4.20 CUMULATIVE IMPACTS ANALYSIS

In accordance with the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA), this analysis summarizes expected environmental effects from the combined impacts of past, current, and reasonably foreseeable future projects within the Project area that were identified at the time of publication of the Notice of Intent/Notice of Preparation in March 2004 and updated in December 2006. Cumulative effects can result from individually minor but collectively significant actions taking place over time. For example, a project may remove only a small area of land from agricultural production, but it may be part of a vast conversion of agricultural land in the area.

Projects that may have similar effects were identified through consultation with planning and engineering departments of local governments, the Ventura County Air Pollution Control District, the California State Lands Commission (CSLC), the International Cable Protection Committee, Minerals Management Service (MMS), and the State of California's Office of Planning and Research. Only projects that would occur in the vicinity of the proposed Project and/or within a similar time frame are considered.

As discussed in Chapter 2, "Description of the Proposed Action," the proposed Project consists of four main types of facilities:

- An offshore deepwater port liquefied natural gas (LNG) import terminal (the floating storage and regasification unit [FSRU]) that would be anchored and moored on the ocean floor for the life of the Project;
- Offshore pipelines;
- A shore crossing, using horizontal directional boring (HDB) below Ormond Beach; and
- Onshore pipelines, and related facilities, to connect to the existing onshore natural gas infrastructure.

Projects that may have similar impacts and that, together with the Project, may have cumulative environmental impacts are described below but generally include port expansion, offshore mineral development and processing, residential development, and military operations. Table 4.20-1 summarizes proposed and current projects in the area of Billiton LNG International Inc.'s (BHPB or the Applicant) proposed Project that could, in combination with the proposed Project, result in a cumulative impact.

This section also addresses comments received during the public scoping in March 2004 and during the public review period for the October 2004 Draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR) and the March 2006 Revised Draft EIR. Comments included possible construction of desalination plants at Ormond Beach; the Clearwater Port project and other LNG projects; increased vessel traffic in

Table 4.20-1 Summary of Proposed and Current Projects in the Area of the Applicant's Proposed Project

Project	Project Type	Brief Description	Project Location	Permitting Status and Schedule
Offshore, Maritime, and Military				
Clearwater Port LNG Importation Facility	Construction and conversion	Conversion of existing Platform Grace to an LNG receiving and processing facility	Platform Grace, located 10.9 nautical miles (NM) (12.6 miles or 20.3 kilometers [km]) offshore of Ventura County in Federal waters	Updated application submitted July 2006
Hubbs-SeaWorld Research Institute (HSWRI)	Mariculture	Marine aquaculture (mariculture) project for three years	Platform Grace, located 10.5 NM (12.1 miles or 19.5 km) offshore of Ventura County in Federal waters	Application was rescinded in November 2006
Sound Energy Solution's Long Beach LNG Import Terminal[1]	LNG facility	Construction and operation of an onshore LNG receiving terminal at the Port of Long Beach	Port of Long Beach	Draft Environmental Impact Report (EIR) published in October 2005.
Woodside Natural Gas Inc.'s OceanWay LNG Terminal	LNG facility	Construction and operation of an offshore LNG facility	22 miles offshore from Los Angeles	Application submitted in August 2006.
Vandenberg Air Force Base (VAFB)	Operations	Launch and detect satellites and Intercontinental ballistic missile missiles	98,400 acres (39,822 ha) about 50 miles (80.5 km) northwest of Santa Barbara	Finding of No Significant Impact signed 02/02/00

[1] The Board of Harbor Commissioners voted January 22, 2007, to end the environmental review of a proposal by Sound Energy Solutions (SES) to build an LNG importing facility at the Port of Long Beach, and issued the following statement: "After deliberation, based upon an opinion from Long Beach City Attorney Robert Shannon, who concluded that the Environmental Impact Report on the proposed LNG project 'is and in all likelihood will remain legally inadequate,' and since an agreement between Sound Energy Solutions and the City does not appear to be forthcoming, the Board of Harbor Commissioners disapproves the project and declines to pursue further negotiations."

Table 4.20-1 Summary of Proposed and Current Projects in the Area of the Applicant's Proposed Project

Project	Project Type	Brief Description	Project Location	Permitting Status and Schedule
Channel Islands National Marine Sanctuary (CINMS)	Management Plan update and boundary revision analysis	Proposed expansion of the boundaries of the sanctuary	1,243 square NM (1,646 square miles or 4,263 square kilometers [km^2]) – the boundaries extend from the mean high tide to 6 NM (6.9 miles, 11.1 km) offshore from Anacapa, Santa Cruz, Santa Rosa, San Miguel, and Santa Barbara Islands	Draft Management Plan/Draft EIS published May 2006; anticipated publication of the Final Management Plan and EIS in winter 2006/2007
Offshore Oil and Gas Activities	Exploration, production, and decommissioning	Offshore oil and gas leases	In Federal waters offshore of Santa Barbara, Ventura, Los Angeles, and Orange Counties	Development of 36 non-producing leases pending litigation
Point Mugu Sea Range	Operations	Testing and Training Range	Point Mugu Sea Range, San Clemente Island (SCI), and San Nicholas Island	Current activity
SOCAL Range Complex	Operations	Training ranges	SCI and associated training ranges	Current activity
Port of Hueneme	Operations and expansion	Break bulk cargo shipping facility	Port of Hueneme, Ventura County	Current activity
Port of Long Beach	Terminal expansions	Expand terminals to increase cargo capacity	Port of Long Beach	Current and pending activity
City of Oxnard				
New Residential and Industrial Development in the City of Oxnard[a]				
Gonzales Condominiums	New residential development	36-unit condominium units	457 Gonzales Road	Plan check
Rose/Pleasant Valley	New residential development	98 condominiums/12 live-work units	Rose Avenue and East Pleasant Valley Drive	Proposed
Oneida Courts	New residential development	4 single-family homes	Ventura RD	Proposed
Ventura/Vineyard	New residential development	180 single-family homes	1801 Vineyard Avenue	Proposed
Westwinds II	New residential development	48 condominium; includes General Plan amendment	5482 and 5536 Cypress Rd.	Proposed

Table 4.20-1 Summary of Proposed and Current Projects in the Area of the Applicant's Proposed Project

Project	Project Type	Brief Description	Project Location	Permitting Status and Schedule
Oxnard Complex	New residential development, includes park	94 single-family dwelling units and a 10-acre park	Gonzales Road	Proposed
Rose/Pleasant Valley	New residential development, Live/work	98 condominiums/12 live work	Rose Avenue	Proposed
Unnamed	New residential development	159 residential condominiums	Saviers Road, Clara Street/Cypress Road	Under construction
Unnamed	New residential development	54 apartment units	NE corner of Gonzales and Victoria Ave.	Plan check
Channel Island Center	New Residential and Mixed Use Commercial Complex	Three towers consisting of 953 residential units and mixed use commercial; 8.67 acres.	NW corner of Oxnard Boulevard and N. Vineyard Avenue	Proposed
Carriage Square/Lowe's	Demolition and redevelopment	Commercial/retail facility	341 W. Gonzales Road	Proposed
St. John's Medical Office Building	3-story building	Medical office building	1600 N. Rose Avenue	Proposed
Taco Bell Renovation	Demolition and reconstruction	Commercial/retail facility	1725 N. Oxnard Boulevard	Under construction
Unnamed	New self-storage buildings	Adding 8 new self-storage buildings	2400 Auto Center Drive	Plan check
Ventura Orthopedic	Medical building	New Single-Story medical building	2221/2231 Wankel Way	Approved
Homewood Suites	Hotel	Four-story hotel; 125 guest suites.	1001 Del Norte	Proposed
Homewood Suites	Hotel	Four-story hotel; 125 guest suites.	2000 Solar Drive	Proposed
Oxnard Crossroads	Commercial buildings	Two commercial buildings	Ventura Boulevard	Proposed
Calvary Chapel	Church use	Church meetings in industrial buildings	2370 Eastman Avenue	Proposed

Table 4.20-1 Summary of Proposed and Current Projects in the Area of the Applicant's Proposed Project

Project	Project Type	Brief Description	Project Location	Permitting Status and Schedule
Green Material Recycling	Recycling center addition	Addition mobile construction, demolition, and green materials recycling line	111 S. Del Norte	Proposed
Emerald Professional Building	Commercial building	Two-story commercial building, veterinarian office, and general office	5577 Saviers Road	Plan check
Victory Outreach Church	Church use	Church in existing building	232 W. Pleasant Valley Rd.	Proposed
Unnamed	Retail center	Multi-tenant retail center on 0.86-acre site	2141 E. Channel Islands Blvd.	Plan Check
South Oxnard Public Library	Public library	Public library	200 E. Bard Rd.	Under construction
Golden State Self Storage	New building addition	11 new self storage buildings added to existing self storage facility; Phase II.	2100 Auto Center Drive.	Approved
Financial Tower III	New office building	15-story office building and parking garage	450 E. Esplanade Drive	Approved
Seagate	New buildings	3 office, industrial, warehouse buildings	Discovery Drive (North of Sturgis Road)	Approved
Unnamed	New buildings	2 Spec Industrial Buildings	3301 Sturgis Road	Under construction
Haas Automation	New building	New Industrial Building	2700 Challenger Place	Proposed
Unnamed	New building	Single tilt-up industrial building	3000 Camino Del Sol	Approved
Sunbelt Professional Center	New office buildings	2 new office buildings	North of Gonzales Road between Rice Ave and Solar Drive	Proposed
Cal Coast Machinery Phase II	New building	Multi-tenant industrial building	Corner of Eastman Avenue and Rice Avenue	Plan check
Associated Ready Mix	New building	Single tilt-up industrial building	3450 Sturgis Road	Proposed

Table 4.20-1 Summary of Proposed and Current Projects in the Area of the Applicant's Proposed Project

Project	Project Type	Brief Description	Project Location	Permitting Status and Schedule
Unnamed	New buildings	Two industrial buildings	720 Arcturus	Under construction
Blending Station No. 3	Well and a water blending facility	4 wells and a water blending facility	1700 Solar Drive	Under construction
Quinn Rental Equipment Facility	Office, showroom, repair shop	12,012-square foot building with associated outdoor storage	1001 N. Del Norte	Proposed
Alcaraz Catering	Operations facility	13,700-square foot catering truck operations facility	2958 Sturgis	Proposed
Unnamed	New buildings	Two new industrial buildings	2041 Cabot	Proposed
Unnamed	Redevelopment of existing industrial facility	12.64-acre industrial site	1950 Williams Drive.	Proposed
John Hall	Addition to existing building	Addition	831 Spectrum CR	Proposed
Blending Station No. 5	Blending station	Blending station	Pleasant Valley Road	Under construction
Unnamed	Industrial buildings	Seven industrial buildings	Cabot Place, Hearst Dr. and Irving Dr.	Plan check
Gibbs Truck service	Industrial building	Industrial building on 2.72-acre site	Auto Center Drive	Under construction
Unnamed	Industrial buildings	Two industrial buildings	710 and 720 Graves Ave.	Plan check
Other Projects in the City of Oxnard				
Ormond Beach Specific Plan Project	New residential developments	920 acres – 1,283 residential units, elementary school, community park, 10-acre lake, mixed use commercial, light industrial, business park	Extends from Edison Drive on the west to Olds and Arnold Road on the east, West Pleasant Valley Drive on the north and the Pacific Ocean to the south	Plan and EIR being prepared
Calleguas Water District and Reliant Energy	Management project	Salination management project to discharge brine using the existing Reliant outfall	Reliant Energy Ormond Beach	Agreement subject to approval of CSLC – Draft EIR/ Environmental Assessment

Table 4.20-1 Summary of Proposed and Current Projects in the Area of the Applicant's Proposed Project

Project	Project Type	Brief Description	Project Location	Permitting Status and Schedule
GREAT	Construction and expansion of water recycling plants and installation of wells	Installation of tertiary treatment of Oxnard Wastewater Treatment Plant Water, expansion of the Brackish Water Reclamation Demonstration Facility, aquifer storage, and recovery wells	Perkins Road south of Hueneme Road – intersection of Hueneme and Arnold Roads	Bill HR 2334 (City of Oxnard Water Recycling and Desalination Act of 2006) passed the U.S. House Sept 20, 2006, and referred to Senate Committee on Energy and Natural Resources
Northshore at Mandalay Bay	Residential development/ land conservation	(1) Remediation of on-site soil and groundwater contamination; (2) importation of approximately 40,000 cubic yards of clean soil; (3) subdivision and construction of 183 single-family homes, 109 detached condominiums, and associated infrastructure including streets, sidewalks, landscaping and utilities; (4) creation of landscaped buffer areas, including public bicycle-pedestrian trail, and a Resource Protection/Milk-Vetch Preservation Area; and (5) implementation of on- and off-site resource protection measures.	Mandalay Beach – West Fifth Ave and Harbor Boulevard	Notice of Determination – approved
City of Oxnard College Park Master Plan	Expansion of recreational facilities	Conceptual site plan identifying probable locations of future buildings, picnic areas, soccer, softball/baseball fields, children's play areas, basketball courts, and an enhanced wetland habitat	3250 South Rose Avenue, southeast corner of Channel Islands Boulevard and Rose Avenue	Notice of Determination submitted July 2006

Table 4.20-1 Summary of Proposed and Current Projects in the Area of the Applicant's Proposed Project

Project	Project Type	Brief Description	Project Location	Permitting Status and Schedule
California State Coastal Conservancy Ormond Beach Restoration Project	Wetlands and habitat restoration	Restoration of wetlands and habitat at Ormond Beach; acquisition of 265-acre wetland property	Ormond Beach	Potentially acquiring additional land – feasibility study underway
City of Santa Clarita and Vicinity				
River Park Development	Development	A 695.4-acre (269 ha) residential and commercial development with 1,183 dwelling units, trail system, 29-acre park on the Santa Clara River	City Of Santa Clarita	EIR, construction in progress expected 2005–2010
Natural River Management Plan	Management plan	Approved Natural River Management Plan (NRMP) for the Santa Clara River	Los Angeles County	Finalized November 1998. Parts of it have been initiated.
Newhall Ranch Specific Plan	Development	The Newhall Ranch Specific Plan covers approximately 11,963 acres (4,841 ha), including 21,615 dwelling units on 4,835 acres (1,957 ha), a golf course, parks, schools, and retail and commercial uses. The build-out would occur over 25 to 30 years.	Los Angeles County	The EIS/EIR will probably be published in Spring 2007.
Cross Valley Connector Project	Traffic improvement	Plan to ease traffic, achieved by the connection of Newhall Ranch Road and Golden Valley Road. The Connector will provide additional travel options from Valencia to Canyon Country and a direct connection between the I-5/SR-126 on the west side of the City to the SR-14/Golden Valley Interchange on the east.	City of Santa Clarita	Construction in progress; anticipated completion in 2009

