts associated with the post-project scenario would be below the significance criteria for cancer risk of 10×10^{-6} and below the significance criteria for hazard indices of 3.0. Therefore, significant adverse cumulative impacts are not expected from the Ultramar Refinery.

TABLE 5-8

MAXIMUM CHRONIC HAZARD INDEX BY POLLUTANT FOR THE POST-PROJECT SCENARIO

TAC	REL (ug/m^3)	Target Endpoints							
		CV	CNS	IMMUN	KIDN	LIVER	REPRO	RESP	SKIN
Acetaldehyde	9.00E+00	--	--	--	--	--	--	1.11E-03	--
Acrolein	6.00E-02	--	--	--	--	--	--	4.10E-04	--
Ammonia	2.00E+02	--	--	--	--	--	--	3.73E-03	--
Arsenic	5.00E-01	1.17E-04	1.17E-04	--	--	--	--	4.35E-05	1.17E-04
Benzene	6.00E+01	--	1.02E-03	--	--	--	--	--	--
Beryllium	4.80E-03	--	--	--	--	--	--	1.87E-06	--
1,3-Butadiene	2.00E+01	--	--	--	--	--	7.23E-05	--	--
Cadmium	3.50E+00	--	--	--	3.90E-05	--	--	2.29E-06	--
Chlorobenzene	7.00E+01	--	--	--	3.43E-06	3.43E-06	3.43E-06	--	3.43E-06
Chromium (Hexavalent)	2.00E-03	--	--	--	5.77E-05	5.77E-05	--	5.77E-05	--
Copper	2.40E+00	--	--	--	--	--	--	2.79E-05	--
Cresols	1.80E+02	--	3.08E-05	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	2.00E-01	--	--	--	--	1.81E-07	1.81E-07	1.81E-07	--
Ethylbenzene	2.00E+03	--	--	1.79E-05	1.79E-05	1.79E-05	--	--	--
Formaldehyde	3.00E+00	--	--	--	--	--	--	8.00E-03	8.00E-03
Hexane	7.00E+03	--	5.89E-05	--	--	--	--	--	--
Hydrogen Chloride	9.00E+00	--	--	--	--	--	--	1.50E-05	--
Hydrogen Cyanide	9.00E+00	--	6.01E-04	--	--	--	--	--	--
Hydrogen Fluoride	5.90E+00	--	--	--	--	--	--	3.37E-03	3.37E-03
Hydrogen Sulfide	1.00E+01	--	--	--	--	--	--	3.91E-02	--
Lead	1.50E+00	5.44E-04	5.44E-04	5.44E-04	5.44E-04	--	5.44E-04	--	--
Manganese	2.00E-01	--	7.42E-04	--	--	--	--	--	--
Mercury	9.00E-02	--	6.04E-05	--	--	--	--	--	--
Methyl Chloroform (1,1,1-TCA)	1.00E+03	--	1.57E-06	--	--	--	--	--	--
Naphthalene	9.00E+00	2.35E-03	--	--	--	--	--	7.82E-04	--
Nickel	5.00E-02	5.62E-03	--	--	--	--	--	5.62E-03	--
Perchloroethylene	3.50E+01	--	--	--	1.50E-04	1.50E-04	--	--	--
Phenol	2.00E+02	1.60E-07	1.60E-07	--	--	1.60E-07	--	--	--
Propylene	3.00E+03	--	--	--	--	--	--	7.24E-05	--
Selenium	5.00E-01	--	--	--	--	--	--	4.47E-05	--
Styrene	9.00E+02	--	--	--	--	6.88E-07	--	--	--
Toluene	3.00E+02	--	6.67E-04	--	--	--	6.67E-04	6.67E-04	--
Xylenes	7.00E+02	--	3.07E-04	--	--	--	--	3.07E-04	--
Zinc	3.50E+01	5.51E-05	--	--	--	--	--	5.51E-05	--
Total Chronic Hazard Index		**8.14E-03**	**3.61E-03**	**1.79E-05**	**2.68E-04**	**2.30E-04**	**7.42E-04**	**6.34E-02**	**1.15E-02**

TABLE 5-9

MAXIMUM ACUTE HAZARD INDEX BY POLLUTANT FOR THE POST-PROJECT SCENARIO

TAC	REL (ug/m^3)	Target Endpoint[(1)]					
		CV	CNS	IMM	REP	RESP	EYE
Acrolein	1.9E-01	--	--	--	--	5.68E-01	--
Ammonia	3.2E+03	--	--	--	--	1.32E-03	2.04E-03
Arsenic	1.9E-01	--	--	--	2.77E-02	--	--
Benzene	1.3E+03	5.65E-04	--	5.65E-04	5.65E-04	--	--
Copper	1.0E+02	--	--	--	--	1.39E-04	--
Formaldehyde	9.4E+01	--	--	5.97E-02	--	5.97E-02	5.97E-02
Hydrogen Chloride	2.1E+03	--	--	--	--	2.83E-04	2.83E-04
Hydrogen Cyanide	3.4E+02	--	3.07E-04	--	--	--	--
Hydrogen Fluoride	2.4E+02	--	--	--	--	1.98E-03	1.98E-03
Hydrogen Sulfide	4.2E+01	--	--	--	--	1.58E-01	--
Mercury	1.8E+00	--	--	--	3.54E-03	--	--
1,1,1-Trichloroethane	6.8E+04	--	2.56E-06	--	--	--	--
MEK	1.3E+04	--	--	--	--	1.12E-06	1.12E-06
Nickel	6.0E+00	--	--	2.34E-03	--	2.34E-03	--
Perchloroethylene	2.0E+04	--	6.45E-06	--	--	--	--
Phenol	5.8E+03	--	--	--	--	9.67E-08	9.67E-08
Selenium	2.0E+00	--	--	--	--	3.57E-03	3.57E-03
Styrene	2.1E+04	--	--	--	--	5.73E-07	5.73E-07
Toluene	3.7E+04	--	6.71E-05	--	6.71E-05	6.71E-05	6.71E-05
Xylenes	2.2E+04	--	--	--	--	1.29E-04	1.29E-04
Total Acute Hazard Index		**5.65E-04**	**3.83E-04**	**6.27E-02**	**3.19E-02**	**7.96E-01**	**6.78E-02**

