

CHAPTER 5

CUMULATIVE IMPACTS

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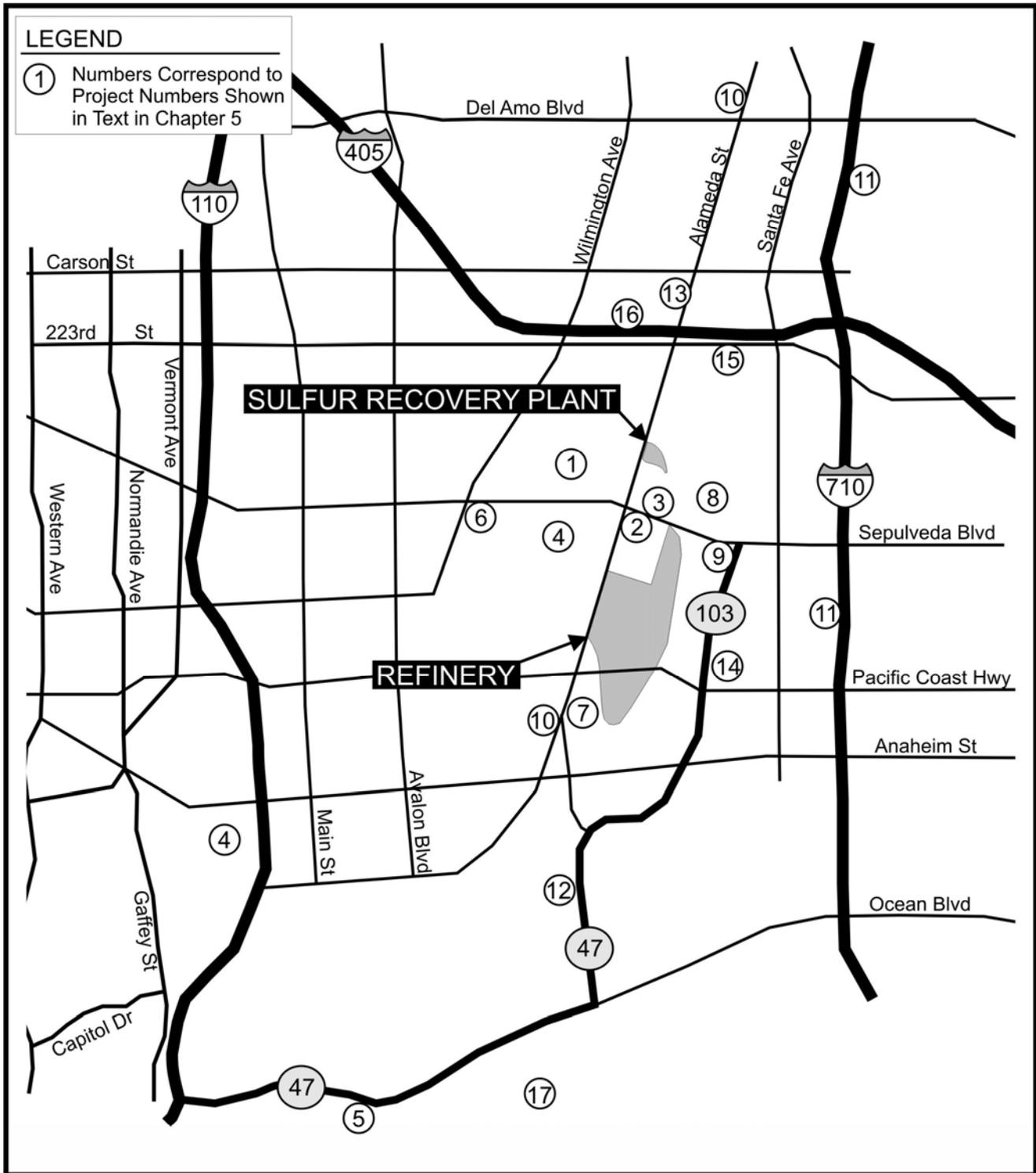
5.0 CUMULATIVE IMPACTS

5.1 INTRODUCTION

CEQA Guidelines §15130(a) requires an EIR to discuss the cumulative impacts of a project when the project's incremental effect is cumulatively considerable, as defined in §15065(a)(3). The only potentially significant adverse impacts identified for the proposed project was for air quality and traffic/transportation impacts during construction activities and hazards/hazardous materials during operation. There are a number of projects proposed for development in the vicinity of the Tesoro Refinery which may contribute to cumulative impacts in addition to those generated by the proposed project. These include other refinery and industrial projects, the Alameda Corridor Transportation Authority projects, as well as projects planned in the Cities of Carson, Wilmington and Long Beach. Figure 5-1 shows the locations of the projects that may contribute to cumulative impacts in the City of Carson. 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 is expected to occur during the same construction period as the Tesoro Reliability Improvement and Regulatory Compliance Project.

Public agencies were contacted to obtain information on projects within the Carson, Wilmington, and Long Beach areas. As part of the cumulative impact analysis, the SCAQMD typically includes projects within about one mile of the proposed project. Figure 5-1 identifies by number the location of each of the projects discussed below. The numbers are 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 Tesoro Reliability Improvement and Regulatory Compliance Project and which are within about a one-mile radius of the Refinery/SRP sites. These projects generally include other industrial projects in nearby cities. A number of projects are proposed within the Ports of Long Beach and Los Angeles. Although the Tesoro Refinery is located near the Ports, a number of the proposed Port projects are located over two miles away and are thus, outside of the scope of the cumulative analysis for this EIR. Further, because of the distance, no overlap in related impacts is expected. For example, the projects are separated by about two miles so that any construction traffic associated with the Tesoro proposed project is expected to remain within the vicinity of Pacific Coast Highway, while the traffic associated with the Port projects would be further south, thereby affecting different intersections. Construction impacts on air quality are generally localized and there is sufficient distance between the projects located over one mile away from the Refinery to avoid overlapping cumulative impacts. Where the Port projects have components that would have impacts within about one mile of the Refinery, they were included as part of the cumulative analysis, e.g., Pacific LA Marine Crude Oil Terminal in the Port of Los Angeles. The cumulative projects are identified in more detail in Section 5.2.

TESORO RELIABILITY IMPROVEMENT AND REGULATORY COMPLIANCE PROJECT



TESORO
CUMULATIVE PROJECTS
LOCATION MAP

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

5.2 POTENTIALLY RELATED PROJECTS

The proposed projects that will be within the general Wilmington/Carson/Long Beach areas are described below. The number listed after the project corresponds with the number shown on the location map in Figure 5-1.

5.2.1 BP CARSON REFINERY SAFETY, COMPLIANCE AND OPTIMIZATION PROJECT (#1)

BP is proposing a safety, compliance and optimization project at its existing Carson Refinery. The proposed project will involve physical changes and additions to multiple process units and operations as well as operational and functional improvements within the confines of the existing Refinery. The portion of the proposed project related to enhancing safety will focus on modifications to the Coker Gas Debutanizer pressure relief valve, as well as adding equipment to the FCCU, Fluid Feed Hydrodesulfurization (FFHDS), vapor recovery system, and flare system. The portion of the proposed project related to compliance will involve physical modifications to existing refinery units including the FCCU, FFHDS, vapor recovery system, and flare system so as to comply with multiple SCAQMD rules (e.g., Rule 1105.1 – PM10 and Ammonia Emissions from Fluid Catalytic Cracking Units, Rule 1118 – Control of Emissions From Refinery Flares, and Rule 1173 – Control of VOC Leaks and Releases from Components at Petroleum Facilities and Chemical Plants) and to implement the terms of a settlement agreement between the SCAQMD and BP. Other modifications are proposed that will optimize operations relating to various existing refinery units including the FFHDS, the FCCU, the Alky Merox Unit, the Alkylation Unit, the Hydrocracker Unit, and the Sulfur Plant at the Refinery. An FEIR (SCH No. 2005111057) for the BP project was completed and certified on September 15, 2006. Construction began during the fourth quarter of 2006 and is expected to continue into the second quarter of 2009. Construction and operational activities are expected to overlap with the Tesoro proposed project and will be included in the cumulative impact analysis.