Table 4.20-1 Summary of Proposed and Current Projects in the Area of the Applicant's Proposed Project

Project	Project Type	Brief Description	Project Location	Permitting Status and Schedule
Castaic Junction Project	Traffic improvement	Improvement project on the Golden State Freeway (I-5)/State Route 126 (SR-126) Interchange in the Santa Clarita Valley	Santa Clarita Valley	Construction almost completed
Bouquet Canyon Bridge Widening Project	Traffic improvement	Widen the Bouquet Canyon Road Bridge from its current 6 lanes to 8 lanes with a protected bike lane	City of Santa Clarita	Complete
West Creek Project	Development	Mixed residential and commercial development in the Santa Clarita Valley area of northern Los Angeles County. The project includes 2,545 housing units, 180,000 square feet (16,722 m^2) of commercial retail space, and 46 acres of community facilities.	Santa Clarita Valley	Complete
North Valencia II Specific Plan	Development	Annexation of 872 acres (353 ha) for mixed-use development	City of Santa Clarita	Complete
Soledad Village	Residential development	30 acre mixed residential and commercial development. A total of 437 residential units would be developed including 275 attached townhomes and 162 triplexes. An 8,000-square foot retail building and a 1,200-square foot recreational center would be located at the northeast corner of Gladding Way and Soledad Canyon Road. In addition, there would be 2.5 acres of open space.	City of Santa Clarita	Approved

Table 4.20-1 Summary of Proposed and Current Projects in the Area of the Applicant's Proposed Project

Project	Project Type	Brief Description	Project Location	Permitting Status and Schedule
Keystone	Residential development	246-acre development with 979 dwelling units that consists of 96 single-family lots, 216 multi-family apartment units, and 667 townhouse units and finished (graded) lots for a 1,200 to 1,600-student and 70-faculty/staff junior high school, and an approximately 30,476-square foot community/fitness YMCA center. Build-out of the project includes the extension of Golden Valley Road to Newhall Ranch Road; however, approximately 1,890-feet of Golden Alley Road is located outside the project boundaries.	City of Santa Clarita	Approved
Whittaker Bermite Remediation	Environmental remediation	Former explosives manufacturing facility on 996 acres: OU-1 – Remedial Action Plan being implemented (soil vapor extraction and excavate and treat soil). OU-2 – Preparation of remedial investigation report. OU-3 – Preparation of remedial investigation report. OU-4 – Completed geophysical surveys. OU-5 – Updating remedial investigation report. OU-6 – Preparation of remedial investigation report.	City of Santa Clarita	Ongoing remediation
Placerita Canyon Sewer Backbone Project	Sewer installation	Construction of 2.3 linear miles of mainline and lateral sewer line	City of Santa Clarita – Community of New Hall	Final EIR

Table 4.20-1 Summary of Proposed and Current Projects in the Area of the Applicant's Proposed Project

Project	Project Type	Brief Description	Project Location	Permitting Status and Schedule
Henry Mayo Newhall Memorial Hospital Expansion	Hospital expansion	Phased demolition and expansion. Phase I (2007). Demolition of 8,000 square foot building; removal of parking area, construction of new medical building, parking structure, and reconfiguration of office space. Buildout program (2030) expansion of medical campus including new office buildings, heliport, central plant, new patient towers, new parking structures, and demolition of two buildings.	City of Santa Clarita	Under review

Sources: California Energy Commission (CEC) Staff 2006; MacWilliams 2006; Lane 2006; Parisi 2004; Parks 2004; Berg 2004; City of Oxnard 2006; CEQAnet 2005; Brand 2005; Impact Sciences 2004; City of Santa Clarita 2005a, 2005b; USDOT et al. 2004; Ramirez 2006;Tetra Tech, Inc. 2003; Christopher A. Joseph & Associates 2005; Whittaker Bermite 2006; RBF Consulting 2005a, 2005b; Allen 2006; U.S. Department of Commerce 2006.

the Santa Barbara Channel/expansion of the Port of Long Beach/Los Angeles; the Project's contribution to global warming; noise effects on marine mammals; impacts on Naval operations from LNG carriers transiting to and from several LNG terminals in California; potential impacts on the expansion of the Channel Island National Marine Sanctuary; and combined impacts of multiple LNG facilities in Southern California.

4.20.1 Other Offshore and Port Projects

4.20.1.1 Clearwater Port LNG Import Facility

Northern Star Natural Gas is proposing to use Platform Grace, an existing oil and gas platform currently owned by Venoco, Inc., as an LNG import and regasification facility named Clearwater Port. The platform is located approximately 10.9 nautical miles (NM) (12.6 miles or 20.3 kilometers [km]) offshore in Federal waters and approximately 11.3 NM (13 miles or 20.9 km) west of Oxnard. Clearwater Port would require the installation of several new components on or adjacent to the platform, including a Satellite Service Platform floating docking system, an LNG transfer system, a cool-down system, six LNG pumps, and six LNG vaporizers, as well as an upgrade to the platform's power production capability. Natural gas would not be stored on the platform. An 11.3-NM (13 mile or 20.9 km), 32-inch (0.81 meter [m]) diameter subsea pipeline would be installed from the platform to the Reliant Energy Mandalay Generating Station in an existing pipeline corridor (CEC Staff 2006). Once on shore, the pipeline would extend another 12 miles (19.3 km) from the Reliant Energy Mandalay Generating Station to the Southern California Gas Company (SoCalGas) Center Road Valve Station (CEC Staff 2006). The specific route to the valve station has not been selected to date.

The planned average natural gas product would be 1.2 billion cubic feet per day with a peak capacity of 1.4 billion cubic feet (Clearwater Port 2006). At this time, sufficient information is not available about the number of LNG carriers that would dock at the facility or their routes. In addition, it is not known how many support vessels would be in use. This facility would be approximately 29 NM (33 miles or 54 km) from the proposed Cabrillo Port FSRU.

Table 4.20-1 and this section contain information on the Clearwater Port project that is derived from the Clearwater Port website, the California Energy Commission website, and other sources available to the public. The application for the Clearwater Port project that has been filed under the Deepwater Port Act (DWPA) is currently under review by the agencies and has not been deemed complete, has not been confirmed by the agencies, and does not provide sufficient detail to allow a complete evaluation of cumulative impacts with the proposed Cabrillo Port project. Section 4.20.3 analyzes the cumulative impacts by resource based on the public information sources described above.

4.20.1.2 Woodside Natural Gas Inc.'s OceanWay LNG Terminal

Woodside Natural Gas Inc. submitted an application in August 2006 for the OceanWay LNG ship mooring facility 22 miles offshore of Los Angeles. LNG from Australia would

be regasified on an LNG regasification ship and transported through a flexible connection to an underwater natural gas pipeline that comes onshore at the Los Angeles International Airport. It would then be connected to the City of Los Angeles natural gas delivery network. Anticipated throughput would be 800 million cubic feet per day with a possible expansion to 1.2 billion cubic feet per day. If licensed, it is projected to go online in 2011 (CEC 2006). To date, an environmental evaluation has not been initiated for this proposed project, which is approximately 14.7 NM (16.9 miles or 27.2 km) away from the proposed Cabrillo Port FSRU.

Table 4.20-1 and this section 4.20.1.2 contain information on the OceanWay project that is derived from the OceanWay website, the California Energy Commission website, and other sources available to the public. The application for the OceanWay project that has been filed under the DWPA is currently under review by the agencies and has not been deemed complete, has not been confirmed by the agencies, and does not provide sufficient detail to allow a comparable evaluation of cumulative impacts with the proposed Cabrillo Port project. Section 4.20.3 analyzes the cumulative impacts within each resource issue based upon the public information described above.

4.20.1.3 Port of Long Beach Sound Energy Solutions Onshore LNG Terminal

Sound Energy Solutions (SES) has proposed constructing and operating a 27-acre (10.9 ha) onshore LNG receiving terminal at Pier T at the Port of Long Beach (CEC 2006). The facility would include a 1,100-foot LNG carrier berth, two 160,000-cubic meter storage tanks, 20 electric-powered pumps, four shell and tube vaporizers using a primary closed-loop water system, three boil-off gas compressors, a condensing system, a natural gas liquids recovery system, an export ethane heater, a natural gas sendout pipeline, natural gas liquids send-out pipelines, and LNG truck loading facilities. A new 2.3-mile, 36-inch-diameter natural gas pipeline connecting to an existing SoCalGas pipeline would be constructed. In addition, a 4.6-mile long 10-inch diameter pipeline would transport ethane from the LNG terminal to an existing refinery (USEPA 2005). The project would have an average natural gas throughput of 700 million cubic feet (19.8 million m^3) per day (CEC Staff 2005).

Although the installation of this project would include the expansion of the SoCalGas pipeline infrastructure, the expansion would occur in Los Angeles and would not involve the pipelines associated with the proposed Cabrillo Port Project. In addition, construction would occur more than 55 miles away from Oxnard and over 50 miles away from Santa Clarita with a mountain range in between; therefore, there is unlikely to be cumulative impacts due to construction activities.

As discussed above, the proposed SES project is not in the vicinity of the proposed Project; therefore, the only potential cumulative impact associated with this facility and the proposed Project would be a regional increase in vessel traffic, because trans-Pacific or the southern LNG carrier routes to both ports could overlap. However, the increase in local vessel traffic for the SES project would be concentrated at the Port of Long Beach, and the increase in vessel traffic for the Project would be trans-Pacific and between the FSRU and the Port of Hueneme.

In an action just prior to the completion of this environmental document, the Board of Harbor Commissioners voted January 22, 2007, to end the environmental review of the SES LNG importing facility at the Port of Long Beach, and issued the following statement: "After deliberation, based upon an opinion from Long Beach City Attorney Robert Shannon, who concluded that the Environmental Impact Report on the proposed LNG project 'is and in all likelihood will remain legally inadequate,' and since an agreement between Sound Energy Solutions and the City does not appear to be forthcoming, the Board of Harbor Commissioners disapproves the project and declines to pursue further negotiations" (Port of Long Beach 2007).

4.20.1.4 Vandenberg Air Force Base Ongoing Operations

Vandenberg Air Force Base (VAFB), the headquarters for the 30th Space Wing, occupies approximately 98,400 acres (39,822 ha) and is located about 50 miles (80.5 km) northwest of Santa Barbara. The U.S. Air Force's primary missions at VAFB are to launch and track satellites in space and to test and evaluate strategic intercontinental ballistic missile systems (U.S. Navy 2002). Existing operations at VAFB are part of the Project baseline. Given that most activities associated with VAFB are space launches, activities at VAFB would not contribute cumulative effects in conjunction with the proposed Project and therefore are not discussed further.

4.20.1.5 Channel Islands National Marine Sanctuary Boundary Expansion

The Channel Islands National Marine Sanctuary (CINMS) encompasses approximately 1,243 square NM (1,646 square miles or 4,263 square km) surrounding the five northern Channel Islands and several offshore rocks. The sanctuary boundaries extend from the mean high tide to 6 NM (6.9 miles, 11.1 km) offshore surrounding Anacapa, Santa Cruz, Santa Rosa, San Miguel, and Santa Barbara Islands, Richardson Rock, and Castle Rock. The management plan for the CINMS was put into effect in 1982.

The CINMS is currently updating its management plan, and the CINMS Draft Management Plan/Draft EIS (DMP/DEIS) was released in May 2006 (U.S. Department of Commerce 2006). The DMP includes a boundary evaluation action plan and a marine zoning action plan describing the Sanctuary's separate and future planned environmental review processes to address these matters. The Draft EIS analyzes regulatory changes, not the action plans proposed in the DMP. The DMP/DEIS "does not propose a sanctuary boundary expansion, but calls for the continuation of a comprehensive, scientifically-based, open public process that will lead to a decision in the future" (Mobley 2006). The proposed regulations addressed in the Draft EIS would only apply to the existing CINMS boundaries.

The CINMS DMP/DEIS recognizes the Cabrillo Port DWP Project as a proposed project that is outside the existing boundary of the CINMS and discusses the Cabrillo Port Project's potential impacts on the CINMS, including cumulative impacts (U.S. Department of Commerce 2006). It lists the Cabrillo Port Project as an example of a related study or process and describes LNG generally as having potential impacts to air quality, the marine environment, visual resources, and marine traffic. The report also

discusses consequences of an LNG spill but does not discuss the specific impacts of the proposed Cabrillo Port Project. Marine traffic was also identified as a potential cumulative impact.

The CINMS will be considering marine reserves and sanctuary boundaries in separate environmental review processes. Six different boundary concepts are under consideration, including the existing boundaries (U.S. Department of Commerce 2006). According to the CINMS, the installation of the Cabrillo Port FSRU and pipeline would not preclude the sanctuary from including this area in its boundaries (MacWilliams 2006). If the proposed FSRU location is within any of the boundary alternatives, this factor will be taken into consideration by the CINMS when making final decisions about selecting a boundary alternative (Mobley 2004).

4.20.1.6 Offshore Oil and Gas Leasing

Currently, there are 79 active Outer Continental Shelf (OCS) oil and gas leases in the Pacific OCS region. These include 43 producing leases and 36 non-producing leases offshore of San Luis Obispo, Santa Barbara, and Ventura Counties and four producing leases off of Los Angeles and Orange Counties (MMS 2006a). Production from these leases is expected to continue for approximately the next five to 20 years. The MMS currently has no proposals for decommissioning offshore facilities. Development of the 36 non-producing leases is uncertain due to ongoing litigation (Lane 2006). In addition, four undeveloped leases are under appeal (MMS 2006b). According to the MMS,

> These units and the undeveloped lease are now held under suspensions directed by the MMS on July 2, 2001, following the June 20, 2001, ruling of the U.S. District Court for the Northern California District in California v. Norton. The ruling directed MMS to set aside the suspensions under which the leases were operating at the time and to review the suspensions under the consistency provisions of 307(c)(1) of the Coastal Zone Management Act and to provide a reasoned explanation of the reliance on the categorical exclusion and reliance on the inapplicability of the extraordinary circumstances exceptions of the National Environmental Policy Act.
>
> On February 26, 2004, the District Court ordered the MMS to propose a timetable for completing their analyses of applications for lease suspensions filed by the operators of the 36 undeveloped leases and for submitting consistency determinations to the State of California under the Coastal Zone Management Act. The MMS decided to forego reliance on the categorical exclusion and decided to conduct environmental assessments. On June 28, 2004, the Court adopted the proposed timeline which included the time to prepare environmental assessments to analyze the environmental impacts of granting the lease suspension requests, as well as the time required for preparation and submission of the consistency determinations to the State of California. The MMS will also

provide an environmental information document to support the consistency determinations.