(1) Kidney and liver target endpoints had hazard indices of zero and are omitted from the table. CV - Cardiovascular; CNS – Central nervous system; IMM – Immune system; REP – Reproductive system; RESP – Respiratory system; EYE – Eyes

TAC Impacts from Tank Farm and Marine Terminal Proposed Projects

Table 5-10 provides a summary of the estimated TAC impacts associated with the Olympic Tank Farm, Marine Tank Farm and the Marine Terminal (see Volume II, Health Risk Assessment Section IX, XII, and XIV for additional information). Based on the available data, the cumulative impacts associated with the proposed project are not expected to result in significant TAC impacts since the predicted impacts are well below the SCAQMD significance thresholds (see Table 5-10).

TABLE 5-10

HEALTH RISK ASSESSMENT RESULTS FOR CUMULATIVE IMPACTS AT MARINE AND OLYMPIC TANK FARMS AND MARINE TERMINAL

	Marine Tank Farm	Olympic Tank Farm	Marine Terminal
Excess Cancer Risk (per million) to the Maximum Exposed Individual Worker	1.78	2.77	0.40
Excess Cancer Risk to the Maximum Exposed Individual Resident (per million)	0.72	4.56	0.022
Residential Cancer Burden	0.0040	0.0139	0.0002
Occupation Cancer Burden	0.0029	0.0193	0.00025
Maximum Chronic Hazard Index	0.014	0.033	0.0053
Maximum Acute Hazard Index	0.31	0.0058	0.0022

The cumulative cancer risk in the area where the Refinery and Olympic Tank Farm isopleths overlap is less than 6×10^{-6} or 6 in a million which is less than the 10 in a million threshold. The location of the MEIR for the Marine Tank Farm and the Marine Terminal is the same. Therefore, the proposed project and cumulative impacts are assumed to be additive. The total proposed project impact from both facilities is 0.44 in a million (0.42 + 0.019) and the total cumulative impact is 0.74 in a million (0.72 + 0.022). The total revised proposed project and the total cumulative impact on the MEIR are below the significance threshold of 10 in a million.

TAC Impacts from Other Proposed Projects

Table 5-11 provides a summary of the estimated TAC impacts associated with other projects to the extent that the data are available. Based on the available data, the cumulative impacts associated with the proposed projects are not expected to result in significant TAC impacts since the projects are disbursed throughout the southern California area so TAC emissions would not be expected to overlap.

MITIGATION MEASURES

Mitigation measures for construction activities have been imposed on the various individual projects. There are no additional feasible mitigation measures to further control construction emissions.

TABLE 5-11

SUMMARY OF HEALTH RISK FOR CUMULATIVE PROJECTS

FACILITIES	MEIR CANCER RISK	MEIW CANCER RISK	CHRONIC HAZARD INDEX	ACUTE HAZARD INDEX
Equilon Refinery & Wilmington Terminal[1]	5.20E-07	6.71E-07	0.4000	0.0740
Equilon Carson Terminal[1]	2.67E-07	6.00E-08	0.0005	0.0017
Equilon Mormon Isl. Terminal[1]	7.52E-07	--	0.0046	0.0010
Equilon Signal Hill Terminal[1]	3.97E-07	--	0.0023	0.0005
Equilon Van Nuys Terminal[1]	9.94E-08	--	0.0006	0.0003
Equilon Colton Terminal[1]	1.15E-06	--	0.0090	0.0016
Equilon Rialto Terminal[1]	3.65E-07	--	0.0022	0.0004
BP Refinery and Terminals[2]	2.10E-07	--	0.0166	0.0005
Chevron El Segundo Refinery[3]	5.00E-08	--	0.0300	0.0300
Chevron Huntington Bch Term[3]	1.10E-07	--	0.0001	3.50E-05
Chevron Montebello Terminal[3]	2.10E-07	--	0.0003	8.50E-05
Chevron Van Nuys Terminal[3]	1.90E-07	--	9.35E-06	0
Mobil Refinery[4]	1.40E-07	2.00E-08	0.0050	0.0010
Mobil Southwestern Terminal[4]	2.30E-08	--	1.82E-05	8.73E-06
Mobil Vernon Terminal[4]	5.30E-08	--	4.23E-05	2.20E-05
Mobil Atwood Terminal[4]	4.00E-08	--	3.17E-05	1.24E-05
Tosco Refinery[5]	2.93E-07	1.85E-08	0.0024	0.053
Tosco Marine Terminal[6]	--	1.20E-11	--	4.95E-09
Tosco Torrance Tank Farm[6]	1.66E-11	1.06E-13	--	9.74E-11
Tosco Los Angeles Terminal[6]	1.60E-11	2.56E-11	--	1.97E-11
Tosco Colton Terminal[6]	--	2.17E-11	--	7.55E-09

(1) SCAQMD, 2001b. Only the maximum cancer risks were reported for the terminals.
(2) SCAQMD, 2001d. Only the maximum cancer risks were reported for all facilities.
(3) SCAQMD, 2001c.
(4) SCAQMD, 2001a.
(5) SCAQMD, 2001.
(6) SCAQMD, 2000b.