5.2.2 KINDER MORGAN CARSON TERMINAL EXPANSION (#2)

The Kinder Morgan Carson Terminal is located at 2000 East Sepulveda Boulevard, Carson, California, adjacent to the southeast intersection of Alameda Street and Sepulveda Boulevard. The site lies within an industrialized area bounded by existing refineries and petroleum storage tanks on the north and east, and Alameda Street on the west. The project involves the construction of 18 new, 80,000-barrel product storage tanks and one new, 30,000-barrel transmix storage tank with related piping, pumps, and control systems on the southwestern portion of the existing Carson Terminal facility. The

proposed Kinder Morgan project would increase the petroleum storage capacity of the facility by up to 25 percent over a three- to ten-year period, depending on the market demand for petroleum product storage. The facility is operated by Kinder Morgan Energy Partners, L.P. (KMEP) and the Final EIR was prepared by the City of Carson for this project (City of Carson, 2005).

The 80,000-barrel tanks would be used to store refined petroleum products such as regular unleaded gasoline, premium unleaded gasoline diesel fuel, jet fuel, alkylates, reformates, and blend stocks. The 30,000-barrel transmix tank would be used to store small volumes of product that are commingled within the pipeline system during product transfers (City of Carson, 2005).

The new tanks would be connected to existing gasoline, diesel, and jet fuel pipelines. A new shipping and receiving manifold with pumps and interconnecting piping would be installed to integrate the new tanks within the existing facility. The manifold would be designed to have a 15,000-barrel per hour throughput capacity with the potential to be upgraded to a maximum 20,000-barrel per hour throughput capacity. This compares to the existing manifold and piping system, which has a 10,000-barrel per hour throughput capacity (City of Carson, 2005).

Construction activities for the KMEP project are expected to occur over a 10-year period and may occur during the same timeframe as the Tesoro proposed project. Operational impacts will overlap with the Tesoro proposed project and, therefore, will be included in the cumulative impacts analysis.

5.2.3 CHEMOIL TERMINALS CORPORATION (#3)

The Chemoil Terminals Corporation is located at 2365 East Sepulveda Boulevard, Carson. The Chemoil facility is an organic liquid storage facility and has a storage capacity of 80,000 barrels. Facility operators are proposing to increase their storage capacity by about 30,000 barrels over an estimated five-year period. A total of seven new storage tanks, related piping, pumps and control systems would be installed over a five-year period. The proposed project includes constructing five 50,000-barrel tanks and two 20,000-barrel tanks for the storage of organic liquids such as ethanol, crude oil, gasoline, naphtha, cycle oils, marine and non-marine diesel oils, and residual fuel oils. A Mitigated Negative Declaration was prepared for the Chemoil Project (City of Carson, 2006). The Chemoil project was approved by the City of Carson in December of 2006 and will likely still be under construction during a portion of the same time period as the Tesoro proposed project (personal communication, John Signo, City of Carson, February 2008).

5.2.4 CONOCOPHILLIPS REFINERY PROJECT TANK REPLACEMENT PROJECT (#4)

The ConocoPhillips Los Angeles Refinery operates at two different sites, one in the City of Carson (Carson Plant) and the other in the City of Los Angeles Wilmington district

(Wilmington Plant). The Carson Plant is located at 1520 East Sepulveda Boulevard, Carson, California and consists of 245 acres. The Wilmington Plant is located at 1660 West Anaheim Street, Wilmington, California, and consists of approximately 400 acres. ConocoPhillips operators are in the process of removing seven existing petroleum storage tanks and replacing them with six new tanks, four at the Carson Plant and two new tanks at the Wilmington Plant. The project includes replacing the existing riveted storage tanks with floating roof tanks of welded construction. The project will comply with the SCAQMD BACT, as applicable, for control of VOC emissions from refinery storage tanks. A Negative Declaration has been prepared for this project (SCAQMD, 2008a). The proposed modifications are entirely within the confines of the existing facilities.

5.2.5 PACIFIC L.A. MARINE CRUDE OIL TERMINAL (#5)

The proposed project would include construction and operation of a new marine terminal at Berth 408 on Pier 400 including a new wharf, new tank farm facilities with a total of 4.0 million barrel (bbl) of capacity (Tank Farm 1 would be located on Pier 400 with Tank Farm 2 on Pier 300), and pipelines connecting the Marine Terminal and the tank farms to local refineries. The terminal would be operated by Pacific Los Angeles Marine Terminal, LLC (PLAMT) under a 30-year lease from the Port of Los Angeles. The proposed project would not require any dredging, as Berth 408 already has sufficient water depth to accommodate Very Large Crude Carrier (VLCC) vessels (325,000 deadweight tons (DWT)), which would be the largest vessels expected to call at Berth 408. The proposed project would primarily receive crude oil, partially refined crude oil, and occasional deliveries of Marine Gas Oil (MGO).

Major elements of the proposed project include:

- Construction and operation of a new marine terminal, including a new wharf, would be designed to receive crude oil from marine vessels and transfer the oil to tank farm facilities via a new 42-inch diameter, high-volume pipeline.
- Construction and operation of two tank farms, one at Pier 400 (two 500,000 barrel storage tanks) and one at Pier 300 with 14 storage tanks (about 3.5 million barrels of storage).
- Construction and operation of new pipelines to connect existing pipeline facilities to the existing ExxonMobil Southwest Terminal on Terminal Island, the existing Ultramar/Valero Refinery on Anaheim Street near the Terminal Island Freeway, and to other Plains pipeline systems near Henry Ford Avenue and Alameda Street via new and existing pipelines.

The Port of Los Angeles has prepared an EIR for the proposed Marine Terminal (Port of LA and U.S. Army Corp of Engineers, 2008).

5.2.6 BP LOGISTICS PROJECT (#6)

The construction of two new crude oil storage tanks has been approved by the City of Carson for BP West Coast Products, LLC (#6 in Table 5-1). The project site is located at 1150 East Sepulveda Boulevard in the City of Carson. The project is located east of Wilmington Avenue, south of Sepulveda Boulevard, west of Alameda Street, north of Lomita Boulevard, and is comprised of 28 acres of the BP Carson Crude Terminal. The project involves the construction and operation of two 260-foot diameter covered external floating roof crude oil storage tanks. The two crude oil storage tanks have a capacity of 500,000 barrels each, and will require related piping and process control systems. Crude oil is received at the facility primarily from the Port of Long Beach and is stored at the BP Carson Crude Terminal before being refined at the BP Carson Refinery to the north. An EIR has been prepared for the BP Logistics Project by the City of Carson (City of Carson, 2007).

5.2.7 ULTRAMAR INC., OLYMPIC TANK FARM (#7)

As part of the CARB Phase 3 Project, Ultramar operators proposed modifications to its Olympic Tank Farm located at 1220 North Alameda Street to upgrade existing storage tanks and provide additional storage capacity. Ultramar operators are proposing to relocate the entire operations that are currently at the Ultramar Marine Tank Farm in the Port of Los Angeles to the Olympic Tank Farm. Gas oil is currently offloaded at Berth 164 into an existing storage tank at the Marine Terminal. Gas oil will be offloaded at Berth 164 and then pumped (boosted) with new pumps into existing pipelines and transported to the Olympic Tank Farm (via existing pipelines). At the Olympic Tank Farm, gas oil will be stored in new or modified storage tanks. The proposed project will require the construction of four new internal floating roof storage tanks. In addition, three existing storage tanks will be modified. The Olympic Tank Farm is expected to have the same working capacity of 733 million barrels as the Marine Tank Farm. Construction of the proposed project is expected to begin in 2009. A Final Subsequent EIR was prepared for the Ultramar project (Ultramar, Inc. Wilmington Refinery CARB Phase 3 Proposed Project) (SCAQMD, 2002).

5.2.8 INTERMODAL CONTAINER TRANSFER FACILITY (ICTF) EXPANSION AND MODERNIZATION PROJECT (#8)

Union Pacific Railroad Company (UPRC) is proposing to expand and modernize the Intermodal Container Transfer Facility (ICTF) in the City of Long Beach. The ICTF covers a narrow area between East Sepulveda Boulevard and East 233rd Street, just south of the I-405 freeway. The proposed project will accommodate the Port of Los Angeles (POLA) and Port of Long Beach (POLB) (Ports) projected container traffic growth beyond levels that can be provided by existing and anticipated on-dock rail terminals.

The ICTF currently transfers containerized cargo from the terminals of the Ports to trains for distribution throughout the region and the United States, as well as transfers cargo for U.S. exports to the Ports for export abroad. The ICTF is also used to transfer cargo from

the ICTF. The proposed project will increase the number of containers handled at the ICTF from the current average of 725,000 to an estimated 1.5 million annually (Union Pacific Railroad, 2007). The ICTF Joint Powers Authority (JPA) is the lead agency for the preparation of the proposed project but no CEQA document has been prepared at this time for the ICTF facility. The JPA is administered by a governing board and is separate and apart from the Cities of Long Beach and Los Angeles.