On July 21, 2004, the MMS issued a Request for Scoping Comments for Preparation of Environmental Assessments For Granting Lease Suspensions on 36 Undeveloped OCS Leases (MMS 2006c).

The MMS has submitted six final environmental assessments to grant lease suspensions for five production leases and one operations lease and ten consistency determinations for the California Coastal Commission, which has made an initial evaluation and has requested more information (California Coastal Commission 2005).

4.20.1.7 Point Mugu Sea Range Operations

The Point Mugu Sea Range is used by U.S. and allied military services to test and evaluate sea, land, and air weapons systems; to provide realistic training opportunities; and to maintain operational readiness of these forces by providing a safe, operationally realistic, and thoroughly instrumented testing and training environment. The Point Mugu Sea Range supports the following types of testing and training:

- Air-to-air testing;
- Air-to-surface testing;
- Surface-to-air testing;
- Surface-to-surface testing;
- Subsurface-to-surface testing;
- Fleet training exercises;
- Small scale amphibious warfare training;
- Special warfare training; and
- Theater missile defense testing and training.

Operations on the Point Mugu Sea Range involve aircraft, ships and boats, unmanned aerial and surface targets, missiles and guns (Parisi 2004).

4.20.1.8 SOCAL Range Complex

The Southern California Operations Area (SOCAL) Range Complex is immediately south of the Point Mugu Sea Range. It includes the following training ranges: San Clemente Island (SCI), the Southern California Anti-submarine warfare Range (SOAR), FLETA HOT, the shallow water training range (SWTR), and the shore bombardment range (SHOBA).

SCI is the tactical training range complex supporting the SOCAL Range Complex. The SCI land, air, and sea ranges provide the U.S. Navy, U.S. Marine Corps, and other military services with space and facilities that they use to conduct readiness training.

The SOAR Range supports aircraft, surface ships, and submarines conducting basic through advanced level training against threats from submarines. SWTR is a proposed underwater range that may be installed in the next two years. FLETA HOT is a live-fire exercise range and an aircraft emergency jettison area. SHOBA is a shore bombardment and gunnery range for naval gunfire support (Tahimic 2004; Parks 2004).

LNG carriers would transit the SOCAL Range Complex on the course to the FSRU. The cumulative impacts of activities on the Complex are only applicable to marine traffic because of its distance from the Project area and are discussed in the marine traffic cumulative impact analysis (Section 4.20.3.3).

4.20.1.9 Port of Hueneme Warehouse Additions

The Port of Hueneme is a break bulk cargo shipping facility. Most of its cargo comprises automobiles, fruit, and liquid fertilizer. The Port receives an annual average of 145 automobile ships, 130 refrigerated-cargo conventional vessels, and 12 liquid fertilizer cargo vessels. Six vessels provide daily support to the offshore oil platforms. Three tugs operate at the Port of Hueneme. A 30,000 square foot (2,787 square meters [m^2]) refrigerated warehouse has recently been added to the existing facility and another one is scheduled to be built, which means that two additional refrigerated cargo vessels will be using the Port of Hueneme weekly (Berg 2004). No additional expansions are anticipated. These additions are not considered in the Cabrillo Port cumulative analysis because the additional marine traffic, noise, and air emissions have been considered in the Project's baseline condition.

4.20.1.10 Port of Los Angeles/Long Beach Expansions

Currently, the Port of Long Beach receives approximately 3,100 ship calls for a total of approximately 6,200 inward and outward ship movements annually. By 2020, the total of inward and outward ship movements at Port of Long Beach is anticipated to be between 10,400 and 15,200 (Port of Long Beach 2005). The anticipated annual increases in vessel traffic to the Ports of Los Angeles and Long Beach between 2000 and 2020 include the following:

- A 5 to 6.6 percent increase for containerized cargo vessels traffic;
- A 2.3 to 4.1 percent increase for automobile cargo vessel traffic;
- A 6.1 to 7.5 percent increase for neo-bulk and break-bulk cargo vessel traffic; and
- A 1.2 to 2.2 percent increase for dry bulk cargo vessel traffic.

The anticipated decrease in liquid bulk cargo vessel traffic is 0.89 to 0.38 percent (Port of Long Beach 2006). Some of this traffic would be traveling the Santa Barbara Channel Traffic Separation Scheme (TSS), but a portion of it would be from the south and trans-Pacific.

4.20.2 Other Onshore Projects

4.20.2.1 Ventura County

There are no pending Ventura County General Plan Amendments to the land use designations near the proposed pipeline routes. The Public Facilities Map (regional road network) was amended in November 2005. Roads in the vicinity of the Project or the alternatives that are scheduled to be widened by 2010 include portions of Hueneme Road, Pleasant Valley Road, Rice Avenue, and Santa Clara Avenue (Smith 2005).

4.20.2.2 City of Oxnard

Development of Specific Plans for Residential Units, Commercial, and Industrial Development

Many residential, commercial, and industrial developments are planned or proposed for the City of Oxnard. The largest of these include the Ormond Beach Specific Plan, the Sakioka Farms Specific Plan, and Camino Real Business Park Specific Plan Project.

The City of Oxnard issued a Notice of Preparation (NOP) for an EIR for the Ormond Beach Specific Plan on September 12, 2005, for development of a 920-acre community that extends from Edison Road on the west to Olds and Arnold Road on the east, West Pleasant Valley Drive on the north and the Pacific Ocean to the south. The community would include residences, schools, parks, and commercial and light industrial facilities (CEQAnet 2005; City of Oxnard 2005a, 2005b). The Ormond Beach Specific Plan Area is also referred to as the SouthShore Specific Plan Area (Williamson 2006).

An NOP for an EIR for the Sakioka Farms Specific Plan was issued on January 25, 2006. The Sakioka Farms Specific Plan would replace the current zoning of the 430-acre agricultural site near Del Norte Boulevard and Rice Avenue and would provide the framework, guidelines, standards, and regulations for phased development of this area. The applicant is seeking approval of a revised EIR for the Sakioka Farms Specific Plan previously submitted in 2002 (CEQAnet 2007a).

An NOP for an EIR for the Camino Real Business Park Specific Plan was issued on April 17, 2006. The Camino Real Business Park Specific Plan would replace the current zoning of a portion of the property fronting Del Norte Boulevard and provide the framework, guidelines, standards, and regulations for orderly phased development. The proposed land uses consist of approximately 675,000 square feet (62,710 m^2) of industrial business park space. The development would include 18 to 20 buildings (CEQAnet 2007b).

Other Projects Proposed for Construction

Planned or proposed development or construction in the City of Oxnard include:

- Condominiums and apartments at Rose Avenue and East Pleasant Valley Road, Gonzales Road, Cypress Road, Saviers Road, Clara Street/Cypress Road, Victoria Avenue, Auto Center Road, Ventura Road, and Vineyard Avenue;
- A 10 acre park on Gonzales Road;
- A public library on Bard Road;
- Residential and commercial mixed-use towers at the northwest corner of Oxnard Boulevard and North Vineyard Avenue;
- Commercial/retail facilities on Gonzales Road, North Oxnard Boulevard, Ventura Boulevard, Saviers Road, Hueneme Road, Channel Islands Boulevard, and North Del Norte;
- Hotels on Del Norte and Solar Drive;
- Medical buildings on North Rose Avenue and Wankel Way;
- Office and storage buildings at Outlet Center Drive, Oxnard Boulevard, Rose Avenue, Wankel Way, Lombard Street, Ventura Boulevard, Auto Center Drive, Esplanade Drive, Discovery Drive, and Gonzales Road; and
- Industrial facilities on Sturgis Road, Challenger Place, Camino Del Sol, Graves Avenue, Latigo Avenue, Arcturus, Sturgis Road, Cabot Place, Hearst Dr. and Irving Drive, Pleasant Valley Road, Williams Drive, Spectrum CR, Eastman Avenue, Rice Avenue, Auto Center Drive, Ormond Beach, Mandalay Beach, South Rose Avenue, Perkins Road, and Solar Drive (City of Oxnard 2006).

California State Coastal Conservancy Ormond Beach Wetland Restoration Project

In June 2002, the California State Coastal Conservancy (Coastal Conservancy) acquired 265 acres (107 ha) of land adjacent to the Reliant Energy Ormond Beach Generating Station from Southern California Edison for a wetland restoration project. This project is a component of a statewide wetland restoration project: Federal and State resources agencies participating in the Southern California Wetlands Recovery Project are seeking to acquire at least 750 acres (304 ha) more of land at Ormond Beach to meet their goals of restoring coastal wetlands, dunes, and upland habitat along Ormond Beach. Planning is underway for restoration of wetlands and compatible recreational facilities to the southwest and northeast of the Reliant Energy Ormond Beach Generating Station. The Coastal Conservancy has proposed an ongoing wetland restoration project at Ormond Beach that would restore tidal flow to some of the fragmented wetlands. See Section 4.13.1.2 for a more detailed discussion.

In 2002, the Coastal Conservancy acquired a 265-acre former tank farm from Southern California Edison. In June 2005, the Nature Conservancy acquired 276 acres of degraded wetlands from the City of Oxnard and the Metropolitan Water District. Plans call for restoring this land and an additional 600 acres at Ormond Beach to wetlands (Nature Conservancy 2005).

Two additional proposed land acquisitions are being considered. The first is a parcel of up to 340 acres (138 ha) northeast of the Reliant Energy facility currently owned by Southland Sod. Southland Sod has offered to sell the property to the Coastal Conservancy with the condition that upon purchase of other suitable land the owner would be able to transfer the sod operation. The second is the Coastal Conservancy's potential acquisition of approximately 300 acres (121 ha) of degraded wetlands north of Naval Base Ventura County Point Mugu (Brand 2004).

The Coastal Conservancy is in the planning and environmental analysis stages of the wetland restoration effort. A restoration feasibility study is currently underway; as of September 2006 this study was not available (Brand 2006).

Directly adjacent to the area recently purchased by the Nature Conservancy is Halaco Engineering Company's idle metal recycling plant, which contains significant amounts of toxic waste. Halaco filed for bankruptcy in 2002, and it was sold in September 2006 to a company that specializes in cleaning up polluted property to make it ready for development (Ventura County Star 2006). The Coastal Conservancy had been interested in purchasing the Halaco property, which is included in its restoration plan project boundaries (see Figure 4.13-1 in Section 4.13, "Land Use") (Moore 2005; Brand 2006, Ventura County Star 2006). The U.S. Environmental Protection Agency (USEPA) Emergency Response Section conducted an integrated assessment at the site earlier this year; the report has not been issued.

The former property owner was conducting time-critical removal activities at the site, which included removal and disposal of waste drums, removal and on-site containment of loose solids, securing waste piles inside 6-foot fences, and installing sediment fences and booms to mitigate impacts on wetlands. The USEPA States, Tribes and Assessment Office is evaluating the site for inclusion on the Superfund National Priorities List (Wise 2006).

Salination Management Project

Reliant Energy has signed a licensing agreement with Calleguas Water District for a salination management project to discharge brine using the Reliant Energy Ormond Beach Generating Station outfall line. The agreement is subject to CSLC approval. The proposed water pipeline and facility are near the Applicant's proposed pipeline route.

Ground Water Recharge Enhancement and Treatment Program

The City of Oxnard Water Division is in the process of implementing its Ground Water Recharge Enhancement and Treatment Program (GREAT), which is designed to help meet the City's water supply needs. GREAT involves wastewater recycling, groundwater injection, and groundwater desalination and will be implemented in two phases. The City of Oxnard Water Recycling and Desalinization Act of 2006 (HR 2334) passed the U.S. House on September 20, 2006, and has been referred to the Senate

Committee on Energy and Natural Resources. This bill would provide partial funding for this project.

Phase 1 projects include a tertiary treatment facility, an advanced water treatment facility, a recycled water delivery system, aquifer storage and recovery, a regional desalter, a water blending station, and concentrate disposal. The Phase I tertiary treatment facility will recycle up to 5 million gallons per day of wastewater and will be constructed on Perkins Road south of Hueneme Road adjacent to the existing Brackish Water Reclamation Demonstration Facility. The facility will be upgraded during Phase I (CH2M Hill 2003). These activities will occur approximately one mile from the proposed shore crossing at the Reliant Energy Ormond Beach Generating Station. Another component of Phase I of GREAT is an aquifer storage and recovery pilot project in which aquifer storage and recovery wells will be installed near the intersection of Hueneme Blvd and Arnold Road. The pilot test will inject recycled water during periods of low agricultural irrigation to assess the technical feasibility of aquifer storage and recovery using potable and reclaimed water (CH2M Hill 2003).

Phase 2 will include expansion of the recycled water tertiary treatment facility and delivery system, construction of a concentrate collection and disposal system, and expansion of a groundwater desalination facility. There is no schedule for the Phase 2 projects (CH2M Hill 2003; Williamson 2006).

4.20.2.3 Santa Clarita and Santa Clara River

Riverpark Development: Construction of Residential Units

The Riverpark project is a 664-acre (269 ha) parcel located just north of Soledad Canyon Road and the Santa Clarita River and east of Bouquet Canyon Road within the central portion of the City of Santa Clarita. The project, involving the construction of approximately 1,152 residential units, is in the early stages of review. The project will include a number of roadway links, including Newhall Ranch Road, a critical link of the Cross Valley Connector. The proposed residential units will comprise 590 apartments, 478 single-family detached homes, and 84 town homes. The project will also include the preservation of 300 acres (121 ha) of natural river bottom because the Santa Clarita River extends east-west through the southern portion of the site and a 29-acre (11.7 ha) park.

