

6.0 CUMULATIVE IMPACTS

6.1 Introduction

An EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable as defined in CEQA Guidelines §15065(c). This assessment of cumulative impacts in the proposed project areas discusses the potential cumulative effects of past, present, and probable future projects that may produce related or cumulative impacts. The cumulative impact analyses in this section address the following:

- Do the impacts of individual projects, when considered together, compound or increase other environmental impacts?
- Will cumulative impacts result from individually minor but collectively significant projects taking place over a period of time?

According to §15130 (b) of the CEQA Guidelines, "The discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone."

The various environmental issue areas evaluated in this EIR are included in this section, together with proposed appropriate mitigation measures for potential cumulative impacts.

This section focuses largely on projects with localized impacts, i.e., projects within about a few miles of the Torrance Refinery or the various Mobil terminals and which are likely to be constructed during same time frame as the proposed project, i.e., 2001 and 2002. It also discusses cumulative regional impacts, focusing on CARB Phase 3 projects at the other large petroleum refineries in the Los Angeles Basin.

6.2 Proposed Projects

The following subsections identify the projects with the potential to have cumulative impacts with the proposed project. This list is based on information received from local planning agencies in the various jurisdictions where the relevant Mobil facilities are located, and from the other petroleum refineries in the Los Angeles Basin.

No specific projects have been defined at this time at the Torrance Refinery that would create cumulative projects when considered together with the proposed project. Two projects have been implemented recently at the Torrance Refinery for compliance with the SCAQMD's RECLAIM program. These are installation of Selective Catalytic Reduction on the Fluid Catalytic Cracker Unit, and installation of furnace low NO_x burners. These projects are expected to provide

sufficient emission reductions to allow the facility to operate within its RECLAIM allocation for the foreseeable future. If required, additional future RECLAIM emission reduction projects may result in the installation of low NO_x burners.

6.2.1 Projects at Other Refineries in the Los Angeles Basin

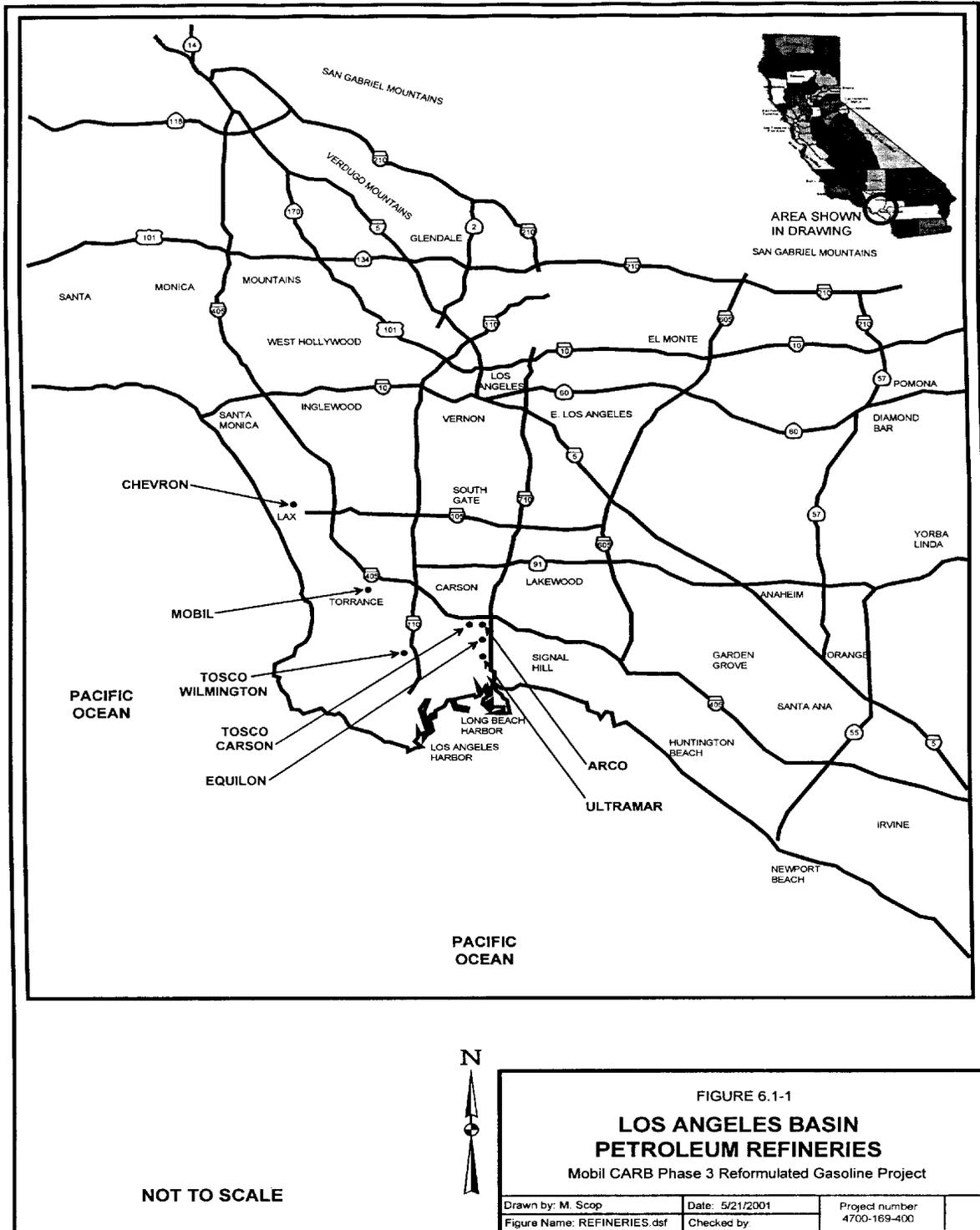
There are five large refineries in the Los Angeles Basin in addition to Mobil, all of which must comply with the same CARB Phase 3 Reformulated Gasoline Specifications. All of the refineries are in the same general portion of the region, within several miles of the coast and ranging from Chevron in El Segundo to the northwest of Mobil's Torrance facilities, to Tosco, ARCO, Equilon, and Ultramar, all southeast of Mobil (see Figure 6.1-1). The nearest refinery to Mobil is Tosco's Los Angeles Refinery in Wilmington, approximately five miles from the Torrance Refinery. As discussed in Section 6.3.1 and 6.3.5, none of the other refinery projects would be expected to contribute to localized cumulative air quality impacts when considered with the proposed Mobil project because of the distances between them. Section 6.3.1 also presents total air emissions from the various refinery CARB Phase 3 projects to provide a regional perspective.