5.2.9 SOUTHERN CALIFORNIA INTERNATIONAL GATEWAY (SCIG) PROJECT (#9)

The Port of Los Angeles is developing a new near-dock rail facility, which will be operated by Burlington Northern Santa Fe (BNSF). This facility will be used to handle Port-related intermodal containers. The proposed site for this facility is the Port of Los Angeles property north of Pacific Coast Highway, south of Sepulveda Boulevard and west of the SR103. The SCIG Project will help provide a near-dock rail facility to help increase intermodal capacity for movement of cargo between truck and rail. The project would also increase overall rail usage at the Port to help meet future demand for the shipment of imported goods.

The proposed project includes the construction and operation of new tracks for the transfer of containers between truck and rail, supporting infrastructure for storing and staging railcars and supporting infrastructure for train ingress and egress from the facility at Pacific Coast Highway and to connect the facility to the Alameda Corridor. The proposed project also includes the construction and operation of an administrative building, maintenance buildings, crane maintenance area, air compressor building, fueling areas and a truck access gate. Traffic improvements include a new railroad bridge over Sepulveda Boulevard, a grade separation at Pacific Coast Highway, expansion of a rail bridge over the Dominguez Channel, and additional railroad track from the SCIG project to the Alameda Corridor. The Port of Los Angeles is the lead agency for this project and is currently preparing an EIR (Port of Los Angeles, 2005).

Currently, port-related containers moving between the BNSF railyard and the ports travel by truck via the I-710 Freeway. Once this facility is fully operational, that one million port-related trucks could be eliminated from the I-710 freeway per year. The construction is estimated to be completed by 2009.

5.2.10 WESPAC SMART ENERGY TRANSPORT SYSTEM PROJECT (#10)

WesPac Pipelines-Los Angeles LLC (WesPac) is proposing to construct a jet fuel pipeline system to support airport operations at Los International Airport (LAX) and other airports in the western United States. The proposed project will be carried out in two phases. Construction of Phase 1 is proposed to begin in June 2009 and be completed in November 2009, while Phase 2 is proposed to begin in January 2013.

The proposed pipeline route crosses six jurisdictions, including unincorporated Los Angeles County and the cities of Carson, Compton, Gardena, Hawthorne, and Los

Angeles. For Phase 1, a 16-inch pipeline will be built that originates at the Vopak Inland Terminal in the Wilmington area of the City of Los Angeles would initially travel south, then west, crossing the Dominguez Channel, before heading north to the Watson Pump Station in the City of Carson, passing the storage facilities at the Kinder Morgan Carson and Shell Carson terminals. For Phase 2, a 12-inch pipeline will be built that would continue north and west from the Watson Pump Station, passing through the communities of Carson, unincorporated Los Angeles County, Compton and additional areas within the City of Los Angeles, as well as the cities of Gardena and Hawthorne, before entering the LAX property, where it would terminate at the LAX tank farm located in the western portion of the airport facility.

The total pipeline would be approximately 24 miles in length, with Phase 1 being 6.5 miles long, and the remaining 17.5 miles being constructed during Phase 2. In addition to the pipeline itself, the proposed project consists of a new pump station at the Vopak Inland Terminal, a new delivery connection to the Watson Pump Station, and a new receiving system at LAX. An EIR has been prepared by the City of Los Angeles for the proposed pipeline (City of Los Angeles, 2007).

5.2.11 INTERSTATE FREEWAY MAJOR CORRIDOR STUDY (#11)

The Gateway Cities Council of Governments has been working with local jurisdictions as well as SCAG, the MTA and Caltrans to upgrade the I-710 Freeway to allow more efficient movement of vehicles and trucks between the Ports and the railyards near downtown Los Angeles. While preliminary concepts have been developed, detailed alternatives and environmental documents have not been prepared. Therefore, the extent of the impacts cannot be determined at this time and are considered speculative.

5.2.12 ALAMEDA CORRIDOR TRANSIT AUTHORITY (ACTA) PROJECT

The Alameda Corridor is located in southern Los Angeles County running from the Ports of Long Beach and Los Angeles to 20 miles north in downtown Los Angeles, primarily along and adjacent to Alameda Street. The project extends through or borders the cities of Vernon, Huntington Park, South Gate, Lynwood, Compton, Carson, Los Angeles, and the County of Los Angeles.

The Alameda Corridor is a 20-mile-long rail cargo expressway linking the Ports of Long Beach and Los Angeles to the transcontinental rail network near downtown Los Angeles. It consists of a series of bridges, underpasses, overpasses and street improvements that separate freight trains from street traffic and passenger trains, facilitating a more efficient transportation network. The project's centerpiece is the Mid-Corridor Trench, which carries freight trains in an open trench that is 10 miles long, 33 feet deep, and 50 feet wide between SR 91 in Carson and 25th Street in Los Angeles. Construction of the Alameda Corridor began in April 1997 and operations began in April 2002. The major portions of the ACTA project (i.e., railroad improvements and grade separations along Alameda Street) have been completed and are part of the existing environmental setting. However, several additional projects being developed by ACTA with one described in

the following subsections in more detail (ACTA, 2008). Detailed information to evaluate the impacts of other proposed ACTA projects are not currently available (Personal communication with Connie Rivera). Therefore, the project will be qualitatively analyzed in the cumulative analysis.

ACTA - SR-47 Port Access Expressway (#12)

Improvements to SR-47, in the vicinity of the ports, have been proposed to enhance local goods movement. Along with Caltrans, ACTA is proposing to develop a four-lane expressway from Terminal Island to Alameda Street, north of Anaheim Street, and south of Pacific Coast Highway, that includes the replacement of the seismically deficient Schuyler Heim Bridge over the Cerritos Channel (ACTA, 2008). Construction for the bridge and expressway components of the project would take approximately two to three years, beginning in 2009. There is the potential for a flyover component to the project which would take a year to construct, but if approved, construction on that portion of the project would not commence until 2015.

The 2.2 mile-long SR-47 Port Access Expressway will create a more direct route to local warehouses and other transportation corridors, and will reduce congestion as well as improve public safety and regional air quality. This expressway will bypass congestion-producing traffic signals and five at-grade rail crossings. This project will reduce congestion on the I-710, I-110 Freeways and surrounding bridges (ACTA, 2008). The Draft EIR/EIS for the Schuyler Heim Bridge Replacement and SR-47 Expressway Project was released on August 17, 2007. The public comment period for the document was extended to October 16, 2007. The SR-47 project will be included in the cumulative impacts analysis. The DEIR for the project explores six different alternatives. The impacts will be estimated on a worst-case basis as depicted in the DEIR.

5.2.13 ALAMEDA STREET SOUND-WALL AND NOISE MITIGATION (#13)

The City of Carson has been evaluating the potential installation of a sound wall to provide noise mitigation for train and diesel truck noise along Alameda Street between Dominguez Street and the I-405 Freeway. Alternative locations of the sound wall are being investigated because of the potential closure of several streets in order to develop such a wall. In addition, alternatives to the sound wall, e.g., sound insulation programs are also being investigated. While preliminary designs for the wall have been discussed, detailed plans and environmental documents have not been prepared. Therefore, the extent of the impacts cannot be determined at this time and are considered speculative.

5.2.14 OTHER PROJECTS IN THE CITIES OF CARSON AND LONG BEACH

Other smaller projects proposed in the Cities of Long Beach and Carson within about one mile of Tesoro are summarized in Table 5-1. The project is summarized in table form because the information available on these projects is limited.

TABLE 5-1

Other Nearby Projects in the City of Carson and Long Beach⁽¹⁾

| Map No. | Address/Location | Description | Project Type | Distance from Proposed Project |
|----------------|--|--|---------------------|---------------------------------------|
| 14 | 2001 River Avenue, Long Beach | 81-unit apartment building | Residential | 0.4 mile |
| 15 | 2254 East 223 rd Street, Carson | Driveway entrance, parking lot and recreation area | Industrial | 0.5 mile |
| 16 | 2116 East 220 th Street, Long Beach | 153,725 square feet | Industrial | 1.0 mile |

(1) Source: City of Carson Development Status Report, personal communication John Signo, City of Carson and Peter Postlemayer, City of Long Beach.