Natural River Management Plan

On November 30, 1998, the U.S. Army Corps of Engineers (USACE), the California Department of Fish and Game (CDFG), and the Los Angeles Regional Water Quality Control Board approved the Natural River Management Plan (NRMP) for the Santa Clara River. The NRMP is a long-term master plan that provides for the construction of various infrastructure improvements on lands adjacent to the Santa Clara River and parts of two of its tributaries. More specifically, the NRMP governs a part of the main stem of the Santa Clara River from Castaic Creek to one-half mile east of the Los Angeles Department of Water and Power Aqueduct and parts of San Francisquito

Creek and the Santa Clara River South Fork, Los Angeles County, California. The proposed Project site is located within the part of the river now governed by the NRMP. Implementation of this plan has begun (Allen 2006).

Other Projects along the Santa Clara River

Other projects along the Santa Clara River include the Newhall Ranch Specific Plan, the Cross Valley Connector Project, the Castaic Junction Project, the Keystone Project, the Soledad Village Project, and the Bouquet Canyon Bridge Widening Project. Projects in the vicinity of the pipeline routes include the cleanup of the Whittaker-Bermite site, the West Creek Project, the Henry Mayo Newhall Memorial Hospital Master Plan Program, the Placerita Canyon Sewer Backbone Project, and the North Valencia II Specific Plan. More information on these projects is provided in Table 4.20-1, above.

4.20.3 Resource-Specific Cumulative Impacts

The following subsections describe the cumulative effects that the proposed Project would have, in combination with the other projects (noted above in Sections 4.20.1, “Other Offshore Projects“ and 4.20.2, “Other Onshore Projects”), on public safety, marine traffic, aesthetics, agriculture, air quality, marine and terrestrial biological resources, cultural resources, energy resources, geologic hazards, hazardous materials use, land use, noise, recreation, socioeconomics, transportation, water quality and sediments, and environmental justice.

These environmental issue areas are discussed here in the order they are presented in Chapter 4, “Environmental Analysis.”

4.20.3.1 Meteorology and Oceanography

Because oceanographic and meteorological conditions would affect the Project, rather than be affected by the Project, there would be no significance criteria or impacts.

4.20.3.2 Public Safety

Offshore LNG

Several of the potential cumulative impacts that might affect the safety of the public are addressed elsewhere in this section. For example, if Clearwater Port and OceanWay were licensed and constructed concurrently with the proposed Project, marine traffic would increase, which could lead to a temporary increase in marine accidents that could result in public injuries or fatalities. These potential effects on public safety are included in the discussion of potential cumulative impacts for marine traffic. Similarly, the potential for increased numbers of vehicle accidents is addressed in the transportation discussion.

If Cabrillo Port and one or both Clearwater Port and OceanWay projects were built, no potential cumulative impacts have been identified for foreseeable accidents involving LNG handling offshore, natural gas transport in offshore pipelines, or at shore

crossings. The locations of the LNG ports and subsea pipelines are sufficiently far from one another that an accident affecting one of these facilities would not cause a simultaneous accident or release from the other. However, since the offshore pipelines for the Cabrillo Port Santa Barbara Channel Alternative and the Clearwater Port project would be in the same pipeline right-of-way, accidents associated with one pipeline could potentially affect the other pipeline; therefore, there could be a simultaneous accident or release related to such pipelines.

The potential cumulative increase in LNG carrier marine traffic from Clearwater Port and Cabrillo Port during the Project's operational life due to the presence of an additional LNG deepwater port could slightly increase marine traffic in the TSS and the potential frequency of vessel collisions. Marine traffic associated with the OceanWay project is likely to consist of trans-Pacific LNG carriers and support vessels traveling to and from the Port of Los Angeles/Long Beach; therefore, the contribution of the OceanWay is not anticipated to contribute to cumulative adverse effects on marine traffic in the immediate vicinity of the Cabrillo Port Project. The potential magnitude of that increase has not been quantified, but mitigation measures noted in Section 4.2, “Public Safety: Hazards and Risk Analysis,” and Section 4.3, “Marine Traffic,” would be expected to keep the estimated annual frequency of such an accident occurring to levels similar to those of the projects individually. Measures that would help ensure that such collisions would be rare include equipping FSRU and LNG carriers with Automatic Identification Systems (AIS) transponders, active radar systems, and marine VHF radiotelephone capabilities (AM PS-2a), patrolling the safety zone (AM MT-3a), control room management (AM MT-3d) broadcasting navigational warnings (AM MT-3e), and live radar and visual watch (MM MT-3f).

The likelihood of an accident occurring at a single deepwater port is low. The increase in the probability of such an accident due to the cumulative impacts of the presence of three deepwater ports (Cabrillo Port, Clearwater Port, and OceanWay) would not measurably increase the potential risks to members of the boating public.

The potential for cumulative impacts from simultaneous incidents involving more than one deepwater port—at either the Cabrillo Port proposed location or the Santa Barbara Channel Alternative plus either Clearwater Port or the OceanWay project—would be limited to intentional acts. Mitigating actions by port authorities, the U.S. Coast Guard (USCG), local emergency response agencies, and additional forces or actions that might be deployed using military resources would be expected to limit the potential impacts from such an attack. Incident command strategies for handling multiple incidents would be expected to allocate response resources to first address any situation posing an imminent hazard to public safety or the environment.

This might result in allocating more resources to handle emergency conditions closer to shore than the Cabrillo Port FSRU. The incident commander would know that the worst credible case impacts from the release and ignition of LNG on board the FSRU would not extend as close to shore as a potential incident at Clearwater Port. However, the operation of a second or third deepwater port does not create cumulatively greater impacts on public safety compared to the operation of just a single deepwater port in

this area but does represent an incremental risk. Although the probability of an offshore incident associated with the proposed Project is very low, such an incident could result in serious injury or fatality to members of the general public (CEQA Class I; NEPA major adverse, short-term).

Offshore and Onshore Natural Gas Pipelines

The offshore pipelines from the three deepwater ports (Cabrillo Port, Clearwater Port, and OceanWay) would be in separate and distinct pipeline corridors. No cumulative public safety effects would be anticipated from the operation of the offshore pipelines based on their currently proposed locations. Onshore, the pipelines from the Cabrillo Port and Clearwater Port would be in separate pipeline corridors, except potentially within approximately 2 miles (3.2 km) of the Center Road Valve Station. However, the route of the Clearwater Port project onshore pipeline corridor is preliminary and could change during its environmental review.[2] The onshore pipeline route for the OceanWay project would be more than 43 miles (69.5 km) from the proposed Center Road Pipeline route. If the Clearwater Port project onshore pipelines were routed in the same corridor as the Center Road Pipeline route, the potential cumulative impacts would be limited to the potential consequences from: (1) intentional damage to one or more natural gas pipelines located close to one another, and (2) initiation of more than one event at different locations along the pipelines. These cumulative impacts would be similar for all Center Road pipeline alternatives, except the Gonzales Road Pipeline Alternative. The Gonzales Road Pipeline Alternative and the Clearwater Port onshore pipelines could be within the same corridor for much of their routes.

Historically, a rupture and fire involving one natural gas pipeline in a utility corridor has not caused significant damage or additional releases from nearby natural gas or hazardous liquid pipelines. Mitigation measures described in Section 4.2, “Public Safety: Hazards and Risk Analysis,” would decrease the potential consequences from an attack on multiple pipelines or locations. Such measures would include, for example, providing additional sectionalizing valves equipped with remote valve controls or automatic line break controls (MM PS-4c); this would limit the amount of natural gas that could be released, which, in turn, would automatically limit the duration and extent of a natural gas fire from any ruptured segment and would allow fire services to concentrate on extinguishing any secondary fires involving adjacent structures.

The impacts on public safety from the rupture of a natural gas pipeline depend on the specific characteristics of the pipeline, e.g., pipe diameter and pipeline pressure. Should more than one pipeline in a particular area be affected, the effects would potentially overlap, but would not likely combine to produce a greater effect. Emergency planning and preparedness efforts involving the Applicant, SoCalGas, and local response agencies would reduce the potential consequences from such an event. Although the probability of an offshore or onshore pipeline incident associated with the

[2] See Section 4.20.1.1 for a discussion of the availability of information on the Clearwater Port project.

proposed Project is very low, such an incident could result in serious injury or death (CEQA Class I; NEPA major adverse, short-term).

4.20.3.3 Marine Traffic Impacts

The Project would increase maritime traffic in the area. Flight and marine operations at the Point Mugu Sea Range are ongoing, but not continuous (see Section 4.3.1.1). However, Project operations could be adjusted to suit naval operations. Construction of the proposed Project would have to be coordinated daily with the Navy (MM MT-5c) and would be further mitigated by avoiding the Point Mugu Sea Range as much as possible (MM MT-5a), monitoring Navy Securite broadcasts (MM MT-5d) and daily safety briefings (MM MT-5b); therefore, these impacts from Navy operations in conjunction with the construction of the proposed Project would increase traffic temporarily but would be mitigated below the level of significance (CEQA Class II; NEPA minor adverse, short-term). These potential cumulative effects would be slightly less during construction if the Cabrillo Port Santa Barbara Channel Alternative were to be implemented because no portion of the offshore pipeline route would cross the Point Mugu Sea Range. Since neither the OceanWay or Clearwater Port projects' potential pipeline routes would cross the Point Mugu Sea Range, they would not contribute to direct impacts on the Sea Range during construction; however, vessel traffic could temporarily increase.

During operations of the proposed Project, Navy operations at the SOCAL Range Complex or Point Mugu Sea Range could increase maritime traffic locally or along the LNG carrier routes or it could cause vessel traffic to temporarily cease along the LNG carrier routes. To mitigate the potential cumulative effects of increased vessel traffic, the Applicant would coordinate with the Navy (MM MT-6c), supply the Navy with the LNG carrier schedule (MM MT-6b), and follow Navy Securite broadcasts (MM MT-6a) (CEQA Class II; NEPA minor adverse, short-term). If the Clearwater Port, OceanWay, and SES Port of Long Beach projects were to be licensed and constructed, LNG carrier traffic would increase through the SOCAL Range Complex or the Point Mugu Sea Range. This increase would coincide with an anticipated increase in vessel traffic to the Ports of Long Beach/Los Angeles, described below.

Since no security zones would be required for LNG carriers traveling outside of Federal waters, Navy vessels would not have to take any extraordinary measures when encountering the LNG carriers on the Point Mugu Sea Range. As described in Section 4.3.1.1, the Navy conducts over 17,000 activities on the Point Mugu Sea Range annually. LNG carriers bound for each of the proposed LNG facilities would have to transit portions of the Point Mugu Sea Range or the SOCAL complex. To ensure that Navy operations would not be disrupted by the presence of LNG carriers transiting to or from any of the facilities, each Applicant would have to closely coordinate its LNG carrier schedules with the Navy. All of the proposed LNG facilities are proposed to be located outside of the Point Mugu Sea Range and the SOCAL Complex; therefore, operations at the facilities themselves should not interfere with normal Navy operations.

The planned expansion of the Port of Long Beach would mean that vessel traffic could increase in the Santa Barbara Channel TSS and along trans-Pacific routes. The cumulative effect of the expansion and the proposed Project on vessel traffic in the area would be a net increase in vessel traffic; however, the Project's contribution would not be significant. LNG carriers bound for the FSRU would not enter the Santa Barbara TSS and Project support vessels would only travel in the Santa Barbara TSS for a short distance while transiting to and from Port Hueneme several times a week. The cumulative impacts of the implementation of the Cabrillo Port Santa Barbara Channel Alternative would be greater and potentially significant because LNG carriers bound for this location would have to cross the Santa Barbara TSS. In addition, these LNG carriers would possibly be surrounded by a security zone within 12 NM (13.8 miles or 22.2 km) of shore.

All current activities associated with oil and gas leases are included in the marine traffic discussion in Section 4.3, "Marine Traffic." Since most activities associated with oil and gas leases are currently suspended due to pending litigation, it would be speculative to assess their potential cumulative impact on maritime traffic during operations.

If the Clearwater Port and OceanWay were licensed, vessel traffic in the area would increase substantially, but temporarily, during the construction phase and would increase on a regular basis during operations involving the transit of LNG carriers and supply vessels, with impacts comparable to the proposed Project. If the proposed Project and either the Clearwater Port or the OceanWay project were to be constructed simultaneously, short-term increases in marine traffic in the region would result. The distance between the proposed Project, OceanWay, and Clearwater Port would be 14.66 NM (16.9 mi., 27.2 km) and 28.9 NM (33.3 miles or 53.5 km), respectively. The distance between the shore crossing for the proposed offshore pipeline routes and the Clearwater Port pipelines would be approximately 7 miles (11.3 km) and to OceanWay's shore crossing would be approximately 43 miles (69.5 km); therefore, increased vessel traffic would be in discrete areas.

The Port of Hueneme would experience increased vessel traffic since both Clearwater Port and the proposed Project or the Cabrillo Port Santa Barbara Channel Alternative would use it. The OceanWay project is not likely to use Port Hueneme. If the proposed Project were to be constructed at either offshore location, it would have significant adverse long-term impacts that would be mitigated through MT-7a, MT-7b, and MT-7c. The Clearwater Port project is likely to have similar impacts and would have to implement similar mitigation measures to reduce potential cumulative impacts.

In contrast to the proposed Project, construction of Clearwater Port would not involve installation of a pipeline across the vessel traffic separation scheme. Since vessel traffic would increase if the two projects were constructed simultaneously, potential cumulative impacts would be significant (CEQA Class II; NEPA minor adverse, short-term); however, implementation of the construction-related mitigation measures (MT-1a through -1g) would reduce the potential cumulative impacts to a level below the impact's significance criteria.

If the Cabrillo Port Santa Barbara Channel Alternative and the Clearwater Port project were constructed simultaneously, vessel traffic in the vicinity of Platform Grace would temporarily increase substantially. Since the pipelines from both projects would likely be installed in the same existing pipeline right-of-way, the risk of vessel collisions would increase due to the proximity of the projects. Close coordination would be required if this alternative and the Clearwater Port were to be constructed simultaneously. Implementation of the construction-related mitigation measures (MT-1a through -1g) would reduce the potential cumulative impacts, but the impacts would be moderate adverse and temporary (CEQA Class II; NEPA moderate adverse, short-term).