The mitigation measures to minimize emissions associated with operation of the related projects include the use of BACT for all new emission sources and modifications to existing sources. The use of BACT would control localized emissions. A BACT review will be completed during the SCAQMD permit approval process for all new/modified sources. In addition, the related refinery projects would provide regional emission benefits by reducing emissions from mobile sources that use the reformulated fuels.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

The cumulative air quality impacts due to construction and operation of the RFG Phase 3 projects exceed the SCAQMD significance thresholds in spite of implementing all feasible mitigation measures.

C. GEOLOGY/SOIL

CEQA Guidelines §15130(a) indicates that an EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable. Where a lead agency is examining a project with an incremental effect that is not cumulatively considerable, a lead agency need not consider the effect significant, but must briefly describe the basis for concluding that the incremental effect is not cumulatively considerable. For the proposed project, the project's contribution to cumulative geology/soil impacts is de minimus and thus not significant because the environmental conditions would essentially be the same whether or not the proposed project is implemented (CEQA Guidelines 15130(a)(4)). Nonetheless, information is provided regarding cumulative projects in the interest of the fullest disclosure.

PROJECT IMPACTS

Seismicity

The proposed project and related projects are subject to groundshaking, as are most areas of California. The related projects would increase the number of facilities and structures subject to earthquake damage, and thus increase the potential impacts during an earthquake. Assuming adherence to the applicable building codes, Seismic Safety Plans, and Uniform Building Codes, the cumulative impacts from a major earthquake would be reduced, but not eliminated. All projects would require geotechnical evaluation by the local agency (usually the city or county in which they are located) responsible for issuing building permits and a civil or structural engineer to assure the project design complies with appropriate building and safety regulations. The cumulative seismic impacts are considered to be insignificant with adherence to appropriate building codes.

The Port of Los Angeles Channel Deepening Project Draft EIR indicates that geologic hazards such as earthquake-induced fault rupture, liquefaction, settlement, seiches or tsunamis would have no impact on dredging in the port. The potential risks from ground shaking or fault rupture to structures and people also are not considered significant because (1) appropriate engineering practices would be used for construction, which would limit the amount of damage that would occur; (2) relatively few people would be present on the site at any given time since it is primarily a storage area; and (3) damage, should it occur, would be limited to structures such as cranes, wharves, and pavement, which can be readily repaired or replaced, if needed (USACE, 2000a).

Any one of the Port of Long Beach Phase III slip fill options would alter the existing geologic environment at that location by filling existing submerged areas. However this alteration to existing topography would not significantly adversely affect the geologic environment or geologic processes such as landslides or erosion. Due to the distance to the nearest fault, the potential for ground rupture at piers G and J is insignificant. The Port of Long Beach as a whole has a high potential for soil liquefaction. Mitigation measures have been proposed to reduce the effects of filling settlement and liquefaction resulting from seismic activity. Although mitigation measures have been identified to lessen significant impacts, the seismic hazards related to future earthquake activity in the region represent a potential for unavoidable significant adverse impacts to future development of the piers G and J area (Dames and Moore, 2000). The Ultramar proposed project impacts on seismicity are less than significant and its impacts are not cumulatively considerable. Therefore, the Ultramar proposed project is not expected to contribute to cumulative impacts of other projects in the area.

Contaminated Soils

All of the related projects, and in particular, portions of the roadway and railway improvements that will require excavation, have the potential to unearth contaminated soils. The Alameda Corridor project, since it involves lands with a variety of ownership, presents a number of unknowns.

The Ultramar RFG Phase 3 project involves the addition of new equipment to existing facilities so major grading/trenching is not expected to be required and is expected to be limited to minor foundation work and minor trenching for piping modifications. Previous construction activities have been conducted at the facilities and contaminated soils have been uncovered. Given the heavily industrialized nature of the sites, contaminated soils may be uncovered during construction activities. It is not uncommon for a refinery and other types of industrial properties to contain contaminated soils and ground water. No significant impacts are expected as a result of excavating potentially contaminated soils during construction of the proposed project since there are numerous local, state (Title 22 of the California Code of Regulations) and federal rules which regulate the handling, transportation, and ultimate disposition of these soils.

The Corridor's Final EIR states: "Sites along the corridor that would be disturbed by corridor construction and that are known to contain contaminated soil or ground water would be cleaned prior to or during construction of the project. Clean-up activities would be conducted in accordance with all applicable regulations and guidelines governing the removal and disposal of hazardous materials. In most cases these clean-up efforts would remediate the problem and no further work would be required. However, in some cases continued monitoring of particular sites may be required to ensure that no migration of existing contamination has occurred subsequent to the primary clean-up operations. Responsibility for clean up (including Phase I assessments) and monitoring of individual sites has not been established" (ACTA, 1992).