5.2.15 SAN PEDRO BAY PORTS CLEAN AIR ACTION PLAN (# 17)

The Ports of Long Beach and Los Angeles have adopted the San Pedro Bay Ports Clean Air Action Plan (CAAP), a plan with a goal of reducing the health risks posed by air pollution from port-related ships, trains, trucks, terminal equipment and harbor craft. The Final 2006 Clean Air Action Plan documents (Overview, Technical Report, and Comments Compendium) have been updated based upon input received during the comment period. The Final Plan can be found on the Port of Long Beach website (www.polb.com). The San Pedro Bay Ports Clean Air Action Plan was created with the cooperation and participation of the SCAQMD, CARB) and U.S. EPA.

The CAAP includes proposals for hundreds of millions of dollars in investments by the ports, the SCAQMD, the state, and port-related industry to control and reduce PM pollution from all port-related sources by at least 47 percent within the next five years. Measures to be implemented under the CAAP also will reduce smog-forming NOx emissions by more than 45 percent, and will also result in reductions of SOx emissions by at least 52 percent.

Under the CAAP, the ports propose to eliminate “dirty” diesel trucks from San Pedro Bay cargo terminals within five years by helping to finance a new generation of clean or retrofitted vehicles. The CAAP also calls for all major container cargo and cruise ship terminals at the ports to be equipped with shore-side electricity within five to ten years so that vessels at berth can shut down their diesel-powered auxiliary engines. To reduce emissions of air pollutants, ships would also be required to reduce their speeds when entering or leaving the harbor region, use low-sulfur fuels, and employ other emission-reduction measures and technologies.

The CAAP accelerates the efforts of a CARB pollution reduction plan by requiring faster replacement of existing cargo-handling equipment with new equipment that will meet the toughest U.S. EPA emissions standards. Under the CAAP, diesel PM from all port-related sources would be reduced by a total of 1,200 tons per year, NO_x would be reduced by 12,000 tons per year, and SO_x by 8,900 tons per year.

5.3 AIR QUALITY

5.3.1 CONSTRUCTION IMPACTS

As indicated in Chapter 3, the Basin is classified as non-attainment for ozone, PM₁₀, and PM_{2.5}. Construction activities for some of the projects described in Section 5.2 have the potential to overlap with the Tesoro proposed project and result in a short-term significant impact on air quality (see Table 5-2). The Tesoro proposed project could result in significant construction emissions for NO_x during the construction period (see Table 4-3). Therefore, the project-specific air quality impacts associated with project construction are considered significant.

The projects identified in Table 5-2 have the potential for construction activities that could overlap with the construction activities for the Tesoro proposed project. Table 5-2 summarizes the available construction emissions data for the related projects, i.e., the emission estimates are available from other CEQA documents or sufficient project data are available to run the URBEMIS 2007 model to estimate construction emissions. Construction emissions for the Tesoro proposed project would exceed the thresholds established by the SCAQMD for NO_x. Therefore, the air quality construction impacts are considered cumulatively considerable for NO_x. The construction emissions for the Tesoro proposed project construction would not exceed the thresholds established by the SCAQMD for CO, VOC, SO_x, PM₁₀ and PM_{2.5}. Per the requirements of CEQA Guidelines §15064(h)(4), the “mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project’s incremental effects are cumulatively considerable.” Therefore, the air quality construction impacts for the proposed project are not cumulatively considerable for CO, VOC, SO_x, PM₁₀, and PM_{2.5}.

Mitigation measures to reduce emissions associated with construction activities are necessary primarily to control emissions from heavy construction equipment and worker travel. The ACTA SR-47 project DEIR indicates that the sum of direct and indirect worst case scenario construction emissions would have an adverse but temporary effect on air quality, and mitigation would be implemented (ACTA, 2007). There will be construction emissions associated with other projects in the area including a number of port projects and the Alameda Corridor projects, but these emissions were not estimated and sufficient information does not exist to estimate these emissions. The construction schedules are also not available so it is not clear whether the construction emissions will overlap with the Tesoro proposed project. Therefore, additional unquantifiable adverse air quality

impacts may occur due to construction activities from these other projects if they are approved and construction begins in the same time frame as the Tesoro proposed project.

TABLE 5-2
Cumulative Construction Air Quality Impacts
(pounds per day)

| No. | Project | Type of Project | Estimated Emissions | | | | | |
|--|--|---------------------|---------------------|---------------|-----------------|--------------|----------------|--------------|
| | | | CO | VOC | NOx | SOx | PM10 | PM2.5 |
| 1 | BP Safety, Compliance and Optimization Project ⁽¹⁾ | Refinery | 1,036 | 250 | 1,633 | 117 | 208 | * |
| 2 | Kinder Morgan ⁽²⁾ | Industrial | 242 | 52 | 477 | 7 | 273 | * |
| 3 | Chemoil Project ⁽³⁾ | Industrial | 123 | 14 | 75 | 11 | 30 | * |
| 4 | ConocoPhillips Tank Project ⁽⁴⁾ | Industrial | 42 | 14 | 71 | <1 | 38 | 11 |
| 5 | Pacific LA Marine Crude Terminal ⁽⁵⁾ | Port-related | 3,274 | 371 | 5,915 | 112 | 310 | 201 |
| 6 | BP Crude Logistics Optimization Program ⁽⁶⁾ | Industrial | 205 | 65 | 372 | ** | 94 | 56 |
| 7 | Ultramar Olympic Tank Farm ⁽⁷⁾ | Refinery | 224 | 228 | 197 | 33 | 155 | * |
| 9 | Smart Energy Transport System Project (Phase I) ⁽⁸⁾ | Pipeline | 353 | 48 | 240 | 20 | 31 | 16 |
| 12 | ACTA – SR-47 Port Access ⁽⁸⁾ | Highway Improvement | 868 | 210 | 1,753 | 1.9 | 983 | * |
| 14 | 2001 River Ave., LB ⁽⁹⁾ | 81-Unit Residential | 19.79 | 25.33 | 26.52 | 0.01 | 26.54 | 5.26 |
| 16 | 2116 E. 220 th Street ⁽⁹⁾ | Industrial | 37.52 | 329.59 | 37.80 | 0.04 | 36.54 | 7.35 |
| Emissions from Cumulative Projects⁽¹⁰⁾ | | | 6,424.3 | 1606.9 | 10,797.3 | 302.9 | 2,185.1 | 296.6 |
| SCAQMD Thresholds | | | 550 | 75 | 100 | 150 | 150 | 55 |
| Tesoro Proposed Project | | | 339.22 | 63.82 | 432.20 | 0.56 | 58.18 | 27.84 |
| Cumulatively Significant | | | NO | NO | YES | NO | NO | NO |

(1) SCAQMD, 2006; (2) City of Carson, 2005; (3) City of Carson, 2006; (4) SCAQMD, 2008a; (5) POLA, 2008; (6) City of Carson, 2007; (7) SCAQMD, 2002; (8) City of Los Angeles, 2007; (9) Emissions estimated using the URBEMIS 2007 model; and (10) Only projects with quantifiable emissions have been included.

* PM2.5 emissions not listed in EIR.

** SOx emissions not listed in EIR.

5.3.2 OPERATIONAL EMISSION IMPACTS

During operation, some of the other cumulative projects are expected to reduce overall air pollutant emissions. However, there are emission increases for certain air pollutants for some projects (see Table 5-3). Direct stationary emission sources are generally subject to regulation. The emissions associated with the operational phase of the Tesoro proposed project are shown in Chapter 4, Table 4-5. The operation of the Tesoro proposed project will not exceed the SCAQMD significance thresholds for air quality, after mitigation, so no significant project-specific operational air quality impacts are expected from the proposed project.