6.2.1.1 Tosco Los Angeles Refinery Wilmington Plant

To comply with CARB Phase 3 requirements, Tosco plans to modify a number of process units: the Alkylation Unit (new and modified refrigeration equipment, new refrigeration compressor system), the Acid Plant (new vapor recovery system), the Catalytic Light Ends Fractionation System (new fractionation equipment), and the Butamer Unit. New and modified pumps and heat exchangers will be installed at several of the modified process units. Associated support facilities, such as utilities and interconnecting piping also will be modified. Some storage tanks also will change service. There will be no increase in refinery throughput nor will any distribution terminals be modified (SCAQMD, 2001a).

6.2.1.2 Chevron El Segundo Refinery

Chevron's El Segundo Refinery is roughly seven miles northwest of Mobil's Torrance Refinery. Chevron's CARB Phase 3 project consists almost entirely of new equipment and modifications to existing process units. The changes at the refinery include: modifications to the Alkylate Depentanizer, Isomax Light Gasoline Depentanizer, and Fluid Catalytic Cracking (FCC) Light Gasoline Depentanizer, which include in most cases modified distillation columns, and new pumps, and heat exchangers; new storage tankage and process unit vessels; new equipment at the FCC Light Gasoline Splitter and Naphtha Hydrotreater, including a new distillation column and a new furnace for the Hydrotreater for the Splitter; FCC expansion, including new equipment (e.g., pumps, compressors, coolers, and piping) for the FCC Wet Gas Compressor Interstage System, FCC Deethanizer, FCC Debutanizer, FCC Depropanizer, FCC C3 Treating, and FCC Relief/Vapor



Mobil CARB Phase 3 Reformulated Gasoline Project

Figure 6.1-1 Los Angeles Area Refineries

Recovery System; modifications to the Alkylation Plant; and reactivation of the Refinery Debutanizer. Modifications to support facilities, such as utilities and interconnecting piping also will be required (SCAQMD, 2001b).

Modifications also are needed to three Chevron distribution terminals, located in the cities of Huntington Beach, Los Angeles, and Montebello. The primary improvements at the terminals include the construction of new and conversion of existing storage tanks to ethanol service, as well as piping and other modifications for receiving and blending ethanol.

6.2.1.3 ARCO Carson Refinery

The ARCO Refinery in Carson is roughly eight miles southeast of the Mobil Torrance Refinery. ARCO's CARB Phase 3 project consists almost entirely of modifications to existing process units, although there also is some new equipment associated with these modifications. Refinery changes include: conversion of the Isomerization Sieve Unit to a Hydrotreater; modification of the Mid-Barrel Unit to a Gasoline Hydrotreater; a new FCC Unit Rerun Bottoms Splitter; modification of a Cat Poly Unit to a Dimerization Unit; conversion of MTBE Unit into an ISO Octene Unit; modifications to a Reformer Fractionator, Light Hydro Unit, and SFIA Debutanizer. Most of the above modifications involve new heat exchangers, pumps, and control systems. There also will be modifications to facilities and equipment for pentane loading and butane loading and offloading, as well as changes in storage tankage, piping, utilities, and other support equipment (SCAQMD 2000a).