Further clarification is offered in the Alameda Corridor Final EIR: "It was assumed for concept estimating purposes that the properties to be acquired for the project had already been cleared of any contaminants. The record of known contaminated sites on file with the State were [sic] used as a basis for locating existing contaminant sources along the corridor. In later stages of design, additional geotechnical work would be carried out to better identify sources and locations of contaminants along the corridor. The issue of contamination removal would then be identified in more detail. Responsibilities for cleanups would be established in the purchase and sale agreement" [for acquisition of right of way] (ACTA, 1992).

The overall impact of the related projects on soil contamination would be considered beneficial since remediation would remove or reduce soil contamination in the area. Soil remediation is regulated by numerous regulatory agencies including the Department of Toxic Substances Control division of the California EPA, the State Regional Water Quality Control Board, local health departments, and the SCAQMD. Compliance with all applicable rules and regulations would mitigate impacts to a level of insignificance.

MITIGATION MEASURES

No significant cumulative impacts to seismicity are expected due to implementation of the related projects with compliance with the Uniform Building Code Zone 4 requirements to minimize the potential impacts of an earthquake on the proposed projects.

A number of existing rules regulate the disposal and treatment of contaminated soils including Title 22 of the California Code of Regulations. Compliance with existing regulations should provide adequate mitigation for handling and disposal of contaminated soils.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Implementation of the mitigation measures are expected to reduce impacts to less than significant for earth resources.

D. HAZARDS AND HAZARDOUS MATERIALS

PROJECT IMPACTS

Although other refineries, tank farms and terminals exist in the general vicinity of the Ultramar facilities, the cumulative impacts from and between the onsite operation of the refineries' RFG Phase 3 projects are not expected to be significant because it is extremely unlikely that upset conditions would occur at more than one refinery at a time. It also is extremely unlikely that an upset condition at one refinery would create an upset at another nearby refinery because of the distance between refineries. The closest refinery to Ultramar is the Equilon Refinery located about 0.75 mile north of Ultramar. The impacts associated with the Ultramar proposed project are expected to travel less than

2,000 feet, which would not reach the other local refineries and hazard impacts are not expected to be cumulatively considerable.

The Port of Los Angeles Channel Deepening Project is primarily a dredging project. The process of dredging does not involve the handling of hazardous materials. Therefore, this action would not create hazard risks and impacts from dredging would be less than significant. Hazardous materials may be shipped by containers through the ports, which may become involved in an accident or otherwise be released thereby posing a hazard to the public. It is estimated that five to 10 percent of containers transported into/out of the ports hold hazardous materials. The storage, separation, and handling of hazardous materials in containers is governed by 49 CFR part 176. Hazardous materials can be shipped, transported, handled and stored as long as they are in full compliance with all local, state and federal regulations (USACE, 2000a).

Containers with hazardous materials can become involved in accidents including fires, explosions, and releases of flammable and/or toxic gases. Some minor accidents have occurred at the Port of Los Angeles during transportation, handling and storage, but none have been considered serious or affected members of the public. Because of governing regulations, a fire or explosion would only be expected to cause local impacts and not adversely affect members of the public. A release of a toxic material could impact a slightly larger area depending on the material released, however, packaging constraints would still limit the potential adverse impacts to a relatively small area (USACE, 2000a).

Based on the Port of Los Angeles accident history of containers containing hazardous materials, the probability of an accident occurring is classified as "periodical." The potential consequence of such accidents is classified as "slight," which falls within the "acceptable" risk category established by the Los Angeles County Fire Department, and significant impacts to public health and safety are not expected (USACE, 2000a).

Construction of the Port of Long Beach Piers G and J Terminal Development Project would be contained within the confines of piers G and J. The construction would occur in phases over a temporary period of approximately 11 years. Construction activity would occur at least one-half mile away from population centers and visitor-serving uses. Accordingly, no significant construction hazards are expected. The marine terminal facilities would involve the storage and transport of containers by ship, train, and truck, some of which may carry hazardous materials. The employer would train facility personnel in emergency response and evacuation procedures. The piers G and J project would not result in significant impacts on public health and safety (Dames and Moore, 2000).

MITIGATION MEASURES

The proposed project impacts on hazards are considered to be significant. A number of existing rules and regulations apply to the Ultramar Refinery and other refineries. Compliance with these rules and regulations is expected to minimize refinery-related

hazards. Compliance with these rules and regulations should also minimize the hazards at other refineries. Site-specific mitigation measures may be required for other projects.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

The impacts of the various projects on hazards are not expected to be cumulatively considerable as hazards at or within one project area are not expected to impact or lead to hazards at other facilities.

E. HYDROLOGY/WATER QUALITY

For the proposed project, the project's contribution to cumulative hydrology and water quality impacts is de minimus and thus not significant because the environmental conditions would essentially be the same whether or not the proposed project is implemented (CEQA Guidelines §15130(a)(4)). Nonetheless, information is provided regarding cumulative projects in the interest of the fullest disclosure.