Table 5-3

Cumulative Operational Air Quality Impacts (pounds per day)

| No. | Project | Type of Project | Estimated Emissions | | | | | |
|---------------------------------------|--|---------------------|---------------------|-----------|-----------|-----------|-----------|-----------|
| | | | CO | VOC | NOx | SOx | PM10 | PM2.5 |
| 1 | BP Safety, Compliance and Optimization Project ⁽¹⁾ | Refinery | 13 | 36 | 20 | <1 | 15 | * |
| 2 | Kinder Morgan ⁽²⁾ | Industrial | 0 | 97 | 0 | 0 | 0 | |
| 3 | Chemoil Project ⁽³⁾ | Industrial | -- | 52 | -- | -- | -- | -- |
| 4 | ConocoPhillips Tank Project ⁽⁴⁾ | Industrial | -- | 20 | -- | -- | -- | -- |
| 5 | Pacific LA Marine Crude Terminal ⁽⁵⁾ | Port-related | 3,274 | 371 | 5,915 | 112 | 310 | 201 |
| 6 | BP Crude Logistics Optimization Program ⁽⁶⁾ | Industrial | 205 | 65 | 372 | ** | 94 | 56 |
| 7 | Ultramar Olympic Tank Farm ⁽⁷⁾ | Refinery | 9 | 229 | 39 | 1 | 3 | * |
| 9 | Smart Energy Transport System Project (Phase I) ⁽⁸⁾ | Pipeline | 353 | 48 | 240 | 20 | 31 | 16 |
| 12 | ACTA – SR-47 Port Access ⁽⁸⁾ | Highway Improvement | 868 | 210 | 1,753 | 1.9 | 983 | * |
| 14 | 2001 River Ave., LB ⁽⁹⁾ | 81-Unit Residential | 55.42 | 9.47 | 8.44 | 0.05 | 8.59 | 1.71 |
| 16 | 2116 E. 220 th Street ⁽⁹⁾ | Industrial | 66.38 | 7.19 | 8.13 | 0.07 | 10.81 | 2.11 |
| Total Emissions⁽¹⁰⁾ | | | 4,843.8 | 1,144.66 | 8,355.57 | 136.02 | 1,455.4 | 276.82 |
| SCAQMD Thresholds | | | 550 | 75 | 100 | 150 | 150 | 55 |
| Tesoro Proposed Project | | | -1,912.3 | 2.1 | -912.8 | | | |
| | | | -1839.1 | 0.2 | -854.6 | -826.0 | -169.6 | -169.1 |
| Significant | | | NO | NO | NO | NO | NO | NO |

(1) SCAQMD, 2006; (2) City of Carson, 2005; (3) City of Carson, 2006; (4) SCAQMD, 2008a; (5) POLA, 2008; (6) City of Carson, 2007; (7) SCAQMD, 2002; (8) City of Los Angeles, 2007; (9) Emissions estimated using the URBEMIS 2007 model; and (10) Only projects with quantifiable emissions have been included.

* PM2.5 emissions not listed in EIR

** SOx emissions not listed in EIR

Operational air quality impacts associated with cumulative projects are shown in Table 5-3. Emission estimates are not available for all projects; for some of those projects, default emission factors were used when possible, i.e., the type of land use and size of the development are available. For certain cumulative projects, operational emissions were expected to result in a decrease or no increase in emissions and those projects have been omitted from Table 5-3. As shown in Table 5-3, the proposed Tesoro project does not make a cumulatively considerable contribution to impacts related to CO, VOC, NOx, SOx, PM10, or PM2.5 because the project emissions will be less than the SCAQMD CEQA significance thresholds. Further, the proposed project will result in net emission reductions of CO, NOx, SOx, PM10 and PM2.5. The proposed project VOC emissions are 2.1 pounds per day, which is well below the SCAQMD significance threshold and less than significant. Per CEQA Guidelines §15064(h)(4), the mere existence of

significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulatively considerable. Therefore, air quality impacts associated with the operation of the proposed project are not cumulatively considerable.

The ACTA Corridor and port-related transportation improvement projects seek to reduce port-related transportation emissions by improving transportation efficiency, reducing congestion, and the related air emissions. Therefore, additional air quality benefits may occur due to these transportation-related projects.

5.3.3 TOXIC AIR CONTAMINANTS

The Tesoro proposed project will result in a short-term increase in TAC emissions related to construction activities. These emissions will cease following completion of construction. The main contaminant of concern associated with construction activities is diesel exhaust particulate matter that have been listed as a TAC by CARB. While carcinogenic and chronic non-carcinogenic health risk values have been established for diesel exhaust particulate matter, no acute diesel exhaust health risk values have been established to evaluate acute (i.e., short-term) health effects related to diesel particulate matter.

Since construction for the proposed project is considered to be short-term (i.e., lasts less than three years) and does not require substantial construction equipment, no HRA is required to be prepared. Further, the proposed project is expected to result in long-term health benefits by reducing CO, NO_x, SO_x, PM₁₀, and PM_{2.5} emissions from the Refinery and SRP and the HRA results for operational activities were below the significance thresholds. Therefore, no significant adverse health effects are expected from the proposed project.

The impacts from toxic air contaminants are localized impacts. A number of the other proposed projects in the Wilmington area are expected to result in overall emission increases. Reductions in TACs are expected from the CAAP and transportation improvement projects that reduce mobile source emissions. Most of the cumulative projects that may result in emission increases are located over one mile from the Tesoro Refinery and toxic air contaminant emissions are not expected to overlap due to distance from the Tesoro Refinery and SRP to other nearby projects (e.g., ConocoPhillips Tank Farm project) and dispersion from the sources which dilutes toxic emission impacts.

5.3.4 GREENHOUSE GASES

5.3.4.1 Environmental Setting

Global climate change refers to changes in average climatic conditions on the earth as a whole, including temperature, wind patterns, precipitation and storms. Global warming, a related concept, is the observed increase in the average temperature of the earth's surface and atmosphere. One identified cause of global warming is an increase of GHGs

in the atmosphere. The six major GHGs identified by the Kyoto Protocol are CO₂, methane (CH₄), nitrous oxide (N₂O), sulfur hexafluoride (SF₆), haloalkanes (HFCs), and perfluorocarbons (PFCs). The GHGs absorb longwave radiant energy reflected by the earth, which warms the atmosphere. GHGs also radiate longwave radiation both upward to space and back down toward the surface of the earth. The downward part of this longwave radiation absorbed by the atmosphere is known as the "greenhouse effect." Some studies indicate that the potential effects of global climate change may include rising surface temperatures, loss in snow pack, sea level rise, more extreme heat days per year, and more drought years.

Events and activities, such as the industrial revolution and the increased combustion of fossil fuels (e.g., gasoline, diesel, coal, etc.), have heavily contributed to the increase in atmospheric levels of GHGs. As reported by the CEC, California contributes 1.4 percent of the global and 6.2 percent of the national GHG emissions (CEC, 2004). The GHG inventory for California is presented in Table 5-4 (CARB, 2007a). Approximately 80 percent of GHG emissions in California are from fossil fuel combustion and over 70 percent of GHG emissions are carbon dioxide emissions (see Table 5-4).

In response to growing scientific and political concern regarding global climate change, California has recently adopted a series of laws to reduce both the level of GHGs in the atmosphere and to reduce emissions of GHGs from commercial and private activities within the state. In September 2002, Governor Gray Davis signed Assembly Bill (AB) 1493, requiring the development and adoption of regulations to achieve "the maximum feasible reduction of greenhouse gases" emitted by noncommercial passenger vehicles, light-duty trucks, and other vehicles used primarily for personal transportation in the State. Setting emission standards on automobiles is normally the responsibility of the U.S. EPA. The Federal Clean Air Act, however, allows California to set a state-specific emission standard on automobiles if it first obtains a waiver from the U.S. EPA. On December 19, 2007 the U.S. EPA denied California's request for a waiver. In response, California sued the U.S. EPA claiming that the denial was not based on the scientific data. A decision on the lawsuit has not yet been made.

In June 2005, Governor Schwarzenegger signed Executive Order S-3-05, which established GHG emissions reduction targets for the state, as well as a process to ensure that the targets are met. As a result of this executive order, the California Climate Action Team (CAT), led by the Secretary of the California State Environmental Protection Agency (CalEPA), was formed. The CAT published its report in March 2006, in which it laid out several recommendations and strategies for reducing GHG emissions and reaching the targets established in the Executive Order.¹

¹ California Climate Action Team. Climate Action Team Report to Governor Schwarzenegger and the Legislature, 2006.