Modifications also will be required to five distribution facilities and one marine terminal. The distribution terminals are located in the cities of Carson, Long Beach, Signal Hill, South Gate, and Rialto. The primary modifications at these terminals include the conversion of existing storage tanks to fuel ethanol service, piping and other modifications for receiving and blending ethanol, and the construction of a new pentane storage tank at the marine terminal.

6.2.1.4 Ultramar Wilmington Refinery

Ultramar's refinery is about nine miles southeast of Mobil-Torrance. Ultramar plans a combination of new and modified refinery units. Changes are proposed at the Alkylation Unit (new column, condensers, accumulators), Sulfur Recovery Unit Complex (new Amine Regeneration Unit, Tail Gas Treating Unit, and thermal oxidizer), Merox Treater, Sour Water Stripper, FCCU Unit (new debutanizer, primary absorber and stripper, distillation column and accumulator); FCC Unit LPG Merox Unit (new LPG Dryer and Selective Hydrogenation Unit), Light Ends Recovery Unit (new debutanizer and depentanizer), Naphtha Hydrotreater Unit, Olefin Treater (conversion to hydrotreater), Platformer (new compressor and debutanizer), Butamer Unit (new column), Gas Oil Hydrotreater, and Flare System. Many of the above modifications include new heat exchangers,

pumps, vessels, compressors, etc. There also will be modifications and additions to storage facilities, pipelines, and support facilities (SCAQMD 2000b).

6.2.1.5 Equilon Wilmington Refinery

The Equilon (formerly Texaco) Refinery is located about eight miles southeast of the Mobil Refinery. Equilon's CARB Phase 3 project includes both new and modified equipment. New equipment includes changes to the Alkylation Unit (new contactor and settler, and refrigeration unit); C4 Isomerization (new vessels, stabilizer, gas scrubber and drier); Hydrotreater Unit No. 2 (new Olefins Saturation Reactor, pretreatment reactor, stripper reboiler); Hydrotreater Unit No. 4 (diesel side stripper, feed steam preheater); CDS Tech Unit (columns, reactors, stabilizer, absorbers, condensers); Catalytic Reformer Unit (sulfur guard reactor). New pumps, piping, and heat exchangers, compressors, etc. are associated with many of the above refinery unit changes.

Modifications to a number of units also are proposed, including: (Alkylation Unit (cooling tower, effluent treating vessels); Fractionator Changes (HCU Fractionator, and several debutanizers, depropanizers, and deisobutanizers); Hydrotreater No. 4 (main reactor); Catalytic Reforming Unit No.2 (debutanizer); and changes to the refinery flare, vapor recovery systems and storage tanks. In addition, modifications will be needed to pipelines, and support facilities such as utilities

Modifications will required at several Equilon terminals, including Carson, Signal Hill, Colton/Rialto, Van Nuys, and Wilmington. These changes include new storage tanks and modifications to piping, valves, flanges, and loading racks (SCAQMD 2000c).

6.2.2 Projects Proposed Near The Torrance Refinery and Torrance Loading Rack with Potential for Cumulative Impacts

The following projects are in various stages of planning or development in the City of Torrance within approximately two miles of Mobil's facilities. Construction schedules are not presently available for these projects:

Projects with applications approved:

- A 370,000-square foot expansion of the Del Amo Fashion Center to include a department store, theater complex, new parking structure, new retail/restaurants (the Del Amo Fashion Center is at 3510 Fashion Way, approximately one mile southwest of Mobil's Torrance facilities;
- An outdoor recreational vehicle storage facility at 4200 West 190th Street, approximately 250 feet northwest of Mobil's Torrance facilities;

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- A one million-square-foot warehouse/office/manufacturing complex on the east side of Van Ness Avenue, approximately 100 to 200 feet east of Mobil's Torrance facilities; and
- A 134-unit condominium complex at 23701 Western Avenue, approximately 0.75 mile south of Mobil's Torrance facilities.

Projects in the application process:

- A 74-unit condominium complex at 2829 Maricopa Street, approximately 0.5 mile south of the Torrance Refinery site.

6.2.3 Projects Proposed Near the Vernon Terminal with Potential for Cumulative Impacts

The following projects are in various stages of planning, permitting, and construction within approximately two miles of Mobil's terminal in the City of Vernon:

Projects in plan check:

- 98,000-square-foot industrial/warehouse building at 5500 Alameda Street, approximately 1.5 miles southwest of the Vernon Terminal;
- 71,500-square-foot industrial/warehouse building at 5500 Soto Street, approximately 1.0 mile south of the Vernon Terminal;
- 110,000-square-foot industrial/warehouse building at 2050 55th Street, approximately 1.5 miles south of the Vernon Terminal;
- 233,000-square-foot industrial/warehouse building at 2700 Fruitland Avenue, approximately 0.75 mile southeast of the Vernon Terminal;
- 68,000-square-foot industrial/warehouse building at 3251 26th Street, approximately 0.5 mile north of the Vernon Terminal; and
- 58,500-square-foot industrial/warehouse building at 2350 48th Street, approximately 1.5 miles southeast of the Vernon Terminal.