If the three offshore LNG projects (Cabrillo Port, Clearwater Port, and OceanWay) were to operate simultaneously, LNG carrier traffic in the area would increase. The LNG carrier routes for the OceanWay and Clearwater Port projects are preliminary and could change during the environmental review process. The OceanWay project would receive LNG from Australia; therefore, the routes would likely be trans-Pacific and would not approach closer to shore than the facility (22 miles offshore Los Angeles). Since Clearwater Port could be receiving LNG from Alaska, Southeast Asia, or the Middle East, the exact route that the LNG carriers would take to approach the Port is unknown. Any LNG carrier approaching it would either have to travel in the Santa Barbara TSS or cross it. Given the location of Clearwater Port (10.9 NM [12.6 miles or 20.3 km] offshore), a security zone could possibly surround any LNG carrier approaching this facility once it were within 12 NM (13.8 miles or 22.2 km) of shore; this could cause a temporary disruption in vessel traffic in the TSS. LNG carriers destined for Cabrillo Port or OceanWay would not enter the TSS or have security zones surrounding them because these carriers would not enter Federal waters.

If an LNG terminal were built at the Port of Long Beach[3], LNG carriers could use vessel approach routes similar to those for the proposed Project to enter the vessel traffic separation scheme. Assuming that the LNG carriers to the Port of Long Beach would either have a trans-Pacific or south to north route, Project LNG carriers may have overlapping routes in the southern Channel Islands. LNG carriers destined to Clearwater Port also could use this route. Due to the possibility that security zones could surround each LNG carrier in Federal waters, vessel traffic could be disrupted regularly with the approach of multiple LNG carriers to the vessel traffic separation scheme. Cumulative impacts would be significant but mitigable (CEQA Class II; NEPA moderate adverse, long-term) with coordination of LNG carrier approaches with the Captain of the Port of Los Angeles/Long Beach.

4.20.3.4 Aesthetic Impacts

Offshore

The presence of vessels and platforms in the Pacific Ocean off the coast of California is not new; the presence of LNG carriers, however, would be new but would be similar to

[3] See Section 4.20.1.3 for a discussion of the status of the proposed SES Port of Long Beach LNG Terminal.

other large ships that currently traverse the area (see Section 4.4, “Aesthetics”). Large numbers of ocean vessels, naval ships, and recreational ships traveling to and from the ports of Long Beach, Los Angeles, San Diego, Hueneme, and San Francisco travel along the coast during the day and night. From the nearest point on the coast, Platform Grace is about 10.9 NM [12.6 miles or 20.3 km] offshore and 28.9 NM (33.3 miles or 53.5 km) from the proposed FSRU and would not contribute to cumulative aesthetic impacts. However, if Clearwater Port were approved, Platform Grace would continue to be used, and auxiliary docking structures would be added to the platform. In addition, one or more LNG carriers would regularly be docked at the facility. Therefore, the presence of Platform Grace would continue to have a long-term aesthetic impact in the region as a whole. The OceanWay project would be approximately 22 miles offshore and 14.66 NM (16.9 miles or 27.2 km) from the FSRU; therefore, it would also have a long-term aesthetic impact on the region because a vessel would be present the majority of the time.

No additional platforms are planned in the proposed Project area and development of the 36 non-producing leases is uncertain due to pending litigation. The proposed Cabrillo Port FSRU would be located farther from shore than the existing platforms and would be an indiscernible object on the horizon. The FSRU resembles a large vessel, and more than 10,000 large vessel transits occur in the area annually. When viewed from the shore, the cumulative aesthetic effect of the proposed Project given the existing platforms and vessel traffic would be an insignificant long-term cumulative visual impact (CEQA Class III; NEPA minor adverse, long-term).

No known offshore projects would be constructed simultaneously with the installation of the Cabrillo Port FSRU and the offshore pipelines. AM BioMar-3a would reduce the potential effects of lighting associated with construction and installation of the FSRU to a level that is less than the significance criteria. Therefore, the cumulative effect of temporary lighting associated with offshore construction would be a CEQA Class II (NEPA moderate adverse, short-term) impact. Once installed, the FSRU would be lit at night, as would large vessels transiting the Santa Barbara TSS. Onshore residents are accustomed to the presence of vessels at night in the TSS. The cumulative impact of the presence of the FSRU and vessels transiting the TSS would be mitigated by AM BioMar-3a and the transitory nature of the transiting vessels (CEQA Class II; NEPA moderate adverse, long-term).

The long-term presence of the Cabrillo Port FSRU is identified as a CEQA Class I (NEPA minor adverse, long-term) impact for aesthetics associated with the visual expectations of some recreational boaters such as whale watchers who travel near it (see Section 4.4, “Aesthetics”). No mitigation measures would reduce this impact to a level that is less than the significance criteria. The presence of the FSRU in conjunction with permanent changes to Platform Grace from Clearwater Port project (28.9 NM [33.3 miles or 53.5 km] from the Cabrillo Port Project) and the OceanWay project (14.66 NM [16.9 miles or 27.2 km] from the Cabrillo Port Project) is considered a significant regional cumulative aesthetic impact for which no mitigation exists (CEQA Class I; NEPA minor adverse, long-term). Implementation of the Cabrillo Port Santa Barbara Channel Alternative would have similar cumulative aesthetics impacts, but it could be

considered incrementally greater than the proposed Project because it would be located only 5.01 NM (5.77 miles or 9.28 km) from the proposed Clearwater Port project.

Onshore

During construction of the pipeline, views along scenic highways in Oxnard and Santa Clarita could be adversely affected by views of construction machinery and activities. No known construction projects would occur simultaneously with the Project. Upon completion of the Project, the original views would be restored. Therefore, the Project or any of the onshore alternatives would not contribute to a significant cumulative aesthetic impact onshore (CEQA Class III; NEPA minor adverse, short-term).

4.20.3.5 Agriculture and Soil Impacts

According to the California Department of Conservation, the results of farmland mapping in Ventura County from 2000 to 2002 resulted in the reclassification of 2,011 acres (814 ha) of agricultural land, mostly for urban uses. Urban acreage increased by 2,557 acres (1,035 ha). Data from 1990 to 2002 indicate a net increase of more than 11,800 urban acres (4,775 ha) and a decline of almost 8,700 farmland acres (3,521 ha). City reports show that an additional 7,500 acres (3,035 ha) is committed to future non-agricultural use (California Department of Conservation 2004).

The Clearwater Port would have effects similar to those of the proposed Cabrillo Port Project. Assuming that similar construction techniques are used as are proposed for the Cabrillo Port Project, the Clearwater Port onshore pipeline would likely be installed in some agricultural lands, but these areas would only be disturbed temporarily. It is uncertain whether there would be any permanent conversion of agricultural lands for permanent facilities; however, any conversion of agricultural land for the Clearwater Port project is likely to be similar to the proposed Project. The proposed Project in Ventura County would permanently convert less than 1 acre of Prime Farmland soils from agricultural to non-agricultural uses. Many of the proposed and pending development projects in Oxnard and Ventura County, such as the Ormond Beach Specific Plan, also could convert agricultural land to non-agricultural uses. Conversion of soils classified as either Prime Farmland or Soils of Statewide Importance is considered a significant impact; therefore, the combined impacts of the Project with the potential of conversion of these types of soils with the Clearwater Port project and other development projects in Oxnard and Ventura County would have a significant cumulative impact on agricultural soils (CEQA Class I; NEPA minor adverse, long-term).

Conversion of agricultural land to urban uses has a long history in the Santa Clarita Valley. The amount of irrigated crop acreage farmed by Newhall Land and Farming Company, the main agricultural landowner in the Valley, decreased, because of conversion, from 3,224 acres (1,305 ha) in 1965 to 1,008 acres (408 ha) in 1995, which represents a 69 percent reduction over that time period (Impact Sciences 2004). This Project would not contribute to any further conversion of agricultural land to non-agricultural land in Santa Clarita and would not have a significant cumulative impact (CEQA Class III; NEPA minor adverse, short-term). It is not known what the

contribution of the Clearwater Port project would be in Santa Clarita, but based on the Bisi testimony it is assumed that similar construction may be required in this system.[4] (See Section 3.3.12.2 for a discussion of necessary expansions to the SoCalGas receiving facilities in Santa Clarita Valley.)

The cumulative impacts of the Center Road Pipeline Alternatives 1, 2, and 3 and the Santa Barbara Channel/Mandalay Shore Crossing/Gonzales Road Pipeline Alternative would have similar impacts as those of the proposed Project; however, the cumulative impacts of the implementation of either the Point Mugu Shore Crossing/Casper Road Pipeline and the Arnold Road Shore Crossing/Arnold Road Pipeline would have slightly greater impacts on agriculture because a larger acreage of agricultural land would be converted to non-agricultural use. All of these alternatives would have CEQA Class I (NEPA major adverse, long-term) impacts due to the conversion of the agricultural land to non-agricultural use. Similar to the proposed Line 225 Pipeline Loop, the Line 225 Pipeline Loop Alternative would not have adverse impacts on agricultural lands and would not contribute to cumulative effects.

4.20.3.6 Air Quality Impacts

Clearwater Port LNG Importation Facility and OceanWay LNG Importation Facility

If either the Clearwater Port project or the OceanWay project were approved, the facilities would emit air pollutants during construction and normal operation. Since the quantity and locations of these emissions have not been quantified, it is not possible to fully characterize associated air quality impacts. Potentially significant cumulative regional air quality impacts due to the Clearwater Port and the Cabrillo Port Project at either the proposed location or the Santa Barbara Channel/Mandalay Shore Crossing/Gonzales Road Pipeline Alternative could be expected. Cumulative impacts from the proposed Project and the Clearwater Port or the OceanWay project could have significant adverse effects on air quality in Ventura and Los Angeles counties unless sufficient emission reductions were identified. However, the exact nature of these cumulative impacts is difficult to determine because an air quality analysis comparable to that done for the proposed Project has not yet been performed for the Clearwater Port project or the OceanWay project.[5]

The proposed Project, if constructed at either the proposed or alternative offshore location, would cause significant adverse effects during construction in Ventura County (CEQA Class I; NEPA moderate adverse, short-term). If the Clearwater Port project were constructed simultaneously, it is likely to contribute further to the degradation of air quality in Ventura County. Simultaneous construction during the OceanWay project is not likely to contribute adversely to air quality in Ventura County because it would cross Los Angeles County waters at a sufficient distance that the contribution is likely to be negligible.

[4] See Section 4.20.1.1 for a discussion of the availability of information on the Clearwater Port project.
[5] See Section 4.20.1.1 for a discussion of the availability of information on the Clearwater Port project.

Offshore Oil and Gas Leasing

Emissions from the active 43 offshore oil and gas leases are assumed to be reflected in the historical ambient air quality monitoring performed at onshore locations in Ventura County; these data were taken into account in the air pollutant measurements and air quality analyses performed for the proposed Project. Therefore, the impacts of these leases and the Project at either the proposed Cabrillo Port FSRU or the Santa Barbara Channel/Mandalay Shore Crossing/Gonzales Road Pipeline Alternative location are accounted for in the air quality analysis in Section 4.6.4.

No additional platforms are planned in the proposed Project area, and development of 36 non-producing leases is uncertain due to pending litigation. In addition, a moratorium on new offshore leasing is currently in place. If any of these leases were developed, an emissions inventory would need to be developed before development could occur. At this time, however, it would be speculative to estimate what the emissions would be or exactly where they would be generated; therefore, it is not possible to determine the cumulative impacts of the Cabrillo Port Project or its alternative with these leases.

Point Mugu Sea Range Operations

Aerial and marine operations at the Point Mugu Sea Range are ongoing and could contribute to temporary increases in cumulative air pollutant emissions. Emissions from ongoing operations at the Point Mugu Sea Range are assumed to be reflected in the historical ambient air quality monitoring performed at onshore locations in Ventura and Los Angeles Counties; these data were taken into account in the air pollutant measurements and air quality analyses performed for the proposed Project. Therefore, the air quality impacts of Point Mugu Sea Range and the Project at either the proposed Cabrillo Port location or the Santa Barbara Channel/Mandalay Shore Crossing/Gonzales Road Pipeline Alternative are accounted for in the air quality analysis in Section 4.6.4.

Onshore Residential and Commercial Development

Residential and commercial development is planned for Oxnard and Santa Clarita. If these developments were to occur concurrently with the proposed Project, local air quality could be temporarily diminished. However, the air quality analyses conducted for the Project indicate that significant air quality impacts would occur only in close proximity to construction activities. Therefore, the cumulative impacts of the Cabrillo Port Project or any of the onshore alternatives with concurrent residential and commercial development immediately adjacent to pipeline construction potentially would have significant adverse air quality impacts (CEQA Class I; NEPA minor adverse, short-term).

Greenhouse Gas Emissions

The Cabrillo Port Project or any of the onshore or offshore alternatives would generate emissions of greenhouse gases that contribute to global warming. The majority of

emissions of greenhouse gases would be carbon dioxide (CO_2). Project operations would cause annual CO_2 emissions of 0.33 million tons per year (MMtons/yr). Start-up and construction activities would result in one-time CO_2 emissions of 0.010 MMtons and 0.017 MMtons, respectively. These emissions represent less than 0.08 percent of the 431 MMtons of CO_2-equivalent greenhouse gas emissions produced in California in 2004 (CEC 2006). The greenhouse gas emissions from the Project would be insignificant alone, but could exacerbate, in combination with existing or greenhouse gases from proposed projects, global warming effects.

4.20.3.7 Biological Resources – Marine

Marine Mammals

Potential cumulative impacts from the proposed Cabrillo Port Project in conjunction with other offshore projects include the effects of additional vessel or aircraft noise on marine mammals. Ships traveling throughout the area may produce sufficient underwater noise to cause changes in certain whale behavior. According to Carretta et al. (2002), increasing levels of man-made noise in the world's oceans has been suggested to be a habitat concern for whales and particularly for baleen whales, which may communicate using low-frequency sound. Such sounds may not only affect communications but also may cause whales to divert from normal migration paths or to stop feeding or reproductive activities. The sounds may also reduce the abilities of marine mammals and sea turtles to detect prey or predators and, in the case of odontocetes, the ability to navigate.