Ground Water

Cumulative impacts to ground water quality are not expected due to the related projects. The refinery projects are not expected to adversely affect ground water either individually or cumulatively due to the current regulatory controls on ground water. In addition, the refinery projects are being implemented to comply with the CARB Phase 3 RFG requirements, which includes the phase out of MTBE. On a cumulative basis, the Phase 3 RFG projects will remove MTBE from gasoline, which is expected to provide a beneficial impact to ground water quality. MTBE has been determined to pose an environmental threat to ground water and drinking water. Removal of MTBE is expected to remove a potential source of ground water contamination. The related projects may have a beneficial impact on water quality by removing contaminated soils that could adversely affect ground water. Therefore, no significant adverse impacts on ground water are expected due to the related projects. It should be noted that the potential for ground water contamination was not addressed by the Port 2020 Plan.

Port of Los Angeles Channel Deepening Project and the Port of Long Beach Piers G and J Terminal Development Project DEIRs do not address impacts to ground water quality.

Surface Water

The cumulative impacts of the related projects on water quality are expected to be mitigated by compliance with various water quality regulations including Industrial Waste Discharge Permit requirements, Spill Prevention, Control and Countermeasures Plan, NPDES permits, Storm Water Pollution Prevention requirements and so forth.

The 2020 Plan is expected to have significant, short-term impacts on water quality due to dredging impacts needed to develop additional land and provide deeper channels.

There is the potential for water quality impacts in the event of a release or spill from any of the projects or pipelines. However, the related projects are not expected to have cumulative impacts or increase the probability of a spill on a cumulative basis. The probability of a spill is not expected to change from current conditions due to existing rules and regulations including the EPA requirements for SPCC Plans, and various pipeline regulations. Further, a permanent spill containment boom is located across the Dominguez Channel, which would minimize impacts in the event of a spill.

Water quality of Los Angeles Harbor and the surrounding waters of San Pedro Bay would be temporarily impacted during the dredging operation. Types of impacts that could occur include short-term increases in turbidity, decreases in dissolved oxygen, and increases in contaminants in areas where contaminated sediments occur. Removal of contaminated sediments would be considered a beneficial impact. These impacts would generally be confined to the immediate vicinity of the dredging activities. (USACE, 2000a).

Several pipelines and utility cables would need to be relocated as a result of the dredging. Removal of utility cables would have no impacts on water quality. However, removal of a 36-inch oil pipeline could result in an accidental spill of oil not cleaned out of the pipeline prior to the removal operation. Impacts would be significant in the short term within the area affected by a potential spill. Mitigation measures have been proposed to reduce the impacts of accidental oil spills to insignificant. Accidental spills from three sewer lines during removal would have adverse but not significant impacts on water quality (USACE, 2000a).

Use of dredge material to extend the Southwest Slip by 35 or 75 acres would have temporary impacts on water quality. The fill would result in a permanent loss of surface water in the Inner Harbor. This loss would be considered substantial for the 75-acre fill, but would only have minor impacts on water circulation. Mitigation measures have been proposed that would offset the loss of surface water for the Southwest Slip (USACE, 2000a).

Local and potentially significant increases in turbidity, reduced water quality and reduction in water column dissolved oxygen concentrations from the placement of sediments could occur around the dredge and fill locations during construction of the proposed project. To reduce or eliminate anticipated impacts below a level of significance, construction would occur in compliance with the Los Angeles Regional Water Quality Control Board Waste Discharge requirements (Dames and Moore, 2000).

Water Demand

The proposed project (as revised) is not expected to result in an increase water usage at the Ultramar Refinery, other than during the construction period. Construction activities are expected to require water for dust control and water for tank testing. Water demand associated with the proposed project is expected to be less than 5 million gallons per day and, therefore, the water demand for the proposed project is less than significant.

Additionally, none of the cumulative projects in the vicinity are anticipated to have substantial water demands that cannot be met by local water suppliers. Therefore, the proposed project is not expected to produce significant adverse cumulative impacts to water quality.

Wastewater

The proposed project (as revised) is not expected to result in an increase in wastewater discharged from the Refinery. The proposed project is not expected to generate additional wastewater and no changes are expected to be required to the LACSD permit.

The Port of Los Angeles Channel Deepening Project will not generate any wastewater.

Operationally, no new discharges into the harbor are expected from the proposed development of the Port of Long Beach Piers G and J Terminal Development Project. Operational discharges would be governed by the RWQCB through permit conditions that would ensure the receiving waters are not adversely affected (Dames and Moore, 2000).

MITIGATION MEASURES

The proposed project impacts on hydrology/water quality were less than significant. Since no cumulative impacts were identified, no mitigation measures are required.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

The cumulative impacts on hydrology/water quality are considered to be less than significant.

F. LAND USE/PLANNING

For the proposed project, the project's contribution to cumulative land use and planning impacts is de minimus and thus not significant because the environmental conditions would essentially be the same whether or not the proposed project is implemented (CEQA Guidelines §15130(a)(4)). Nonetheless, information is provided regarding cumulative projects in the interest of the fullest disclosure.

No cumulative impacts will conflict with land use and zoning designations established by the City of Los Angeles as a result of the construction and operation of the related projects in the area. The revised Ultramar project will be built within the heavy industrial zoned portion of Wilmington. The related refinery projects are being conducted within, and adjacent to, existing refineries zoned for such purposes. Cumulative impacts associated with land use and zoning are expected to be less than significant.