6.2.4 Projects Proposed Near the Atwood Terminal with Potential for Cumulative Impacts

Staff of the City of Anaheim Planning Department indicate that there no significant projects known or planned in the vicinity of the Atwood Terminal with the potential to create cumulative impacts in association with the Mobil project. (Wright, personal communication, December 2000).

6.2.5 Projects Proposed Near Southwestern Terminal with Potential for Cumulative Impacts

The following projects are in various stages of planning and development at the Port of Los Angeles within approximately 2.5 miles of Mobil's terminal:

Conceptual Projects

- Pier A expansion, includes redevelopment of marine container terminals in the northern portion of the port, approximately 2.5 miles northeast of the Southwestern Terminal

Approved projects currently being constructed

- Pier 400 Container Terminal and Transportation Corridor Project. Includes dredging, landfilling, and marine terminal construction. Located approximately 0.75 mile southeast of the Southwestern Terminal
- West Basin Transportation Improvement Program. Includes construction of a rail yard and consolidation of two terminals in the northern portion of the port. Located approximately two miles north of the Southwestern Terminal

Projects in the EIR approval process

- Evergreen Backlands Improvement Project. Rehabilitation of an existing 125-acre marine terminal north of Seaside Avenue, approximately 1 mile north of the Southwestern Terminal;
- Berths 48-52 Terminal Development Project. Conversion of a former bulk loading facility to a break-bulk facility. Located at the southern tip of the port, approximately 1.25 miles south of the Southwestern Terminal; and
- Channel Deepening Project. Entails dredging a portion of the main channel and sediment disposal.

6.3 Cumulative Effects

The cumulative effects of the projects discussed in Section 6.2 and the proposed project are assessed in the following subsections.

6.3.1 Air Quality

6.3.1.1 Construction Impacts

Air quality impacts due to construction at the refineries for their CARB RFG Phase 3 projects are expected to be temporarily significant since the SCAQMD thresholds are expected to be exceeded for CO, VOC, NO_x, SO_x and PM₁₀. These impacts will be temporary, as they will last only during construction. It should be noted that four of the refineries are relatively close to each other and the projects will, for the most part, occur at the same time. Neither the Mobil nor Chevron facilities are near the other four refineries, and they are approximately seven miles from each other.

Emissions from construction of the CARB Phase 3 projects will result primarily from off-road mobile source equipment and on-road motor vehicles. All refineries are assumed to be performing construction activities during roughly the same time period. The construction emissions of the Mobil proposed project will exceed the significance thresholds for CO, VOC, NO_x and PM₁₀, as shown in Table 4.1-18. Therefore, the air quality impacts associated with construction activities are considered significant. The emissions from construction associated with the Mobil project are primarily from four main sources: 1) onsite fugitive dust, 2) off-road mobile source equipment, 3) architectural coatings; and 4) on-road motor vehicles. It is expected that the other refineries would have similar CARB Phase 3 construction emission impacts. Mitigation measures to reduce air emissions associated with construction activities are necessary primarily to control emissions from off-road mobile source equipment and on-road motor vehicles.

On a cumulative basis, construction emissions are expected to exceed the SCAQMD thresholds for all pollutants, assuming they occur at the same time. Therefore, the cumulative air quality construction impacts are considered significant.

Construction schedules are unknown for most of the projects identified in Section 6.2, creating the potential for construction of these projects to overlap with the proposed project. These include:

- An outdoor recreational vehicle storage facility and a restaurant in Torrance
- Expansion of the Del Amo Fashion Center in Torrance
- A warehouse/office/manufacturing complex in Torrance
- Two condominium complexes in Torrance (total of approximately 200 units)
- Six industrial/warehouse projects in the City of Vernon (total of approximately 650,000 square feet)
- Two marine terminal rehabilitation or conversion projects in the Port of Los Angeles

Significant cumulative impacts may occur due to construction of these projects, if they were to overlap with construction of Mobil's proposed project. However, the impacts are expected to be localized and temporary in nature, and within the normal amount of construction activity that occurs daily in these highly industrial areas.

6.3.1.2 Operational Impacts – Criteria Pollutants

The operational criteria emissions associated with the Mobil CARB Phase 3 project are shown in Table 4.1-6 and Table 6.3.1-1 below. The emission sources associated with the Mobil project are comprised of fugitive emissions and combustion sources. The significance threshold is expected to be exceeded for VOC and NO_x. The increased VOC emissions are primarily due to gasoline marine tanker loading, fuel ethanol tanker truck loading, and component fugitive emissions. The increased NO_x emissions are primarily due to fuel ethanol tanker truck deliveries to terminals, and increased usage at the Torrance Refinery of the onsite switch engine for the railcars delivering fuel ethanol. No mitigation measures to reduce VOC emissions associated with the operational phase of the proposed project were identified.