Cabrillo Port would be 3.54 NM (4.1 miles or 6.6 km) from the southern boundary of the Point Mugu Sea Range and therefore activities that occur at the Port could contribute to cumulative effects within the Sea Range because the FSRU's zone of noise influence (the distance from the FSRU that noise generated at FSRU would attenuate to background) would extend more than 3.54 NM (4.1 miles or 6.6 km) under some operation conditions (see Section 4.14, "Noise and Vibration"). Naval vessels at the Point Mugu Sea Range or commercial vessels transiting the area may temporarily disrupt whale migrations or feeding. Other activities at the Point Mugu Sea Range are described above and were considered in the U.S. Navy's EIS for the Point Mugu Sea Range (U.S. Navy 2002). Studies associated with these projects indicate that these activities would not have noise impacts on marine mammals. The proposed Project would increase noise temporarily in the immediate Project site during construction activities. The incremental contribution of the proposed Project would not increase the cumulative effects of noise on marine mammals. Implementation of AM BioMar-9a and AM BioMar-9b, which would ensure that offshore construction activities would occur outside the gray whale migration season and that all construction and operational vessels would carry two qualified marine mammal monitors, would further ensure that the Project's contribution to the cumulative effects would be reduced below the significance criteria for marine mammal impacts (CEQA Class II; NEPA moderate adverse, long-term).

If the proposed Clearwater Port were licensed and constructed, vessel traffic and noise associated with vessel traffic and operations of the facility would increase; however, the potential contribution of the proposed Cabrillo Port Project would be reduced to below its significance criteria through the use of marine mammal monitors (CEQA Class II; NEPA moderate or major adverse, short- or long-term). Since Clearwater Port would be constructed at Platform Grace, the area already has vessel traffic servicing the platform and noise from operations on the platform. The exact change in vessel traffic and noise is not known at this time. However, the greatest effects of increased noise would be during marine mammal migration. Construction activities would represent a significant increase in noise over a short period of time. To avoid the potential adverse effects on marine mammals, the proposed Cabrillo Port Project would not be constructed during the gray whale migration season. Any increase in vessel traffic increases the potential risk of vessel/marine mammal collision. Through implementation of marine mammal monitoring during construction and operations, the risk of potential collisions would be reduced to a level less than its significance criteria. It is also presumed that Clearwater Port would be required to implement similar measures.

Because the Santa Barbara Channel/Mandalay Shore Crossing/Gonzales Road Pipeline Alternative would be located in the Santa Barbara Channel, impacts on marine mammals would be greater than with the proposed Cabrillo Port Project. Section 4.7.5.1 describes the marine mammals that feed, migrate through, and inhabit this area. Due to the greater concentration of marine mammals in this area, the potential for impacts on marine mammals during construction and operation activities would be greater than the proposed Project location and would be adverse. The impacts could be reduced through the implementation of MM BioMar-3b, MM BioMar-3c, MM NOI-1a, MM BioMar-5a, MM BioMar-5b, and MM BioMar-5c, but the impact would CEQA Class I; NEPA major adverse, long-term. This alternative would have a greater potential contribution to cumulative impacts on marine resource than the proposed Project location. Since the Clearwater Port project would have the same offshore pipeline corridor as the Cabrillo Port Santa Barbara Channel Alternative, simultaneous construction of these two projects could result in temporary adverse cumulative effects on marine resources in this area.

The impacts from offshore pipeline components of the Point Mugu and Arnold Road shore crossing alternative would be similar to the proposed offshore pipeline route; therefore, the contribution to cumulative impacts on marine mammals would be the same as for the proposed offshore pipeline route.

Benthic Habitats and Communities

The proposed Cabrillo Port Project would have temporary impacts on the soft bottom benthic habitats within the immediate Project area at both the proposed and alternative Project locations. Disturbance of soft sediments is a localized and temporary impact and would not prevent benthic communities from reestablishing within one year of construction impacts. These temporary impacts would not contribute to cumulative impacts on the existing benthic communities in the area from other projects such as the proposed Clearwater Port or offshore oil and gas exploration, production, and/or

decommissioning. No significant cumulative effects would occur (CEQA Class III; NEPA minor adverse, short-term).

The impacts from offshore pipeline components of the Point Mugu and Arnold Road shore crossing alternative would be similar to the proposed route of the offshore pipelines; therefore, the contribution to cumulative impacts on benthic habitats would be the same as for the proposed offshore pipeline route. If the Cabrillo Port Santa Barbara Channel Alternative and the Clearwater Port project were to be constructed simultaneously, then the impacts to the benthic habitat would be greater and concentrated along the same pipeline corridor. This impact would be potentially adverse but temporary (CEQA Class II; NEPA moderate adverse, short-term).

Sea Turtles

Impacts on sea turtles include potential collisions with marine vessels and potential entanglement with anchor lines or other necessary lines associated with construction and operations of the Project. Marine operations at the Point Mugu Sea Range are ongoing; and if the proposed Ocean Way and Clearwater Port projects were licensed, vessel traffic in the area would increase temporarily during construction and would involve the transit of LNG carriers and supply vessels during operations. The increase in traffic in the area associated with these projects, in conjunction with the proposed Project, may increase the potential for vessel-turtle collisions. The proposed Project's contribution to cumulative impacts on sea turtles at either the proposed FSRU or the Santa Barbara Channel Alternative location would be minimal (CEQA Class III; NEPA minor adverse, long-term) due to the following considerations: (1) the absence of sea turtle sighting reports at or near the proposed Cabrillo Port FSRU location, (2) most sightings of sea turtles in the Southern California Bight are at the limits of their range (except for the leatherback sea turtle), (3) sea turtle feeding habitats are not present at the proposed Cabrillo Port FSRU location, and (4) the existing volume of vessel traffic and that the proposed FSRU location is at the geographical limit of the turtle's range.

Fish and Essential Fish Habitat (EFH)

Significant impacts on fish and EFH are not anticipated from the proposed Project or from the other offshore projects described in this section. Fish are highly mobile and some would be expected to leave a construction area temporarily during construction and return to the area immediately after construction ceases. An ichthyoplankton impact analysis was developed to determine potential impacts of the proposed Project (see Appendix H1 of this document).

The results of the revised ichthyoplankton analysis indicate that the daily mortality for eggs would be approximately 42,704 eggs and 7,614 larvae per day, representing <0.00000019 percent of the 21,464,100,000,000 eggs and 3,824,100,000,000 larvae found within the Project site (see EHF assessment in 4.7.1.2, "Marine Fishes," and Appendix H1). This results in entrainment values of approximately 166,963 eggs and 29,768 larvae per day. Based on the CalCOFI data, species managed by the Pacific Fishery Management Council make up approximately 49,713,300 larvae or 0.000013

percent of the total larval density and 214,641,000 eggs or 0.000010 percent of the total egg density estimated to be present in the source water body. Based on the small numbers of these species expected to be entrained in the seawater uptake systems, the impacts on these species would be less than significant (see Section 4.7, "Biological Resources – Marine," for further information on impacts to managed fish species). No significant cumulative impact on ichthyoplankton is expected from the proposed Project when considered together with the known effects of other projects in the area (CEQA Class III; NEPA minor adverse, long-term). The potential ichthyoplankton entrainment from an FSRU located at the Santa Barbara Channel Alternative would be greater than the proposed Project location but would not be expected to be significant.

Cumulative impacts on fisheries resources and EFH could occur by entrainment in seawater intake volumes of multiple projects. Changes in marine biodiversity affect the food web by causing cascading effects up and down the food chain. Section 4.7.4 analyzed the potential fish food chain effect from seawater intake, approximately 85,490 zooplankton per day, or 31.2 million zooplankton per year, would be entrained by the FSRU under average annual conditions. A range of 40,807 to 149,212 zooplankton per day (14.9 million to 54.5 million zooplankton per year) was estimated based upon minimum and maximum seawater intake scenarios. The estimated average loss of 17.47 grams (0.04 lbs) of copepod biomass per year from the Project intake would result in the annual loss of approximately 1.75 grams (0.004 lbs) of small planktivorous fish biomass and approximately 0.18 grams (0.0004 lbs) of large piscivorous fish biomass. This represents a negligible loss compared to the total amount of biomass available in the Southern California Bight. Moreover, this biomass would not be completely lost to the marine food web. Dead biomass discharged from the FSRU would still be available to detritovores. Both the proposed Clearwater Port and OceanWay projects would likely contribute to cumulative impacts on the impingement and entrainment of ichthyoplankton; however, the exact nature of the contribution is not known at this time.

Impacts on ichthyoplankton could have an adverse cumulative effect when considering the effects of the release of biomass or bio-fouling (from entrained organisms discharged into the ocean waters) with the thermal discharges proposed from the cooling systems. This is not a well studied effect; however, the low volumes of biomass indicated for discharge (as identified in the very low densities of ichthyoplankton being taken up by the seawater systems) together with the quick dispersal of the thermal plume and biomass horizontally and within the vertical water column may result in an adverse but not significant impact.

Grunion "runs" or spawning could potentially occur during any construction on beaches. Construction activities for the proposed Project would be restricted by the CDFG to times outside of known grunion spawning seasons, and similar restrictions would be expected for other projects that would cross a beach in the Project area. Cumulative impacts on fish would not be expected, nor would they exceed the significance criteria (CEQA Class III; NEPA minor adverse, long-term).

Marine Birds

A number of seabird species are known to be attracted to bright lights at night. Such animals sometimes collide with lighted objects, causing them to become stunned, injured, or killed. When they are stunned or injured, they generally fall back into the water, where they fall prey to other seabirds such as gulls and other predators. Xantus's murrelet (*Synthiloboramphus hypoleucus*), a threatened species under the California ESA and a Federal candidate, may be subject to offshore lighting impacts. However, studies indicate very low mean densities of Xantus's murrelet (between 0.04 and 0.1 birds/km^2) offshore in the California Cooperative Oceanic Fisheries Investigations sampling around the Channel Islands. Night-foraging storm petrels and alcids may also be subject to offshore lighting impacts, including the ashy storm petrel (*Oceanodroma melania*) and the rhinoceros auklet (*Cerorhinca monocerata*), which are California species of special concern. Studies show that rhinoceros auklets are found offshore between 0.02 and 0.14 bird/km^2.

Seabirds are highly mobile and would be expected to temporarily leave any area where construction activities are occurring. Generally, they are expected to return to the area immediately after construction activities have ceased. Because of its remote location, the lighting from the FSRU may be seen from shore or from the Channel Islands only on clear nights. The required beacon light would be less visible than the lighting on offshore platforms, including Platform Grace (Clearwater Port), in the Cabrillo Port Santa Barbara Channel. In addition, commercial vessels transiting the Project area at night are also lit. The cumulative impact on marine birds is expected from the proposed Project would be minimal when considered together with the known effects of other projects in the area (CEQA Class II; NEPA moderate adverse, long-term).

4.20.3.8 Biological Resources – Terrestrial

Coastal Zone and Oxnard Plain

The location of the Clearwater Port pipeline shore crossing is preliminary and may change during environmental review; however, the onshore component (staging and drilling equipment) is anticipated to be at the Reliant Energy Mandalay Generating Station.[6] Either horizontal directional drilling (HDD) or HDB would be used to minimize potential adverse effects. Drilling equipment would likely be staged at the Reliant Energy Mandalay Beach Generating Station to avoid disturbance to dunes along the shoreline on Mandalay Beach. The onshore pipeline of the Clearwater Port project would cross the Coastal Zone and Oxnard Plain. From Mandalay Beach, the pipeline to the Center Road Valve Station is anticipated to follow existing ROWs. Potential impacts during pipeline installation or HDD/HDB activities could be an increase in sedimentation and erosion, disturbance of special status bird nesting or other sensitive habitat, direct impact on a special status species potentially occurring within the Clearwater Port project footprint, and temporary or permanent changes to wetlands.

[6] See Section 4.20.1.1 for a discussion of the availability of information on the Clearwater Port project.

For the Cabrillo Port Project, the Applicant would implement a Drilling Fluid Release Monitoring Plan to reduce impacts on biological resources. Impacts on plant resources would be less than significant (CEQA Class III; NEPA minor adverse, short-term) and impacts on wildlife would be temporary and mitigated to levels below the impact's significant criteria (CEQA Class II; NEPA minor adverse, long-term) through surveys and monitoring measures. Since the shore crossing for the Clearwater Port project is about 7 miles (11.3 km) from the Project's Ormond Beach shore crossing and the effects of the HDD/HDB activities would be temporary, and because both projects would need to adhere to permitting requirements, there would be no anticipated geographically overlapping effects on biological resources on the respective beaches or species that frequent both beaches. It is assumed that Clearwater Port's impacts and mitigation measures would be similar to those for the Cabrillo Port Project. Cabrillo Port's incremental contribution to cumulative impacts on beach habitat and species that use that habitat would be considered negligible. Both shore crossings for the Clearwater Port project and the Cabrillo Port Santa Barbara Alternative would be at the Reliant Energy Mandalay Beach Generating Station; therefore, simultaneous construction of these projects would result in greater potential cumulative impacts.

In general, pipeline installation on the Oxnard Plain for both projects would be through developed or agricultural areas. However, the route of the proposed Clearwater Port onshore pipeline is preliminary and could change during the environmental review process.. The pipelines could converge near or at the Central Valve Station. The onshore pipeline associated with Clearwater Port could transit tree rows, wetlands, or near special status species. Both the Cabrillo Port and Clearwater Port onshore pipelines would require permits to cross any stream or wetlands; such permits would stipulate necessary mitigation. Any cumulative effects on terrestrial biological resources in the Oxnard Plain would be reduced below the level of the significance criteria through implementation of mitigation measures such as tree avoidance and replacement (MM TerrBio-2g); riparian avoidance and restoration (MM TerrBio-2f); avoidance and reduction of impacts on wetlands (MM TerrBio-3a); and pre-construction surveys of special status plants (AM TerrBio-2a).

Most of the proposed residential, commercial, and industrial projects in Oxnard are in previously developed areas or agricultural land and are therefore not anticipated to adversely affect terrestrial biological resources as long as best management practices (BMPs) are employed. No potential cumulative effects on terrestrial biological resources would result from these known developments in conjunction with the proposed Project. The one exception is the Ormond Beach Specific Plan, which involves the development of a 920-acre community that extends from Edison Drive on the west to Olds and Arnold Road on the east, West Pleasant Valley Drive on the north and the Pacific Ocean to the south. A plan and an EIR are being developed for this project; therefore, it is not possible to speculate about its potential impacts at this time.