The Port of Los Angeles Channel Deepening Project required an amendment to the Port Master Plan and a federal Consistency Determination for the dredging aspects of the project. Other amendments to the Port Master Plan would also be necessary for the proposed associated landfills. Ultimately, the project would be in accordance with the preferred uses identified in the Port Master Plan, and no unavoidable significant impacts to land use are expected as a result of this project. (USACE, 2000a).

The Port of Long Beach Piers G and J Terminal Development Project, although consistent with the Southeast Harbor Planning District goals and objectives, would require an amendment to Port Master Plan Amendment Number 6 in order to construct the entire proposed acreage. Ultimately, the project would be in accordance with the preferred uses identified in the Port Master Plan, and no unavoidable significant impacts to land use are expected as a result of this project (Dames and Moore, 2000).

MITIGATION MEASURES

No significant adverse impacts are expected, which would conflict with land use and zoning designations from the proposed revised project and related refinery projects. As a result, no mitigation measures are required.

LEVEL OF SIGNIFICANCE

The cumulative land use impacts are considered less than significant.

G. NOISE

For the proposed project, the project's contribution to cumulative noise impacts is de minimus and thus not significant because the environmental conditions would essentially be the same whether or not the proposed project is implemented (CEQA Guidelines §15130(a)(4)). Nonetheless, information is provided regarding cumulative projects in the interest of the fullest disclosure.

CONSTRUCTION IMPACTS

Construction phases of each of the related projects are expected to generate localized, short-term noise impacts, some of which may be mitigated during construction by the use of muffling devices, restriction of work hours, etc. The cumulative construction noise impacts associated with the related refinery projects are not expected to be significant or exceed noise ordinances.

Noise from construction activities associated with pile driving for the 2020 Plan are expected to be significant.

Construction of the Alameda Corridor is expected to generate noise levels as high as 90 dBA at a distance of 50 feet during excavation phases and may result in significant noise impacts.

Thus, the cumulative noise impacts due to certain Alameda Corridor projects and 2020 Plan construction are considered significant. Construction activities are expected to be limited to daytime hours, which would reduce the potential for impacts on residential areas.

Dredging associated with the Port of Los Angeles Channel Deepening Project is only expected to result in a one dBA increase, which would not be perceptible. This is considered to be a short-term, insignificant impact. The only significant noise impact related to the Channel Deepening Project is in relation to the Southwest Slip Fill Site. Construction activities at this site would exceed the construction noise thresholds. The increased noise would be a temporary but significant impact at the 10-12 Knoll Hill residences. Although two feasible mitigation measures were identified, and the impact remains temporarily significant to the Knoll Hill residents (USACE, 2000a).

There are no sensitive noise receptors inside the noise exposure area associated with the Port of Long Beach Piers G and J Terminal Development Project. The proposed project would generate less than significant noise impacts (Dames and Moore, 2000).

In conclusion, the cumulative noise impacts are significant for portions of the Alameda Corridor project and for the some of the port development projects. The noise impacts associated with the proposed Ultramar project and other related projects are not expected to be significant or result in cumulative adverse noise impacts that would contribute to the Port 2020 Plan or the Alameda Corridor cumulative noise impacts.

OPERATIONAL IMPACTS

The operational noise impacts of the related refinery projects are not expected to be significant. Most of the Wilmington area is industrialized and the cumulative increase in noise is not expected to adversely impact residential areas since they are located a sufficient distance to substantially attenuate noise levels to insignificant. Also, sufficient distance exists between the refineries, tank farms and terminals that would result in substantial noise attenuation to prevent overlap of noise impacts.

Existing noise levels from traffic in the Wilmington area are already considered unacceptable for certain residential areas. The build out of the Alameda Corridor project is expected to result in significant adverse noise impacts to residential areas adjoining Alameda Street (USACE, 1990).

Operation of the Alameda Corridor will concentrate train and motor vehicle noise along the corridor while reducing overall noise on other highways and railways. The day-night average noise levels along the Alameda Corridor are expected to result in an increase of about eight to nine dBA at residential receptors along the Alameda Corridor between the Ports and the Intermodal Container Transfer Facility (USACE, 1990). Therefore, the cumulative noise impacts are considered significant.

Overall, operational noise at the port following the Port of Los Angeles Channel Deepening Project is expected to improve slightly since channel deepening would result in a slight decrease in the number of vessel calls. The only exception is in relation to the Southwest Slip Fill Site. Operations at this site would at times significantly impact about five residents. The Los Angeles Harbor Department has long-range plans to acquire these residences; once this has occurred, impacts would cease. Until then, no feasible mitigation measures were identified, and the impact remains significant (USACE, 2000a).

The cumulative noise impacts are significant for portions of the Alameda Corridor project. The noise impacts associated with the proposed Ultramar project and other related projects are not expected to be significant or result in cumulative adverse noise impacts that would contribute to the Alameda Corridor cumulative noise impacts.

MITIGATION MEASURES

The mitigation measures to reduce cumulative noise impacts are outlined in the Alameda Corridor Draft EIR (ACTA, 1992) and include noise barriers and construction of portions of the Corridor below grade.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

The noise impacts remain significant for the construction of the Port 2020 Plan and Alameda Corridor modifications. The noise impacts associated with the related refinery projects are not expected to be significant or result in cumulative adverse noise impacts during construction or operation that would contribute to the Port 2020 Plan or Alameda Corridor cumulative noise impacts.