**Table 6.3.1-1
Summary of Cumulative Project Daily Operational Emissions**

| Project | Emissions (lb/day) | | | | |
|--|--------------------|------------|-----------------|-----------------|------------------|
| | CO | VOC | NO _x | SO _x | PM ₁₀ |
| Mobil CARB Phase 3 Reformulated Gasoline Project | 29 | 289 | 138 | 12 | 103 |
| Tosco CARB RFG Phase 3 Project | 134 | 116 | 503 | 402 | 43 |
| Tosco Ethanol Import and Distribution Project | 9 | -54 | 10 | -- | 1 |
| ARCO CARB Phase 3/MTBE Phase-out Project (mitigated) | 42 | 86 | 49 | 10 | 57 |
| Remaining three refineries (Chevron, Ultramar, and Equilon)* | 214 | 437 | 700 | 424 | 204 |
| TOTAL | 428 | 874 | 1,400 | 848 | 408 |
| SCAQMD Threshold Level | 550 | 55 | 55 | 150 | 150 |
| Significant? | NO | YES | YES | YES | YES |
| * Data are not available for these three refinery CARB Phase 3 projects. A conservative assumption has been made that these three projects would have the same total emissions as the three projects for which data are available. | | | | | |

The operational emissions of the Tosco CARB Phase 3 project are anticipated to exceed the significance thresholds for the VOC and NO_x. The increase in VOC emissions are primarily associated with modifications to the storage tanks. NO_x emissions are primarily from railcar

emissions. Mitigation measures to reduce air emissions associated with the operational phase of the proposed project are necessary to control VOC emissions.

Operational emissions associated with the Tosco Ethanol Import and Distribution Project (a separate element of Tosco's overall CARB Phase 3 efforts), 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 ARCO CARB Phase 3 project are anticipated to exceed significance thresholds for VOC. Mitigation measures to reduce air emissions associated with the operational phase of the proposed project are proposed to control VOC emissions.

The cumulative emissions associated with the CARB Phase 3 projects at the three refineries for which data are currently available, will exceed the VOC, NO_x, SO_x and PM₁₀ significance thresholds. Assuming the cumulative total emissions of the three refineries for which data are available are doubled when all six refineries are considered, VOC, NO_x, SO_x and PM₁₀ are expected to be significant.

Although operational emissions associated with the CARB Phase 3 projects at the refineries are anticipated to exceed significance thresholds, there will be regional benefits from the use of the reformulated fuels by mobile sources. On a regional basis, the CARB Phase 3 project fuels produced by the refineries are expected to result in a reduction in emissions from mobile sources that utilize the reformulated fuels.

Marine vessel and railroad emissions from the various CARB Phase 3 projects are not expected to have substantial cumulative impacts on a regional basis. Marine vessel-related emissions for importing fuel ethanol to be used in the various CARB Phase 3 projects will largely replace current emissions from the marine vessel calls associated with MTBE imports that will be discontinued. Because less ethanol is needed for oxygenation of gasoline than MTBE, there generally will be fewer vessel trips to import ethanol than there are currently for importing MTBE.

The amount of rail traffic associated with fuel ethanol importation for CARB Phase 3 would be minimal compared to the volume of daily rail traffic in the Los Angeles area.

6.3.1.3 Operational Impacts – Toxic Air Contaminants

The operational TAC emissions associated with the CARB Phase 3 projects are anticipated to increase at each of the refineries for specific pollutants. In order to evaluate the cumulative impacts of the TACs, the locations and extents of the anticipated impacts were reviewed. The refinery located nearest to the Mobil Torrance Refinery is the Tosco Wilmington Refinery, about five miles from Mobil-Torrance. The other four refineries (Chevron, ARCO, Ultramar and Equilon)

are further than Tosco from the Mobil Torrance Refinery. Because of the distances of the other refineries from Mobil, TAC emissions from these refineries are not anticipated to impact the vicinity of the Torrance Refinery.

Based on review of the location and extent of the zones of impact (one per million cancer isopleth) for the Mobil Torrance Refinery and the other refineries, no overlap is anticipated. Therefore, the impacts of TAC emissions from the Mobil Torrance Refinery comprise the cumulative impacts at this location.

The Mobil Torrance Refinery HRA that was approved on January 30, 2001 reported a maximum cancer risk of 8.9 per million, a maximum acute hazard index of 0.057 and a maximum chronic hazard index of 0.051. The location of the peak receptor is a residential receptor located at UTM 378200E, 3747100N. The HRA prepared for the CARB Phase 3 project identifies the maximum risk to be 0.1 per million at a commercial receptor located at UTM 375517E, 3746717N as presented in Appendix B. The maximum acute and chronic hazard indices are predicted to be 0.001 and 0.005, respectively. The cumulative impacts associated with the post-project scenario will be below the significance criteria for cancer risk of one per million, and below the significance criteria for hazard indices of 1.0. Therefore, significant cumulative impacts are not expected from the Mobil Torrance Refinery.