TABLE 5-4

California GHG Emissions and Sinks Summary
(Million metric tons of CO₂ equivalence)

| Categories Included in the Inventory | 1990 | 2004 |
|---|---------------|---------------|
| ENERGY | 386.41 | 420.91 |
| Fuel Combustion Activities | 381.16 | 416.29 |
| Energy Industries | 157.33 | 166.43 |
| Manufacturing Industries & Construction | 24.24 | 19.45 |
| Transport | 150.02 | 181.95 |
| Other Sectors | 48.19 | 46.29 |
| Non-Specified | 1.38 | 2.16 |
| Fugitive Emissions from Fuels | 5.25 | 4.62 |
| Oil and Natural Gas | 2.94 | 2.54 |
| Other Emissions from Energy Production | 2.31 | 2.07 |
| INDUSTRIAL PROCESSES & PRODUCT USE | 18.34 | 30.78 |
| Mineral Industry | 4.85 | 5.90 |
| Chemical Industry | 2.34 | 1.32 |
| Non-Energy Products from Fuels & Solvent Use | 2.29 | 1.37 |
| Electronics Industry | 0.59 | 0.88 |
| Product Uses as Substitutes for Ozone Depleting Substances | 0.04 | 13.97 |
| Other Product Manufacture & Use Other | 3.18 | 1.60 |
| Other | 5.05 | 5.74 |
| AGRICULTURE, FORESTRY, & OTHER LAND USE | 19.11 | 23.28 |
| Livestock | 11.67 | 13.92 |
| Land | 0.19 | 0.19 |
| Aggregate Sources & Non-CO ₂ Emissions Sources on Land | 7.26 | 9.17 |
| WASTE | 9.42 | 9.44 |
| Solid Waste Disposal | 6.26 | 5.62 |
| Wastewater Treatment & Discharge | 3.17 | 3.82 |
| EMISSION SUMMARY | | |
| Gross California Emissions | 433.29 | 484.4 |
| Sinks and Sequestrations | -6.69 | -4.66 |
| Net California Emissions | 426.60 | 479.74 |

Source: CARB, 2007a.

The greenhouse gas targets are:

- By 2010, reduce to 2000 emission levels;
- By 2020, reduce to 1990 emission levels; and,
- By 2050, reduce to 80 percent below 1990 levels.

In September 2006, Governor Schwarzenegger signed California's Global Warming Solutions Act of 2006 (AB32). AB32 will require CARB to:

- Establish a statewide GHG emissions cap for 2020, based on 1990 emissions, by January 1, 2008;
- Adopt mandatory reporting rules for significant sources of GHG emissions by January 1, 2008;
- Adopt an emissions reduction plan by January 1, 2009, indicating how emissions reductions will be achieved via regulations, market mechanisms, and other actions; and,
- Adopt regulations to achieve the maximum technologically feasible and cost-effective reductions of GHGs by January 1, 2011.

SB1368, a companion bill to AB32, requires the CPUC and the CEC to establish GHG emission performance standards for the generation of electricity, whether generated inside the State or generated outside and then imported into California. SB1368 provides a mechanism for reducing the emissions of electricity providers, thereby assisting CARB to meet its mandate under AB32. On January 25, 2007, the CPUC adopted an interim GHG Emissions Performance Standard (EPS), which is a facility-based emissions standard requiring that all new long-term commitments for baseload generation to serve California consumers be with power plants that have GHG emissions no greater than a combined cycle gas turbine plant. That level is established at 1,100 pounds of CO₂ per megawatt-hour (MW-hr). Further, on May 23, 2007, the CEC adopted regulations that establish and implement an EPS of 1,100 pounds of CO₂ per MW-hr (see CEC order No. 07-523-7).

SB97, passed in August 2007, is designed to work in conjunction with CEQA and AB32. SB97 requires the California Office of Planning and Research (OPR) to prepare and develop guidelines for the mitigation of GHG emissions or the effects thereof, including but not limited to, effects associated with transportation and energy consumption. These guidelines must be transmitted to the Resources Agency by July 1, 2009, to be certified and adopted by January 1, 2010. The OPR and the Resources Agency shall periodically update these guidelines to incorporate new information or criteria established by CARB pursuant to AB32. SB97 will apply to any EIR, negative declaration, mitigated negative declaration, or other document required by CEQA, prepared for a limited number of types of projects, which has not been finalized. SB 97 will be automatically repealed January 1, 2010.

There has also been activity at the Federal level on the regulation of GHGs. In *Massachusetts v. Environmental Protection Agency* (Docket No. 05-1120), argued November 29, 2006 and decided April 2, 2007, the U.S. Supreme Court held that not only

did the U.S. EPA have authority to regulate greenhouse gases, but that the U.S. EPA's reasons for not regulating greenhouse gases did not fit the statutory requirements. The U.S. Supreme Court ruled that CO₂ and other greenhouse gases are pollutants under the Clean Air Act, which U.S. EPA must regulate if it determines they pose an endangerment to public health or welfare. To date, the U.S. EPA has not made such a finding or developed a regulatory program for greenhouse gas emissions. On July 30, 2008, the U.S. EPA published an Advanced Notice of Proposed Rulemaking "to elicit information that will assist us [U.S. EPA] in developing and evaluating the potential action under the CAA." (FR, 2008)

The SCAQMD adopted a "Policy on Global Warming and Stratospheric Ozone Depletion" on April 6, 1990. The policy commits the SCAQMD to consider global impacts in rulemaking and in drafting revisions to the AQMP. In March 1992, the SCAQMD Governing Board reaffirmed this policy and adopted amendments to the policy to include the following directives:

- phase out the use and corresponding emissions of chlorofluorocarbons (CFCs), methyl chloroform (1,1,1-trichloroethane or TCA), carbon tetrachloride, and halons by December 1995;
- phase out the large quantity use and corresponding emissions of hydrochlorofluorocarbons (HCFCs) by the year 2000;
- develop recycling regulations for HCFCs (e.g., SCAQMD Rules 1411 and 1415);
- develop an emissions inventory and control strategy for methyl bromide; and,
- support the adoption of a California greenhouse gas emission reduction goal.

The legislative and regulatory activity detailed above is expected to require significant development and implementation of energy efficient technologies and shifting of energy production to renewable sources.

The proposed project results in combustion source emission reductions. Therefore, CO₂ emissions will decrease concurrently with the criteria pollutant emissions from the proposed project.

5.3.4.2 Significance Criteria

The analysis of GHGs is a much different analysis than the analysis of criteria pollutants for the following reasons. For criteria pollutants, significance thresholds are based on daily emissions because attainment or non-attainment is based on daily exceedances of applicable ambient air quality standards. Further, several ambient air quality standards are based on relatively short-term exposure effects on human health, e.g., one-hour and eight-hour. Since the half-life of CO₂ is approximately 100 years, for example, the

effects of GHGs are longer-term, affecting global climate over a relatively long time frame. As a result, the SCAQMD's current position is to evaluate GHG effects over a longer timeframe than a single day.

On December 5, 2008, the SCAQMD adopted an interim GHG Significance Threshold for projects where it is the lead agency using a tiered approach for determining significance. The objective of the SCAQMD's interim GHG significance threshold proposal is to achieve a GHG emission capture rate of 90 percent of all new or modified stationary source projects. A GHG significance threshold based on a 90 percent emission capture rate is considered to be more appropriate to address the long-term adverse impacts associated with global climate change because most projects will be required to implement GHG reduction measures. Further, a 90 percent GHG emission capture rate sets the emission threshold low enough to capture a substantial fraction of future stationary source projects that will be constructed to accommodate future statewide population and economic growth, while setting the emission threshold high enough to exclude small projects that will in aggregate contribute a relatively small fraction of the cumulative statewide GHG emissions. The following bullet points describe the basic structure of SCAQMD's tiered interim GHG significance threshold for stationary sources (SCAQMD, 2008b).

- **Tier 1** – consists of evaluating whether or not the project qualifies for any applicable exemption under CEQA. For example, SB 97 specifically exempts a limited number of projects until it expires in 2010. If the project qualifies for an exemption, no further action is required. If the project does not qualify for an exemption, then it would move to the next tier.
- **Tier 2** – consists of determining whether or not the project is consistent with a GHG reduction plan that may be part of a local general plan, for example. The concept embodied in this tier is equivalent to the existing consistency determination requirements in CEQA Guidelines §§15064(h)(3), 15125(d), or 15152(a). The GHG reduction plan must, at a minimum, comply with AB 32 GHG reduction goals; include emissions inventory agreed upon by either CARB or the SCAQMD, have been analyzed under CEQA and have a certified Final CEQA document, and have monitoring and enforcement components. If the proposed project is consistent with the qualifying local GHG reduction plan, it is not significant for GHG emissions. If the project is not consistent with a local GHG reduction plan, there is no approved plan, or the GHG reduction plan does not include all of the components described above, the project would move to Tier 3.
- **Tier 3** – establishes a screening significance threshold level to determine significance using a 90 percent GHG emission capture rate. The 90 percent capture rate GHG significance screening level in Tier 3 for stationary sources was derived using the following methodology. Using the SCAQMD's Annual Emission Reporting (AER) Program, the reported annual natural gas consumption for 1,297 permitted facilities for 2006 through 2007 was compiled and the

facilities were rank-ordered to estimate the 90th percentile of the cumulative natural gas usage for all permitted facilities. Approximately 10 percent of facilities evaluated comprise more than 90 percent of the total natural gas consumption, which corresponds to 10,000 metric tons of CO₂ equivalent emissions per year (MTCO₂e/yr) (the majority of combustion emissions are comprised of CO₂). A screening significance thresholds level has been discussed for residential and commercial projects, but were not adopted on December 5, 2008. Staff recommended deferring consideration of the residential and commercial GHG screening threshold proposal until March 6, 2009, pending further evaluation and direction from the SCAQMD's Governing Board. If a project's GHG emissions exceed the GHG screening threshold, the project would move to Tier 5.