Parts of Ormond Beach are designated critical habitat for western snowy plover, but potential impacts on plover critical habitat would be avoided by the use of HDB. At Ormond Beach, the Coastal Conservancy has acquired land and plans to acquire additional property for a wetland restoration project. The feasibility study for this project

is under way. The Coastal Conservancy Wetland Restoration Project, if implemented, would have a net positive effect on the biological resources at Ormond Beach in that wetlands and habitat would be restored, so that area would be more attractive to wildlife resources. To ensure that the proposed Project does not adversely affect the Coastal Conservancy Project, HDB would be used to install pipelines underneath Ormond Beach without disturbing the beach surface. In addition, all construction activities would occur on the Reliant Energy Ormond Beach Generating Station property. Since the proposed Project would not have adverse effects on the Ormond Beach wetlands and the Coastal Conservancy's Wetland Restoration Project would be beneficial to Ormond Beach wetlands, the cumulative effects of both projects would be a net benefit to wetlands on Ormond Beach, if all Project mitigation measures were implemented.

In general, the Gonzales Road Pipeline Alternative has impacts similar to the proposed Center Road Pipeline, with the following exceptions. This alternative would be likely to adversely affect Ventura marsh milk-vetch, a Federal and State endangered species. Therefore, this alternative's cumulative impact on Ventura marsh milk-vetch would be potentially major and would be considered larger than the proposed action's contribution to cumulative impacts. This alternative would cross fewer wetland features than the proposed Project pipeline route, suggesting that the use of this alternative would contribute fewer cumulative impacts on wetlands. The impacts from the Clearwater Port project onshore pipeline routes could be similar to the Gonzales Road Pipeline Alternative because the shore crossings would likely be in similar locations and would both be on the west side of Oxnard; however, the exact location of the Clearwater Port onshore pipeline route is not known.

Center Road Pipeline Alternatives 1, 2, and 3 have impacts similar to the proposed Center Road Pipeline, with the following exception. Center Road Pipeline Alternatives 1 and 2 cross slightly fewer wetland features; therefore, they would have a smaller contribution than the proposed route to cumulative impacts on wetlands.

The Point Mugu Shore Crossing/Casper Road Pipeline route and the Arnold Road Shore Crossing/Arnold Road Pipeline alternative have impacts similar to the proposed Center Road Pipeline, with the following exception. In contrast to the proposed shore crossing in which all the HDB drilling equipment would be staged at the Ormond Beach Reliant Energy Generating Station, the HDB drilling equipment would be staged in areas immediately adjacent to suitable habitat for the saltmarsh bird's beak, a Federal and State endangered plant. These alternatives would likely to adversely affect saltmarsh bird's beak; therefore, these alternative's contribution to cumulative impacts on saltmarsh bird's beak would be greater than that of the proposed Center Road Pipeline.

Santa Clara Valley

Potentially significant cumulative impacts associated with residential and commercial development in the City of Santa Clarita would include a loss of riparian habitat; disturbance to species using the area; disturbance of approximately 1.3 miles (2.1 km) of designated and proposed critical habitat for the California Coastal Gnatcatcher; and

effects on habitat for the unarmored three-spine stickleback, least Bell's vireo, arroyo toad, and western spadefoot toad. Known future development projects along the Santa Clara River and San Francisquito Creek would include mitigation measures to avoid or reduce impacts, but the residential and commercial projects would still result in a net loss of biological resources and habitat that could support sensitive species. The construction and installation of the proposed Project pipeline could add to the loss of habitat along the Santa Clara River and San Francisquito Creek.

Mitigation measures have been developed to reduce or minimize the loss of riparian habitat, including tree avoidance and replacement (MM TerrBio-2g), and riparian avoidance and restoration (MM TerrBio-2f). Other measures would ensure that construction avoids, minimizes, or reduces wetland impacts (MM TerrBio-3a) and avoids impacts on special status plants through pre-construction surveys (AM TerrBio-2a), a biological resources mitigation and monitoring plan (AM TerrBio-2b), an employee environmental education (AM TerrBio-2c), biological monitoring (AM TerrBio-2d), and confining activities to identified ROWs (AM TerrBio-2e). Lastly, construction activities could impact sensitive animal species. The previously cited employee environmental awareness and biological monitoring programs, along with pre-construction surveys (MM TerrBio-5a), would protect wildlife during construction. Construction activities would contribute a relatively small and temporary cumulative impact.

If the Line 225 Loop Pipeline Alternative were implemented, impacts on special status species and wetlands would be similar to the proposed Line 225 Loop Pipeline route, suggesting that the use of this alternative would have a contribution to cumulative impacts on terrestrial biological resources similar to the proposed route.

It is not known what the contribution of the Clearwater Port project would be in Santa Clarita, but based on the Bisi testimony it is assumed that similar construction may be required in this system.[7] (See Section 3.3.12.2 for a discussion of necessary expansions to the SoCalGas receiving facilities in Santa Clarita Valley.) The application for the Clearwater Port project that has been filed under the DWPA is currently under review by the agencies and has not been deemed complete, has not been confirmed by the agencies, and does not provide sufficient detail to allow evaluation of terrestrial biological resources in Santa Clarita. Therefore the lead agencies have determined that information from the application should not be relied upon or cited in the cumulative analysis of the Cabrillo Port Final EIS/EIR. However, to provide information for disclosure and comparison of this project under NEPA and the CEQA, the cumulative analysis uses information on the Clearwater Port project that is available on the Clearwater Port public website, the California Energy Commission website, and other sources available to the general public.

[7] See Section 4.20.1.1 for a discussion of the availability of information on the Clearwater Port project.

4.20.3.9 Cultural Resources Impacts

The Project would avoid impacts on cultural resources and therefore would not contribute to cumulative cultural resources impacts. The cumulative effects of each of the Cabrillo Port Alternatives would be similar to the cultural resource impacts of the proposed Project.

4.20.3.10 Energy and Mineral Resources Impacts

Because the Project would not likely adversely affect mineral resources, and because the Project's consumption of local electricity and energy supplies would not have an adverse effect, it is not expected that the Project would contribute to any cumulative impact on either of these resources. None of the offshore or onshore alternatives would contribute to any cumulative impacts on mineral resources.

The planned average natural gas throughput from the proposed Clearwater Port would be 1.2 billion cubic feet per day with a peak capacity of 1.4 billion cubic feet per day. Anticipated production from the OceanWay Project would be 800 million cubic feet per day with a possible expansion to 1.2 billion cubic feet per day. The cumulative effect if all the three proposed LNG deepwater projects were licensed would be a positive effect on the energy supply of the State of California. See Section 4.20.1.3 for a discussion of the status of the proposed SES Port of Long Beach LNG Terminal.

4.20.3.11 Geologic Resources Impacts

The Project is expected to temporarily increase sedimentation and erosion. After being disturbed, sediments would be deposited at or near their original location. Since these effects would be highly localized and limited primarily to the construction period, cumulative impacts on geologic resources would only occur if other projects were constructed at the same time and in the same location as the proposed Project facilities. If other terrestrial development/construction projects occur at the same time or near the same area, increased sedimentation could result. This cumulative impact would be minimized, however, by ensuring that the pipeline location and burial depth minimizes areas of sediment transport (AM GEO-6a). Consequently, potential cumulative impacts on geologic resources would be reduced to a level below the significance criteria (Class II).

No known project would occur simultaneously at the proposed Project or alternative shore crossing locations. However, the shore crossings for the Clearwater Port project and the Cabrillo Port Santa Barbara Channel Alternative would both occur at the Mandalay Beach Generating Station. The potential of worsening existing unfavorable geologic conditions and the potential effects due to the Project or its alternatives would be mitigated through the implementation of AM GEO-1a (drilling location), MM GEO-1b (backfilling, compaction, and grading), MM WAT-3a (drilling fluid release plan) and AM TerrBio-1a (erosion control) (CEQA Class II; NEPA minor adverse, short-term). It is assumed that Clearwater Port would implement similar mitigation measures to minimize any potential effects to geological resources. The cumulative effects of onshore and

offshore alternatives would be similar to the proposed Project, and the same mitigation measures would apply. However, the offshore pipeline component of the Cabrillo Port Santa Barbara Channel/Mandalay Shore Crossing/Gonzales Road Pipeline Alternative would be located in the same pipeline corridor as the proposed Clearwater Port project offshore pipelines; therefore, construction of both simultaneously could contribute to adverse cumulative effects due to increased sedimentation in the same area.

The cumulative effects of major geologic events would be locational and event-specific. An earthquake, mass movement of soil, tsunami, or other geologic events could damage the FSRU, the offshore pipelines, or the onshore pipelines and facilities. The Applicant has sought to avoid active earthquake faults and other areas where geological events could occur and has incorporated engineering design features to limit the potential damage to the facilities (AM GEO-3b, and AM GEO-6a). Mitigation measures MM GEO-3c and MM GEO-3d would further reduce the potential for adverse effects.

Construction of the proposed Cabrillo Port Project or any of its alternatives could add to loss of fossil resources as a result of surface-disturbing activities associated with existing and reasonably foreseeable projects. However, if significant paleontological resources were identified at any time, construction would be diverted to avoid affecting these resources (CEQA Class II; NEPA moderate or major adverse, long-term). Implementation of MM GEO-2a, inspection prior to excavation in areas with potential for paleontological resources, would minimize the potential impact to a level less than the significance criteria and therefore would not contribute to cumulative geological resources impacts. The type of construction necessary to install the Clearwater Port onshore pipeline could also add to loss of fossil resources in the region, as would most residential, commercial, and industrial projects where a foundation is dug or a subterranean parking structure is installed. It is assumed that most permitted construction activities would be required to implement similar mitigation measures as those proposed for the Cabrillo Port Project to ensure that potential impacts to fossil resources are reduced.

4.20.3.12 Hazardous Materials Impacts

During construction, the proposed Project or any of the alternatives could add to cumulative impacts in the region through potential releases of small quantities of fuels or hazardous materials, or through the potential unearthing contaminated sites in the offshore area. The area of the proposed Cabrillo Port or the Santa Barbara Channel/Mandalay Shore Crossing/Gonzales Road Pipeline Alternative is used by military, commercial, fishing, and recreational vessels, all of which can potentially release hazardous materials or small quantities of petroleum products. The proposed expansions at the Port of Los Angeles/Long Beach and the development of the Clearwater Port or the OceanWay project could increase maritime traffic in the region and thereby increase the potential for additional pollution. It is not possible to quantify the amount of increased pollution that would occur, but the contribution of either the proposed Cabrillo Port or the Santa Barbara Channel/Mandalay Shore Crossing/Gonzales Road Pipeline Alternative to the cumulative effect of hazardous materials impacts offshore would be small, given that laws and regulations concerning

hazardous materials would be adhered to and that measures MM HAZ-2a, MM HAZ-2b, and MM WAT-3a would minimize the potential of a release during construction and operations.

The net increase in vessel traffic would result in a greater potential for a spill, thus increasing potential cumulative hazardous materials impacts of the Project at either the proposed Cabrillo Port location or the Santa Barbara Channel/Mandalay Shore Crossing/Gonzales Road Pipeline Alternative location and other projects. If the Cabrillo Port Santa Barbara Channel/Mandalay Shore Crossing/Gonzales Road Pipeline Alternative and the Clearwater Port project were both licensed and built, the density of vessel traffic in the Santa Barbara Channel and near the platforms would increase and thus would contribute to potentially greater cumulative hazardous materials impacts. The contribution from the proposed Cabrillo Port or the Cabrillo Port Santa Barbara Channel/Mandalay Shore Crossing/Gonzales Road Pipeline Alternative, with the exception of potential spills of diesel fuel, would be mitigated to less than the significance criteria and all other releases would be regulated under international, Federal, and State laws and regulations.

Construction activities from any of the proposed onshore projects could unearth contaminated soils; however, it would be speculative to assume that the proposed Project or its onshore alternatives and another onshore project would simultaneously uncover contaminated soils. Because the Clearwater Port onshore pipeline route is very preliminary, it is neither necessary nor possible with any degree of certainty to determine whether it would cross any areas of contaminated soils.[8] The Whittaker-Bermite facility is a contaminated facility immediately adjacent to Line 225 Loop and Line 225 Loop Alternative; however, according to the California Department of Toxic Substances, no contamination is present along that border of the facility. Implementation of MM HAZ-3a and MM HAZ-3b would reduce the contribution of the Project or its alternatives to cumulative effects to less than the significance criteria for hazardous materials.

No known offshore projects would be constructed concurrently with the proposed Project; therefore, only the proposed Project would contribute to potential disturbance of any offshore contaminated sediment or exposure of unexploded ordnance on Point Mugu Sea Range. However, no known contaminated sediments occur within 1 NM of the offshore pipeline route for the proposed Cabrillo Port Project or the Santa Barbara Channel Alternative, and the Project would implement MM HAZ-4a and MM HAZ-4b to reduce the potential contribution of the Project to cumulative effects to negligible.

4.20.3.13 Land Use Impacts

Offshore

The CINMS DMP/EIS was published in May 2006. The potential expansion of the boundaries of the sanctuary, if proposed, will be addressed in future environmental

[8] See Section 4.20.1.1 for a discussion of the availability of information on the Clearwater Port project.

documents. Depending on the boundary concept selected, Cabrillo Port may or may not be within the sanctuary boundaries. According to the CINMS, installation of the FSRU and offshore pipelines would not automatically preclude the sanctuary from including the Project area in its new boundaries (Mobley 2004); if the FSRU location were within the boundaries under consideration, this would need to be considered by CINMS when making a final decision about the sanctuary boundaries. However, a plan for the expansion of the CINMS boundaries has not been developed. Therefore, the potential cumulative impacts for the Cabrillo Port FSRU at the proposed location or the Santa Barbara Channel Alternative location or the proposed Clearwater Port project would be speculative at this time**.**

The subsea pipelines cross the Point Mugu Sea Range. The U.S. Navy has indicated that the presence of the subsea pipelines would not represent a conflicting land use (Parisi 2004). Therefore, there are no cumulative impacts with respect to land uses at the Point Mugu Sea Range for the proposed FSRU location. No cumulative impacts would be anticipated with the Cabrillo Port Santa Barbara Channel Alternative and the Point Mugu Sea Range because pipelines associated with this alternative would not cross the Sea Range.