The one per million cancer risk isopleth for Mobil is not expected to overlap with the one per million isopleth for any other refineries, because of the distance between Mobil's refinery and the other Los Angeles area refineries. Detailed data on the toxic air contaminant emissions from other refinery CARB Phase 3 projects is not currently available, so a quantitative analysis cannot be performed.

The HRA for the Atwood Terminal that was approved on May 9, 1997 reported a maximum cancer risk of 4.6 per million, a maximum acute hazard index of 0.07 and a maximum chronic hazard index of 0.02. The Tier 2 analysis prepared for the CARB Phase 3 project identifies the maximum risk to be 0.04 per million. The maximum acute and chronic hazard indices are predicted to be 0.00001 and 0.00003, respectively. The cumulative impacts associated with the post-project scenario will be below the significance criteria for cancer risk of one per million, and below the significance criteria for hazard indices of 1.0. Therefore, significant cumulative impacts are not expected from the Atwood Terminal.

Since the overall toxic emissions due to the CARB Phase 3 project decrease for SWT and the Vernon Terminal, a cumulative analysis is not required for these terminals.

Therefore, the overall cumulative air quality TAC impacts of the CARB Phase 3 projects within the Los Angeles Basin are expected to be minimal.

6.3.2 Cultural Resources

No significant adverse cumulative impacts to cultural resources are expected to occur as a result of the proposed project as it will be located on existing developed sites, and there are no known cultural resources that extend onto or beyond the project sites.

This conclusion is consistent with CEQA Guidelines §15130(a), which state in part, “Where a lead agency is examining a project with an incremental effect that is not ‘cumulatively considerable,’ a lead agency need not consider that effect significant, but shall briefly describe its basis for concluding that the incremental effect is not cumulatively considerable.” Therefore, since the project-related cultural resources impacts do not exceed the SCAQMD’s significance criteria, significant adverse cumulative cultural resources impacts are not expected from the implementation of the proposed project.

6.3.3 Energy

No significant cumulative impact on energy sources is expected to occur from construction, as the construction demand for energy at the Torrance Refinery and the terminals will be negligible.

Additionally, no significant adverse cumulative impact on energy sources is expected to occur from operation of the proposed project in combination with other projects. Mobil generates some of the electrical power used at its Torrance Refinery, but the proposed project does not introduce any new generation capability at the facility. Mobil’s proposed project represents a small increase over current electricity and natural gas use at the Mobil facilities. Although southern California currently is experiencing electrical power supply shortages, actions are currently in progress to speed up the construction and permitting of power plant projects. Additionally, the price of electricity to many consumers is being increased, which is expected to result in increased energy conservation. These various measures would be expected to help ease the current shortages by the time the proposed Mobil project begins operation at the end of 2002.

This conclusion is consistent with CEQA Guidelines §15130(a), which state in part, “Where a lead agency is examining a project with an incremental effect that is not ‘cumulatively considerable,’ a lead agency need not consider that effect significant, but shall briefly describe its basis for concluding that the incremental effect is not cumulatively considerable.” Therefore, since the project-related energy impacts do not exceed the SCAQMD’s significance criteria, cumulative energy impacts are not expected from the implementation of the proposed project.

6.3.4 Geology/Soils

The proposed project is not expected to create significant adverse cumulative impacts to geology or soils. No unique geologic resources are located at the Torrance Refinery or the terminal sites.

Seismic hazards will be minimized at the project sites by using proper design and construction standards. No significant adverse cumulative impacts to geologic structures or processes are expected to occur from the combined construction or operation of the projects discussed in Section 6.2.

This conclusion is consistent with CEQA Guidelines §15130(a), which state in part, “Where a lead agency is examining a project with an incremental effect that is not ‘cumulatively considerable,’ a lead agency need not consider that effect significant, but shall briefly describe its basis for concluding that the incremental effect is not cumulatively considerable.” Therefore, since the project-related geology/soils impacts do not exceed the SCAQMD’s significance criteria, cumulative geology/soils impacts are not expected from the implementation of the proposed project.

6.3.5 Hazards and Hazardous Materials

The proposed project’s contribution to significant adverse cumulative hazards and hazardous materials impacts will be de minimus and thus not significant. This is because environmental conditions would be essentially 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.

Many of the cumulative projects identified in Subsection 6.2.2 pose no substantial hazards or risk of upset, because they do not utilize no or minimal quantities of hazardous materials. This would be the case for the various residential, retail, restaurant, and many of the warehouse projects identified.

There are a number of other refineries and terminals in the general vicinity of the Mobil facilities, although none of the other refineries are within five miles of Mobil’s Torrance facilities. These refineries also will modify their facilities to produce CARB Phase 3 gasoline. The various refineries and terminals will have essentially similar process modifications and similar risks of upset as the proposed Mobil project. Because of the distances between refineries and the highly unlikely occurrence of simultaneous explosions or accidents at other refineries and terminals, the potential incremental hazard impact resulting from concurrent accidents at the Mobil facilities and other facilities is negligible. In addition, an accident at one refinery or terminal is unlikely to initiate an accident at other refineries or terminals. Therefore, the cumulative impacts of an accident at Mobil’s facilities would be localized to the vicinity of the proposed project, and would be the same as the proposed project’s impacts.