- **Tier 4** – SCAQMD staff recommended deferring consideration of this tier until March 6, 2009, pending further evaluation and direction from the SCAQMD's Governing Board. Currently, Tier 4 would establish a decision tree approach that would include compliance options for projects which have incorporated design features into the project and/or implement GHG mitigation measures; demonstrate a 30 percent reduction for normal business as usual practices; demonstrate early compliance with AB32 control measures; or comply with sector based performance standards.
- **Tier 5** – would require projects, that implement offsite GHG mitigation that includes purchasing offsets to reduce GHG emission impacts, to purchase sufficient offsets for the life of the project (30 years) to reduce GHG emissions to less than the applicable GHG screening threshold level.

For detailed information on the interim GHG significance threshold proposal adopted by the Governing Board, please see the December 5, 2008 public hearing agenda item #31 at www.aqmd.gov/hb/2008/December/081231a.htm.

The interim GHG significance threshold that was adopted by the SCAQMD Governing Board only applies to stationary source/industrial projects where the SCAQMD is the lead agency under CEQA. The types of projects that the significance threshold applies to include: SCAQMD rules, rule amendments, and plans, e.g., Air Quality Management Plans. In addition, the SCAQMD may be the lead agency under CEQA for projects that require discretionary approval, i.e., projects that require air quality permits from the SCAQMD and that allow the SCAQMD to exercise discretion with regard to imposing permit conditions, like the currently proposed Tesoro project (SCAQMD, 2008b).

GHGs do not have human health effects like criteria pollutants. Rather, it is the increased accumulation of GHGs in the atmosphere that may result in global climate change. Due to the complexity of conditions and interactions affecting global climate change, it is not possible to predict the specific impact, if any, attributable to GHG emissions associated with a single project. Furthermore, the proposed project's GHG emissions will be small relative to total global or even statewide GHG emissions. Thus, the significance of

potential impacts from GHG emissions related to the proposed project has been analyzed for long-term operations on a cumulative basis, as discussed further in the following subsections.

5.3.4.3 Environmental Impacts

Reporting indirect GHG emissions is a requirement of the California Climate Action Registry reporting program and CARB staff has considered extensively the value of indirect emissions in a mandatory reporting program. CARB believes that indirect energy usage provides a more complete picture of the emissions footprint of a facility. “As facilities consider changes that would affect their emissions – addition of a cogeneration unit to boost overall efficiency even as it increases direct emissions, for example – the relative impact on total (direct plus indirect) emissions by the facility should be monitored. Annually reported indirect energy usage also aids the conservation awareness of the facility and provides information” to CARB to be considered for future strategies by the industrial sector. Similarly, as part of the design criteria associated with developing the SCAQMD's interim GHG significance threshold proposal, SCAQMD staff recommends that a GHG analysis that is included in a CEQA document should evaluate direct and indirect GHG emissions from project construction (amortized over 30 years), operation, transportation, etc., as well as indirect energy usage. Therefore, direct and indirect emissions have been calculated for the proposed project, consistent with existing CEQA requirements.

Project GHG Emissions

Combustion GHG emissions in the form of CO₂, methane and nitrous oxide will be generated by the off-road equipment and on-road vehicles during the construction phase of the project. GHG emissions were estimated using emission factors from the CARB EMFAC2007 and OFFROAD2007 models and the EPA AP-42 publication. The GHG emission factors and calculations for construction activities can be found in Appendix B. The proposed project is expected to generate a total of 9,858.52 metric tons of GHG emissions (CO₂ equivalent emissions) during the construction phase (see Table 5-5 and Appendix A). Per the requirements of the SCAQMD's recently adopted GHG significance threshold, the GHG construction emissions are amortized for a period of 30 years, resulting in an estimated 328.62 metric tons per year of GHG emissions (see Table 5-5).

The new and modified equipment built as part of the proposed project has been evaluated for all GHG emission sources identified, including energy supplied via purchased conventional power generation. The proposed project is estimated to result in a decrease of 61,334 million metric tons/year of GHG emissions (see Table 5-5). Reducing GHG emissions is not a significant adverse project-specific or cumulative impact especially because the SCAQMD's GHG significance threshold for projects where it is the lead agency is an increase in GHG emissions greater than 10,000 metric tons of CO₂ equivalent emissions per year.

TABLE 5-5

**Tesoro Refinery Proposed Project
GHG Emissions Summary⁽¹⁾**

| Equipment | GHG Emissions (metric tons/yr) |
|--|---|
| Construction Emissions ⁽²⁾ | 328.62 |
| New Cogen C ⁽³⁾ | 273,649 |
| Purchased Electricity ⁽³⁾⁽⁴⁾ | 22,752 |
| Removal of Existing Cogens A and B | -346,055 |
| New Boilers 11 & 12 | 280,299 |
| Removal of Existing Boilers 7-10 | -292,308 |
| Proposed Project (metric tons/yr) | -61,334.38 |
| Proposed Project (million metric tons/yr) | -0.061 |

1. See Appendix C for detailed emission calculations – includes all applicable GHG emissions, i.e., CO₂, N₂O, and methane, otherwise called CO₂ equivalent emissions or CO₂e.
2. Construction emissions have been amortized for 30 years per the GHG significance threshold adopted by the SCAQMD on December 5, 2008 (SCAQMD, 2008b).
3. *The emissions are based on Cogen C operation. The new emergency I.C. Engine will operate when Cogen C is not operating and will not operate concurrently with Cogen C. Therefore, the maximum GHG emissions are when Cogen C operates continuously.*
4. Proposed project requires the purchase of 1 MW.

The CPUC and CEC have established environmental performance standards for the generation of electricity. To evaluate compliance with the standard, the electrical and thermal output of Cogen C was calculated and compared to the emissions performance standard (see Appendix C, Table C-10). The efficiency of the Cogen C is estimated to be 351 pounds of CO₂e per MW-hr which is well below the emissions performance standard of 1,100 pounds of CO₂ per MW-hr. (The EPS is not identified as CO₂ or CO₂e emissions, so comparison of CO₂e to the standard is more conservative.) Therefore, the proposed Cogen C will be substantially more energy efficient than required by CPUC and CEC standards, generating lower CO₂ emissions per MW-hr than what is required by CPUC and CEC standards and what would otherwise be generated by the local utility.

CAPCOA's Green List

CAPCOA has suggested that lead agencies should develop a “Green List of Projects” that is consistent with the goals of AB32. Such as list would allow agencies to encourage projects that are providing overall GHG emission benefits and complying with the goals of AB32. The suggested projects for inclusion on the Green List are as follows:

- Wind farm for generation of wind-powered electricity.
- Extension of transit lines to currently developed, but under-served communities.
- Development of high-density infill projects with easily accessible mass transit.
- Small hydroelectric power plants (5 MW or less).

- Cogeneration plants with a capacity of 50 MW or less at existing facilities.
- Increase bus service or conversion to bus rapid transit service along an existing bus line.
- Projects with Leadership in Energy and Environmental Design (LEED) “Platinum” rating.
- Expansion of recycling facilities within existing urban areas.
- Recycled water projects that reduce energy consumption related to water supplies that service existing development.
- Development of bicycle, pedestrian or zero emission transportation infrastructure to serve existing regions (CAPCOA, 2008).

The new Cogen C is, in itself, one of the preeminent technologies for minimizing GHG emissions included on CAPCOA’s “Green List of Projects.” Cogeneration is far more efficient (in both energy and GHG emissions), than the separate generation of electricity (either by a simple cycle gas turbine or utility boilers) and steam.