H. SOLID/HAZARDOUS WASTE

For the proposed project, the project's contribution to cumulative solid/hazardous waste impacts is de minimus and thus not significant because the environmental conditions would essentially be the same whether or not the proposed project is implemented (CEQA Guidelines §15130(a)(4)). Nonetheless, information is provided regarding cumulative projects in the interest of the fullest disclosure.

Hazardous Waste: The cumulative projects have the potential to generate hazardous waste either through remediation activities or through the discovery of contaminated soils. The impacts of the proposed project on the generation of hazardous waste are considered to be less than significant (see Chapter 4, Section G – Solid/Hazardous Waste). A number of the related projects, including other refineries and terminals, and the Alameda Corridor project also have the potential to generate hazardous waste either through remediation activities or through the discovery of contaminated soils. The total amount of hazardous waste generated cannot be predicted at this time because the extent of contamination and the type of remediation activities required have not been defined in many cases. The impacts would be considered adverse but not significant since the

existing hazardous waste facilities likely have sufficient capacity to handle the one-time disposal of hazardous wastes that would be generated, e.g., contaminated soils. However, the additional waste streams may impact the dwindling capacity of certain landfills.

Non-Hazardous Solid Waste: The impacts of the proposed project on the generation of solid non-hazardous waste are considered to be less than significant (see Chapter 4, Section G – Solid/Hazardous Waste). Non-hazardous solid wastes are also generally generated in administrative offices of various related project facilities. The related projects are not expected to result in changes to the administrative operations, therefore, no increase in the generation of non-hazardous solid wastes is expected and no significant cumulative impacts are expected.

MITIGATION MEASURES

The proposed project's impacts on solid/hazardous waste were less than significant. Cumulative generation of hazardous waste is expected to be handled by the existing hazardous waste disposal facilities. The related projects are not expected to significantly increase the generation of solid wastes. Since no significant adverse cumulative solid/hazardous waste impacts were identified, no mitigation measures are required.

LEVEL OF SIGNIFICANCE

The cumulative impacts from solid/hazardous waste are considered to be less than significant.

I. TRANSPORTATION/TRAFFIC

For the proposed project, the project's contribution to cumulative transportation/traffic impacts is de minimus and thus not significant because the environmental conditions would essentially be the same whether or not the proposed project is implemented (CEQA Guidelines §15130(a)(4)). Nonetheless, information is provided regarding cumulative projects in the interest of the fullest disclosure.

CONSTRUCTION IMPACTS

Construction of the RFG Phase 3 fuels projects at the various refineries is expected to occur at the same time. Several Alameda Corridor projects in various stages of development may affect or be affected by the Corridor improvements, including the PADP projects. Construction of the ACTA projects would require complete reconstruction of the combined highway facilities in Alameda Street and the SPTC San Pedro Branch railroad. Extensive disruption to the local traffic circulatory system would occur, creating detours and affecting accessibility to businesses and residences. Most construction locations would be subject to traffic disruption for between two and three years over the course of the 10- to 12-year construction period expected for the ACTA projects (ACTA, 1992). The construction effects would be severe and result in significant adverse traffic impacts.

The Port of Los Angeles Channel Deepening Project Draft EIR determined that there would be no significant traffic impacts associated with construction of the project and no mitigation measures were required (USACE, 2000a).

Construction of the Port of Long Beach Piers G and J Terminal Development Project would result in temporary adverse impacts on the roadways in the immediate project vicinity. These impacts would be due to traffic generated by construction workers' vehicles and trucks transporting soil, fill material, and equipment to and from the project site. It is estimated that over a two-year period during construction, there would be approximately 43 round-trip truck trips per day (five per hour during an eight hour work day) hauling fill material; approximately 260 daily trips transporting construction equipment and materials during the most active construction periods; and 300 construction worker trips during the peak construction period. These impacts are considered to be adverse short-term impacts, and mitigation measures would be implemented to minimize them (Dames and Moore, 2000).

The traffic analysis conducted for the Ultramar RFG Phase 3 project indicates that only four intersections show any change in LOS due to the construction phase of the proposed project. The traffic change at these intersections (Wilmington Avenue/Sepulveda, Santa Fe Avenue/Anaheim, Alameda Street/Anaheim Street and the Santa Fe/Pacific Coast Highway) are not considered to be significant since free-flowing traffic would continue. The LOS at other intersections near the Ultramar Refinery is not expected to change. Therefore, the proposed project impacts on traffic during the construction phase would be considered less than significant. Cumulative construction traffic impacts are also expected to be less than significant due to the distance between the Ultramar Refinery and the other project locations.

OPERATIONAL IMPACTS

Table 5-12 shows the projected LOS analysis and volume to capacity ratios due to general growth in the area. These ratios were calculated assuming an ambient traffic growth of one percent per year annual traffic growth rate from year 2000 to year 2020 and no changes in existing intersection geometrics. Cumulative impacts are not expected to result in a change in LOS at the following intersections:

- Alameda St./I-405,
- Alameda St./223rd Ramp,
- Alameda St./Sepulveda,
- 9th St./"I" St./Anaheim,
- Santa Fe/Anaheim St. (a.m. peak hour),
- ICTF Entry/I-405 Ramps/Wardlow/223rd St. (a.m. peak hour), and
- Alameda St./PCH (a.m. peak hour).