The major risk impact from the proposed project is due to the potential (but unlikely) failure of the 51,000-bbl pentane storage sphere at the Torrance Refinery. The worst case impact zone for this storage is about 2.9 kilometers (1.8 miles) and extends well offsite. The worst-case impact is

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based on the highly unlikely U.S. EPA worst-case assumption that the entire 51,000-bbl sphere of pentane would be vaporized and mixed with air, so that the entire amount was between the upper and lower explosive limit. This mass would then explode at 10 percent of the efficiency of TNT. This impact zone is about 60 meters (200 feet) greater than the current (pre-project) situation, that would involve the failure of a 51,000-bbl butane sphere followed by an explosion. The difference between the proposed project and existing conditions is not significant and is within the range of uncertainty of the modeling technique. Because the incremental project impact for this worst-case accident is not significant, the cumulative incremental project impact is not significant.

A more likely, yet still improbable, accident scenario at the Torrance Refinery would be a spill of pentane from the 51,000-bbl sphere to a containment dike, followed by a fire. This would have an impact distance of approximately 500 meters (1,650 feet), which would extend offsite. However, fire suppression systems are in place on the Torrance Refinery to mitigate fires. Again, the impact of this scenario would be limited to the immediate vicinity of the Torrance Refinery and there would be no additional cumulative impact.

The overall Torrance Refinery risks will remain essentially the same as current risks after implementation of the proposed project. In some ways risks would be reduced, since the primary result of the project is to replace a more hazardous substance (MTBE), with a less hazardous substance (fuel ethanol). The existing hazards due to gasoline handling, transport, and storage, including the proposed shipment of gasoline by marine tanker from SWT, are unchanged by the project.

The major incremental risk impact from the proposed project is the new risk of truck and rail accidents associated with the transport of fuel ethanol. The worst-case accidents would produce a liquid spill that then would catch fire. These potential accidents could occur away from the Mobil facilities, and thus would produce significant incremental offsite consequences. These accident scenarios would produce an impact of from 130 meters (430 feet) for a worst-case truck accident, to 250 meters (830 feet) for a worst-case rail accident. Cumulative impacts from these potential accidents and an onsite accident at one of the region's refineries or terminals are not expected: it is extremely unlikely that upset conditions would occur simultaneously, and also the relatively small footprint of the offsite impact area would be unlikely to overlap another terminal or refinery.

The major new risks created by the proposed project at the terminals are due to fuel ethanol truck accidents. The effects of an onsite terminal truck accident will be localized in the vicinity of the terminal. The probability of simultaneous accidents at other terminals is extremely low, and in any case, the terminal impact zones will not overlap that of other terminals or refineries. Consequently, the terminal cumulative impacts will be unchanged from the proposed project.

Risks associated with a 100,000-bbl marine tanker fire at SWT in the Port of Los Angeles will be reduced by the proposed project, since a more hazardous substance (MTBE) is being replaced by

a less hazardous substance (fuel ethanol). The impact area of a 100,000-bbl fuel ethanol marine tanker fire is reduced by 50 percent compared to a comparable MTBE marine tanker, 70 meters (230 feet) versus 150 meters (500 feet) for MTBE. The new risk conditions associated with the outgoing shipment of 100,000-bbl of gasoline by marine tanker will be unchanged from that associated with an incoming shipment of a similar amount of MTBE under current (pre-project) conditions. Therefore, the incremental risk at the SWT will be negligible.

Based on the above considerations, there would be no significant incremental cumulative impacts from catastrophic failure of storage tanks and pipelines at the Torrance Refinery. There would be no significant incremental cumulative impacts related to an increased risk from a transportation accident associated with the truck transport of fuel ethanol to the Vernon and Atwood terminals and rail transport to the Torrance site and Vernon Terminal. There will be no significant incremental cumulative impact from a marine tanker fire at SWT for either receipt of fuel ethanol or shipment of gasoline.

6.3.6 Hydrology/Water Quality

The demands for water from the adverse proposed project at the terminal sites are considered insignificant. Therefore, no significant cumulative impacts on water resources would be expected from the proposed project when considered with other projects.

Water usage from the proposed project will lead to a small increase in water use at the Torrance Refinery. Many of the projects identified in the vicinity of the Torrance Refinery are anticipated to have only moderate water demands. As discussed in Section 4.6, the local water provider has sufficient capacity to meet the incremental increase in water demand. Therefore, the combined operation of the proposed project and the other identified projects in Torrance would not be expected to produce significant adverse cumulative impacts to water quality.