As noted by CAPCOA, cogeneration plants are consistent with the goals of AB32 because they are much more efficient in generating electricity at the site where it is used, thus, minimizing energy losses associated with the transmission and distribution of electricity. Installing Cogen C as part of the proposed project is consistent with CAPCOA’s Green List of Projects and, thus, the goals of AB32.

Conclusion

The proposed project is estimated to result in a decrease of 61,334 metric tons/year of GHG emissions (see Table 5-5). Reducing GHG emissions is not a significant adverse cumulative impact especially because the SCAQMD’s GHG significance threshold for projects where it is the lead agency has been established to be 10,000 metric tons of CO₂ equivalent emissions per year. Therefore, no significant adverse cumulative GHG emission impacts are expected due to the proposed project.

5.3.5 MITIGATION MEASURES

For the construction period, the mitigation measures developed as part of the proposed project (see Section 4.2.3) will be imposed on other related projects, if the SCAQMD is the lead agency and project-specific impacts are concluded to be significant. Regulatory requirements that minimize emissions associated with operation of stationary sources of the related projects include the use of BACT for all new emission sources and modifications to existing sources. BACT would be required for stationary sources regardless of whether the SCAQMD is the lead agency or is a responsible agency. The use of BACT would control localized and regional emissions. A BACT review will be completed during the SCAQMD permit approval process for all new/modified sources.

Cumulatively, it should be noted that the ports are working on measures to minimize port-related emissions that could provide emission reductions or minimize future

emissions. Examples of these measures include: (1) the use of electric container cranes; (2) the use of electric motors to drive conveyors and rail gantry cranes and loading/unloading equipment for trains, trucks, and ships; (3) the use of dock equipment powered by propane or natural gas; (4) most of the tugboats in the port plug into electrical power while they wait for their next calls instead of idling their engines; (5) new clean diesel technologies are also being tested and installed on some tugboats and heavy work boats; (6) the use of ultra-low emission diesel engines are being tested to reduce NOx emissions from tugboats by 80 percent; (7) the development of a Clean Engines and Fuels Program to incorporate alternative fuel vehicles into fleets; and (8) investigating the feasibility of using electricity to replace marine engines while at port (PoLA/PoLB, 2006).

The ACTA Corridor and related transportation improvement projects are expected to reduce port-related transportation emissions by improving transportation efficiency, reducing congestion, and the related air emissions. Mitigation measures will serve to help reduce overall cumulative emissions in the region. It is the responsibility of the local lead agencies to ensure mitigation measures for the related projects are implemented.

5.3.6 LEVEL OF SIGNIFICANCE AFTER MITIGATION

The cumulative adverse air quality impacts due to construction activities associated with the proposed project are expected to exceed the SCAQMD significance threshold for NOx emissions, and thus, are considered to be cumulatively considerable, even after mitigation. The construction emissions for the Tesoro proposed project would not exceed the thresholds established by the SCAQMD for CO, VOC, SOx, PM10 and PM2.5. Per the requirements of CEQA Guidelines §15064(h)(4)), the “mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project’s incremental effects are cumulatively considerable.” Therefore, the air quality construction impacts are not cumulatively considerable for CO, VOC, SOx, PM10, and PM2.5.

The cumulative air quality impacts associated with the operation of the proposed project are not expected to exceed the SCAQMD significance thresholds for all criteria pollutants except and are not considered to be cumulatively considerable. The proposed project will result in a beneficial impact (i.e., a net reduction in emissions) for all pollutants except VOCs, and so the proposed project contribution of these pollutants is not cumulatively considerable. As a result, operational project-specific air quality impacts do not contribute to significant adverse cumulative air quality impacts. Per CEQA Guidelines §15064(h)(4), the mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project’s incremental effects are cumulatively considerable. Therefore, the project’s GHG emissions are not cumulatively considerable.

5.4 HAZARDS AND HAZARDOUS MATERIALS

5.4.1 CONSTRUCTION/OPERATIONAL IMPACTS

Although other refineries and industrial facilities exist in the general vicinity of the Refinery and SRP, the cumulative impacts from and between the onsite operations of the other industrial projects are not expected to be significant because it is extremely unlikely that upset conditions would occur at more than one facility at a time. Further, it also is unlikely that an upset condition at one facility would create an upset at another nearby facility because of the distance between facilities. The ConocoPhillips Carson Plant, which is located south of Sepulveda Boulevard, is the closest refinery to the Tesoro Refinery, and the BP Refinery is the closest to the SRP operations. The distance between the facilities associated with the Tesoro proposed project and ConocoPhillips and BP refinery units is approximately 1,100 feet and 800 feet, respectively, and the refineries are separated by a six lane major thoroughfare (Alameda Street). The new project-related explosion or fire hazard impacts associated with the proposed project are expected to travel less than 1,000 feet from the impact source within the Refinery, or stay within the confines of the existing Refinery and SRP. Therefore, explosion or fire hazards are not expected to reach or overlap with hazard impacts from other local refineries or industrial projects, so hazard impacts are not expected to be cumulatively considerable.

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 ten percent of containers transported into and out of the ports hold hazardous materials (USACE, 2003). 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, 2003). The Tesoro Refinery and SRP are located more than two miles from both ports preventing overlap with hazards at the ports.

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 hazard impacts and not adversely affect members of the public due to exposure to flash fire, explosion, over pressure, thermal radiation or significant H₂S or sulfur dioxide contaminants. A release of a toxic material could impact a larger area depending on the material released, however, packaging constraints would still limit the potential adverse impacts to a relatively small area (USACE, 2003).

5.4.2 MITIGATION MEASURES

The proposed project impacts due to hazards are considered to be significant. A number of existing rules and regulations apply to the Refinery, SRP, and other industrial facilities that handle, transport or store hazardous materials. Compliance with these rules and regulations is expected to minimize industry-related hazards. Compliance with these rules and regulations should also minimize the hazards at other refineries and industrial facilities. Site-specific mitigation measures for hazards may be required for other projects.

5.4.3 LEVEL OF SIGNIFICANCE AFTER MITIGATION

The impacts of the various projects due to 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.

5.5 TRANSPORTATION AND TRAFFIC

5.5.1 CONSTRUCTION IMPACTS

The proposed project will increase the traffic in the area associated with construction workers, construction equipment, and the delivery of construction materials. The proposed project is expected to require up to about 600 construction workers which could result in significant traffic impacts on the I-710 Freeway (see Table 4-11). Therefore, the traffic impacts associated with the proposed project during the construction phase are potentially significant. [Note that the month that has the highest number of construction workers working at the Refinery and SRP is not the month with the highest air emissions. Therefore, the traffic analysis for the peak construction traffic impacts is based on a different number of workers (600) than the air quality analysis for construction emissions (248)].

There could be cumulative construction traffic impacts associated with other industrial construction projects in the area that do not avoid peak traffic hours. Construction of the ACTA projects would require improvements to SR47, which could result in disruption to the local traffic circulatory system, creating detours and affecting accessibility to businesses. Traffic associated with construction activities are considered to be cumulatively considerable on the I-710 Freeway. However, construction activities would be short-term and construction-related traffic would cease following completion of construction activities, which are expected to last about two – three years.

5.5.2 OPERATIONAL IMPACTS

As explained in the NOP/IS (see Appendix A), the traffic impacts associated with the operational phase of the proposed Tesoro project are less than significant. The proposed project will result in a maximum increase in truck traffic of about 52 trucks per year or no

more than one additional truck trip per day traveling to and from the Refinery and SRP. As a result, operational traffic impacts do not contribute to significant adverse cumulative traffic impacts. Therefore, the project's operational traffic impacts are not cumulatively considerable.

5.5.3 MITIGATION MEASURES

The Tesoro proposed project construction traffic impacts are expected to be significant on the I-710 Freeway. Feasible mitigation measures have not been identified for traffic impacts on the I-710 Freeway. Potentially significant construction traffic impacts will cease following the completion of the construction phase. The increase in traffic associated with operation of the proposed project is limited to one truck trip per day to the Refinery and SRP and, therefore, is less than significant.

5.5.4 LEVEL OF SIGNIFICANCE AFTER MITIGATION

The proposed project which could result in significant traffic impacts on the I-710 Freeway. Therefore, the construction traffic impacts are potentially cumulatively considerable on the I-710. The proposed project is not expected to result in significant traffic during the operational phase. As a result, project-specific traffic impacts do not contribute to significant adverse cumulative traffic impacts and are not cumulatively considerable. Per CEQA Guidelines §15064(h)(4), the mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulatively considerable.