TABLE 5-12

CUMULATIVE OPERATIONAL TRAFFIC IMPACTS
LEVEL OF SERVICE ANALYSIS AND VOLUME-TO-CAPACITY RATIOS

INTERSECTION	BASELINE (1)				IMPACTS			
	A.M LOS	Peak Hour V/C	P.M LOS	Peak Hour V/C	A.M LOS	Peak Hour V/C	P.M LOS	Peak Hour V/C
Alameda St./I-405	A	0.362	A	0.382	A	0.452	A	0.448
Alameda St./223rd Ramp	A	0.294	A	0.327	A	0.342	A	0.383
ICTF entry/I-405 Ramps/ Wardlow/223rd St.	A	0.497	A	0.549	A	0.586	B	0.649
Alameda St./Sepulveda	A	0.395	A	0.432	A	0.465	A	0.509
Alameda St./PCH	A	0.497	B	0.617	A	0.588	C	0.730
Alameda St./Anaheim St.	B	0.623	B	0.690	C	0.737	D	0.819
Wilmington Ave/223rd St.	E	0.924	E	0.988	F	1.099	F	1.175
Wilmington Ave/Sepulveda	A	0.563	A	0.595	B	0.666	C	0.704
Santa Fe/PCH	B	0.648	B	0.693	C	0.768	D	0.822
Henry Ford/Anaheim St.	A	0.513	A	0.581	B	0.608	B	0.688
Santa Fe/Anaheim St.	A	0.425	A	0.535	A	0.500	B	0.634
9th St/"I" St/Anaheim St.	A	0.506	A	0.505	A	0.597	A	0.597

Notes: (1) = based on 2000 traffic data.
V/C = Volume to capacity ratio (capacity utilization ratio)
LOS = Level of Service

Nine intersections show a change due to long-term growth in the area. The change at the following intersections are considered less than significant impacts since free-flowing traffic would continue.

The a.m. peak hour LOS would change as follows:

- Alameda St./Anaheim St. (from LOS B to LOS C),
- Wilmington Ave./Sepulveda (from LOS A to LOS B),
- Santa Fe/PCH (from LOS B to LOS C), and
- Henry Ford/Anaheim St. (from LOS A to LOS B).

The p.m. peak hour LOS would change as follows:

- ICTF Entry/I-405 Ramps/Wardkiw.223rd St. (from LOS A to LOS B),
- Alameda St./PCH (from LOS B to LOS C),

- Wilmington Ave./Sepulveda (from LOS A to LOS C),
- Henry Ford/Anaheim St. (from LOS A to LOS B), and
- Santa Fe/Anaheim St. (from LOS A to LOS B).

The LOS changes at the following intersections are considered significant impacts since traffic flow would be adversely impacted.

The a.m. peak hour LOS would change as follows:

- Wilmington Ave./223rd St. (from LOS E to LOS F).

The p.m. peak hour LOS would change as follows:

- Alameda St./Anaheim St. (from LOS B to LOS D),
- Wilmington Ave./223rd St. (from LOS E to LOS F), and
- Santa Fe/PCH (from LOS B to LOS D).

There will be improvement of traffic circulation once the Alameda Corridor improvements have been completed. Despite the roadway improvements proposed, there would be residual adverse effects at some intersections, due to background growth in regional traffic and the fact that the improved highway would attract traffic ("latent demand"). It would fall to local jurisdictions to make improvements to the local streets affected.

The proposed Ultramar RFG Phase 3 project is expected to increase the number of tanker calls to the Port by 65 ships per year. This represents less than one percent of the estimated 7,000 ships that visit the port each year. Therefore, no significant impact to the Long Beach/Los Angeles Harbor system is expected. The Tosco Refinery is expected to decrease the number of their tanker calls to the Port by 11 ships per year (SCAQMD, 2001), and the BP Refinery is expected to decrease the number of its tanker calls to the Port by at least 14 ships per year (SCAQMD, November 2001d). The Equilon CARB Phase 3 proposed project is expected to result in an increase of about six ships per year (SCAQMD, 2001b). The Mobil CARB Phase 3 proposed project is expected to result in an increase of about two ships per year (SCAQMD, 2001a).

Traffic impacts associated with general growth in the Wilmington area are expected to be significant. The traffic impacts associated with the proposed project and related projects are not expected to be significant or result in cumulative adverse traffic impacts during operation.

MITIGATION MEASURES

Mitigation measures have been developed for various projects to reduce the traffic impacts to the Wilmington area. Traffic Control Plans will be required for construction of the various pipeline routes in order to minimize traffic impacts. The Traffic Control

Plan would specify: the permitted hours of construction (generally off-peak hours); method of safeguarding traffic flow; method of re-routing or detouring traffic if necessary; the placement of traffic control devices (including signs, flashing arrows, traffic cones and delineators, barricades, etc.) and flaggers (if needed); and temporary modifications to existing signals and signal timing (if necessary). The Traffic Control Plan will need to be approved by the local cities to ensure that public safety will not be endangered, and traffic impacts will be reduced to a minimum.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

The traffic impacts on construction remain significant for the construction of some of the Port projects and the Alameda Corridor modifications. Traffic impacts associated with general growth in the Wilmington area is expected to be significant. The traffic impacts associated with the proposed project and other related projects are not expected to be significant or result in adverse traffic impacts during construction or operation that would contribute to the cumulative traffic impacts.

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