This conclusion is consistent with CEQA Guidelines §15130(a), which state in part, "Where a lead agency is examining a project with an incremental effect that is not 'cumulatively considerable,' a lead agency need not consider that effect significant, but shall briefly describe its basis for concluding that the incremental effect is not cumulatively considerable." Therefore, since the project-related hydrology/water quality impacts do not exceed the SCAQMD's significance criteria, significant cumulative hydrology/water quality impacts are not expected from implementation of the proposed project.

6.3.7 Land Use and Planning

The proposed project and other projects discussed in Section 6.2 generally involve modifications to existing facilities or new developments in areas zoned for the proposed uses. The various projects either have, are in process of, or will go through the approval process at the local agency

level. Therefore, no change to land use patterns is expected to result from the individual projects, or from the projects considered together. Significant adverse cumulative land use impacts on a regional scale are not expected to occur.

This conclusion is consistent with CEQA Guidelines §15130(a), which state in part, “Where a lead agency is examining a project with an incremental effect that is not ‘cumulatively considerable,’ a lead agency need not consider that effect significant, but shall briefly describe its basis for concluding that the incremental effect is not cumulatively considerable.” Therefore, since the project-related land use impacts do not exceed the SCAQMD’s significance criteria, cumulative land use impacts are not expected from the implementation of the proposed project.

6.3.8 Public Services

As discussed in Section 4.8, no significant adverse cumulative impacts to public services, including fire, police, schools, or medical services, are likely to occur as a result of the proposed changes at the Torrance Refinery or the terminals, because the proposed project is primarily a continuation of existing operations. No significant adverse cumulative impact to police or fire services would be expected, because the region is already heavily developed and urbanized, with extensive police and fire resources.

It is unlikely that the proposed project in combination with other projects would create a demand for workers that could not be met by the existing population in the region. Therefore, no significant adverse cumulative impacts on schools or medical facilities would be expected as a result of the combined construction or operation of the projects discussed in Section 6.2.

This conclusion is consistent with CEQA Guidelines §15130(a), which state in part, “Where a lead agency is examining a project with an incremental effect that is not ‘cumulatively considerable,’ a lead agency need not consider that effect significant, but shall briefly describe its basis for concluding that the incremental effect is not cumulatively considerable.” Therefore, since the project-related public service impacts do not exceed the SCAQMD’s significance criteria, cumulative public service impacts are not expected from the implementation of the proposed project.

6.3.9 Solid/Hazardous Waste

Both non-hazardous and hazardous waste disposal facilities used by Mobil generally have expected life capacities ranging from 20 to 30 years. Mobil will continue to implement existing waste minimization practices at its facilities, and would be expected to implement waste minimization techniques as part of the proposed project. The incremental waste that will be generated by the proposed project over the life span of the disposal facilities is negligible

compared to their capacities; therefore, the proposed project would cause no significant adverse cumulative impacts.

This conclusion is consistent with CEQA Guidelines §15130(a), which state in part, “Where a lead agency is examining a project with an incremental effect that is not ‘cumulatively considerable,’ a lead agency need not consider that effect significant, but shall briefly describe its basis for concluding that the incremental effect is not cumulatively considerable.” Therefore, since the project-related solid/hazardous waste impacts do not exceed the SCAQMD’s significance criteria, cumulative solid/hazardous waste impacts are not expected from the implementation of the proposed project.

6.3.10 Transportation/Traffic

As discussed in Section 4.6, the proposed project is not expected to create long-term impacts to traffic conditions in the areas of Mobil’s Torrance Refinery or the various terminals. Additionally, the short-term construction impacts at the terminals are not considered significant, and are not expected to affect traffic patterns in these areas, even if related projects in these areas were to overlap with the proposed project construction.

Insignificant short-term construction impacts are expected to occur in the vicinity of the Torrance refinery during the AM peak hour (7:00 to 8:00 AM). Significant adverse cumulative effects (if any) on traffic and circulation in the vicinity of the Torrance Refinery site from the proposed project and related projects in Torrance would be transitory, due to the temporary nature of the construction.

This conclusion is consistent with CEQA Guidelines §15130(a), which state in part, “Where a lead agency is examining a project with an incremental effect that is not ‘cumulatively considerable,’ a lead agency need not consider that effect significant, but shall briefly describe its basis for concluding that the incremental effect is not cumulatively considerable.” Therefore, since the project-related traffic impacts do not exceed the SCAQMD’s significance criteria, cumulative traffic impacts are not expected from the implementation of the proposed project.

6.4 Mitigation Measures

Cumulative impacts from the proposed project together with other identified projects may affect air quality and hazards in the areas around project facilities, as well as adding to total air pollutant emissions from Los Angeles area refineries. However, the proposed project, as well as the other CARB Phase 3 refinery projects, are being implemented pursuant to state law in order to improve air quality throughout the region and eliminate the potential for groundwater contamination by MTBE. Mitigation measures for proposed project air quality and hazards impacts are provided in Chapter 4.

Chapter 6: Cumulative Impacts

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