Onshore

The onshore proposed pipeline route and alternatives would be installed primarily through existing easements or in existing ROWs, and therefore little conversion of existing land uses would be required. The one exception is the expansion of the Center Road Valve Station, where approximately 0.1 acre (0.04 ha) of an existing orchard would be acquired and used in the expansion (CEQA Class II; NEPA moderate adverse, long-term) for the proposed Project and all the Center Road Pipeline route alternatives and the Gonzales Road Pipeline Alternative. Although the onshore pipeline for the Clearwater Port project is preliminary, it also would likely be installed in existing easements or ROWs would require the conversion of a similar amount of land.[9] The Arnold Road and Point Mugu Shore Crossings would result in the conversion of 0.9 acres (0.4 ha). While other projects in the proposed Project area may contribute to the loss or conversion of agricultural lands, with mitigation (AM AGR-1a), the incremental, cumulative contribution of the proposed Project to changes in land use or that of its onshore alternatives would reduce this impact to below its significance criteria. No agricultural lands would be converted to non-agricultural uses with the installation of Line 225 Loop or its alternative. Therefore, the resulting cumulative impact on land use for the Cabrillo Port Project and its alternatives is considered negligible.

A Notice of Preparation for an EIR for the Ormond Beach Specific Plan was issued in 2005. To date, the development of the Plan and EIR are underway, but neither has been published. The installation of the proposed pipeline route, any Center Road Pipeline route alternatives, or the shore crossing alternatives could affect where a school could be sited within the development. However, the specific impact could not

[9] See Section 4.20.1.1 for a discussion of the availability of information on the Clearwater Port project.

be determined until the local school districts conducted a pipeline risk analysis. Construction-related impacts such as noise, dust, and parking and access are addressed under those respective sections.

4.20.3.14 Noise Impacts

Offshore

The Project would add to cumulative noise impacts in the area (see Section 4.20.3.7 for a discussion of cumulative impacts from noise on marine mammals). Aerial and marine operations at the Point Mugu Sea Range are ongoing and could intermittently increase noise in the vicinity of the proposed Project. Construction noise from the installation of the FSRU at either the Cabrillo Port proposed location or the Santa Barbara Channel Alternative would be temporary, but the FSRU's operational noise at either the proposed Cabrillo Port location or the Santa Barbara Channel Alternative location would be continuous. Cumulative noises effects could occur when offshore pipeline construction is occurring in and near the vicinity of the Sea Range; however, implementation of MM NOI-1a (efficient equipment usage), AM MT-1a (safety vessel warnings), and MM MT-1c (notices to mariners) would mitigate the noise levels and exposure to boaters to below the impact's level of significance (CEQA Class II; NEPA minor adverse, long-term) for boaters. Operational noise from the FSRU at either the proposed or alternative location would exceed significance levels into the ATBA (CEQA Class I; NEPA moderate adverse, long-term), however not beyond this area, and would diminish further with greater distance. Since the Point Mugu Sea Range is 3.54 NM (4.1 miles or 6.6 km) from the FSRU at the proposed location and further from the Cabrillo Port Santa Barbara Channel Alternative location, cumulative effects of operational noise and marine operations on the Sea Range are unlikely. Aerial operations on the Sea Range could have cumulative noise effects for boaters transiting the ATBA (CEQA Class I; NEPA moderate adverse, long-term), but the cumulative effect would be less than significant given the transitory nature of aerial operations.

The existing operation of the 43 oil and gas platforms is taken into account in the existing noise baseline conditions. No additional oil and gas platforms are planned in the Santa Barbara Channel. Development of the non-producing oil and gas leases is uncertain due to ongoing litigation and there is a moratorium on new offshore leasing. Current and new activities on these leases would increase noise, but the noise generated from Cabrillo Port would be sufficiently distant from these activities such that no cumulative noise effects are anticipated. If the Clearwater Port project is licensed, noise would increase in areas with common vessel traffic, including parts of the vessel traffic lanes and vessels exiting and entering Port Hueneme. No vessel traffic would be anticipated from the OceanWay project to the Port of Hueneme.

Noise increase would be substantial, but temporary if the offshore LNG projects were constructed concurrently, but the contribution of the Project would be mitigated through the use of MM NOI-1a, AM MT-1a, and MM MT-1c. If the projects were to operate simultaneously, noise would increase at each respective location and would contribute to cumulative noise impacts at these locations; however, the OceanWay and Clearwater

Port would be located 14.66 NM (16.9 mi., 27.2 km) and 28.9 NM (33.3 miles or 53.5 km, respectively, from Cabrillo Port. Therefore, assuming that the proposed OceanWay and Clearwater Port would generate a similar amount of noise as Cabrillo Port, operational noises from the projects would not have geographically overlapping effects. LNG carrier traffic would increase, but carriers would have to adhere to USCG and International Maritime regulations and would keep their distance from other large vessels; therefore, there is unlikely to be a cumulative effect on noise.

The Cabrillo Port Santa Barbara Channel FSRU Alternative would be 5.01 NM (5.77 mi., 9.28 km) away from Platform Grace, the proposed location for the Clearwater Port project. Vessel traffic is greater in this area; therefore, if these projects were constructed simultaneously, more boaters could hear noise generated during construction and operation. Like the proposed Project, construction noise would be temporary and recreational boaters could avoid the construction zone. All mitigation measures applicable to offshore operations (see Section 4.14.5.2) would be applicable to this alternative; however, like the proposed Project, noise generated on the FSRU during operations would have a significant impact on recreational boaters within 0.6 mile (1 km), which could not be mitigated. Therefore, the use of this alternative would result in a similar contribution to cumulative impacts from noise as compared with the proposed action. Assuming that both the Cabrillo Port Santa Barbara Channel FSRU Alternative and the Clearwater Port projects would generate similar levels of operational noise, given the distance between the two locations, it is unlikely that the areas of significant noise impacts generated by would overlap.

Expansion of the Port of Los Angeles/Long Beach would likely result in an increase in vessel traffic in the Santa Barbara Channel. With the increase in vessel traffic, there would be a concurrent increase in vessel noise. The cumulative noise effects of this increase in vessel traffic and the presence of the Project at proposed Project location would be in the ATBA, the location where boaters could transit between the FSRU and the Santa Barbara Channel TSS. There would be locations in the ATBA where noise levels exceed significance levels from FSRU operations. If a boater were transiting the ATBA when a vessel was transiting the Santa Barbara Channel TSS in the vicinity of the FSRU, the boater would experience significant cumulative noise effects (CEQA Class I; NEPA moderate adverse, short-term). These effects would be transitory because both the vessel and the boater would be in transit. Project support vessels would transit a portion of the Santa Barbara Channel TSS traveling to and from Port Hueneme. These vessels would cause temporary but significant noise impacts (CEQA Class I; NEPA moderate adverse, short-term). There could be cumulative noise impacts from the increased vessel traffic in the Santa Barbara Channel TSS if vessels travel in close proximity to one another; however, this is unlikely because vessels must maintain a safe distance from one another.

Like the proposed Project location, the noise generated by an FSRU located at the Cabrillo Port Santa Barbara Channel Alternative would result in noise above the significance criteria for boaters transiting the ATBA (CEQA Class I; NEPA moderate adverse, long-term). Since this area experiences greater boating traffic than the

proposed Project location, the cumulative noise impacts at this location would likely be greater than at the proposed Project location.

Onshore

The proposed Project would contribute incrementally to cumulative impacts from noise impacts in the area if road, residential housing, or commercial development construction projects were to occur concurrently in the vicinity of the pipeline construction for the proposed Project or alternative onshore pipeline routes. Despite the implementation of mitigation measures MM NOI-4b, MM NOI-4c, MM NOI-4d, MM NOI-4e, MM NOI-4f, MM NOI-5a, MM NOI-6a and MM NOI-6b, temporary construction noise would result in a CEQA Class I (NEPA minor adverse, short-term) impact because noise impacts would remain significant, but temporary.

The proposed Project pipeline routes and the alternative pipeline routes would all generate vibration during pipeline installation that would result in CEQA Class I (NEPA moderate adverse, short-term) impacts because the impacts could not be completely mitigable. Vibration generated at the proposed shore crossing and at the alternative shore crossing would not exceed the significance criteria. Therefore, construction of any other onshore project within the immediate vicinity of any of the pipeline routes would contribute further to a CEQA Class I (NEPA moderate adverse, short-term) vibration impact.

Comparable levels of noise and vibration are anticipated from the installation of the onshore Clearwater Port Pipeline route. The proposed Cabrillo Port Pipeline route and its Center Road alternatives would be of sufficient distance from the preliminary Clearwater Port onshore pipeline route that even if both projects were constructed simultaneously, they would not have overlapping noise or vibration impacts, except near the Center Road Valve Station where they might converge. In addition, the Cabrillo Port Gonzales Road onshore pipeline alternative could be sufficiently close to the preliminary Clearwater Port onshore pipeline route that there could be overlapping noise and vibration impacts.

The proposed Project shore crossing would result in CEQA Class I (NEPA moderate adverse, short-term) noise impacts, based on exceedances of local noise ordinances in City of Oxnard. In contrast, the Arnold Road Shore Crossing/Arnold Road Pipeline and Point Mugu Shore Crossing/Casper Road Pipeline Alternatives are located in Ventura County, which has different noise ordinances. Through implementation of AM NOI-4a, and MM NOI-4b through MM NOI-4f, MM NOI-5a, MM NOI-6a, and MM NOI-6b during construction and maintenance operations at these locations, noise levels could be reduced below local noise ordinance levels required at the closest residence (CEQA Class II; NEPA moderate adverse, short-term). In addition, noise levels at the closest residence to the Mandalay shore crossing meet the City of Oxnard noise ordinance levels (CEQA Class II; NEPA moderate adverse, short-term). Therefore, the shore crossing alternatives would result in a smaller contribution to cumulative noise impacts to sensitive receptors in comparison with the proposed shore crossing and pipeline route. Given that the Cabrillo Port Santa Barbara Channel Alternative and Clearwater

Port shore crossing both would occur at the Reliant Energy Mandalay Generating Station, if both were to be installed simultaneously, noise levels could exceed City of Oxnard noise ordinance levels (CEQA Class I; NEPA moderate adverse, short-term).

4.20.3.15 Recreation Impacts

Offshore

Impacts on offshore recreation can result from restricted access or changes to the aesthetic quality of the area.

The permanent safety zone around the FSRU would restrict access for boaters. If constructed, the proposed Clearwater Port project would also likely have a similar safety zone around the platform; there is already a safety zone around Platform Grace that boaters are likely to be accustomed to. A safety zone is likely to surround the two mooring buoys for the proposed OceanWay project. Most recreational boaters travel much closer to shore than the location of either of these potential projects and would not be impacted by the safety zone at all. Although these projects would permanently reduce the availability of area for boaters to travel, the potential impact is negligible and is not considered significant because the area removed from boating availability would be very small in comparison to the area remaining for boating. No mitigation would be required (CEQA Class III; NEPA minor adverse, long-term).

The presence of large permanent structures or LNG carriers may reduce the quality of the recreational experience for some individuals. In addition to the FSRU that would be constructed for the Cabrillo Port Project, existing and future projects with permanent or large offshore facilities include the Clearwater Port, OceanWay, existing future offshore oil platforms, and naval activities at the Point Mugu Sea Range.

If the proposed Project and Clearwater Port both were developed, the increase in LNG carriers in the area would have ongoing but intermittent recreational impacts (CEQA Class III; NEPA minor adverse, long-term). It is common to see large vessels in the Project area, and therefore the addition of the LNG carriers would not be considered significant. However, the presence of the FSRU in conjunction with permanent changes to Platform Grace from the Clearwater Port and the OceanWay project is considered a significant cumulative impact for which no mitigation exists (CEQA Class I; NEPA minor adverse, long-term). If the Cabrillo Port Santa Barbara Channel Alternative were implemented, it would have similar cumulative impacts.

No additional platforms are planned in the proposed Project area and development of the 36 non-producing leases is uncertain due to ongoing litigation. In addition, there is a moratorium on new offshore leasing. Current and new oil and gas activities would increase recreation impacts. Several existing platforms in the area are likely to be removed or decommissioned during the 40-year operational time frame for the FSRU. The Clearwater Port project proposes to use an existing platform; however, docking facilities would be added and LNG carriers would dock regularly at the facility. Although local recreationalists are used to viewing the offshore platforms, the presence of the

docking facilities and an LNG carrier would contribute to cumulative visual impacts for recreational users of the area. If both the Cabrillo Port Project and Clearwater Port projects were developed, the increase in LNG carriers in the area would have ongoing but intermittent recreational impacts (CEQA Class III; NEPA minor adverse, long-term). It is common to see large vessels in the Project area, and therefore the addition of the LNG carriers would not be considered significant.

Onshore

Most of the proposed route would be within existing roadways and would bisect agricultural areas. Although several projects are planned in the vicinity of the proposed Project pipeline routes that could increase demand for recreational opportunities, the Project or any of the Center Road Pipeline alternatives would not contribute to cumulative impacts on recreation. The Project's onshore recreational impacts would be temporary, short-term, and related solely to construction traffic congestion, with the exception that construction activities for the Line 225 Pipeline Loop and the Line 222 Pipeline Loop Alternative, which would temporarily close the multi-use trails along the South Fork Santa Clara River. With the implementation of mitigation measures to reduce temporary construction nuisances, the Project would not contribute incrementally to a significant cumulative impact on recreation (CEQA Class III; NEPA minor adverse, long-term).

Potential cumulative impacts from the proposed Clearwater Port project have not been included in this analysis because the application for the Clearwater Port project that has been filed under the DWPA is currently under review by the agencies and has not been deemed complete, has not been confirmed by the agencies, and does not provide sufficient detail to allow evaluation of onshore recreational impacts. Therefore the lead agencies have determined that information from the application should not be relied upon or cited in the cumulative analysis of the Cabrillo Port Final EIS/EIR. However, to provide information for disclosure and comparison of this project under NEPA and the CEQA, the cumulative analysis uses information on the Clearwater Port project that is available on the Clearwater Port public website, the California Energy Commission website, and other sources available to the general public.

4.20.3.16 Socioeconomic Impacts

Offshore

The impacts on housing and public services from the additional workers required for the Clearwater Port would be anticipated to be minimal, as would be those from the proposed Project (CEQA Class III; NEPA minor adverse, long-term). Since Clearwater Port would be developed at an existing platform, it would not affect commercial fishing because little if any new waters would be excluded from commercial fishing. Platform Grace already has a safety zone surrounding it (CEQA Class III; NEPA minor adverse, long-term). In addition, the offshore pipelines for Clearwater Port would likely be installed in an existing pipeline corridor; therefore, commercial fishers already would be aware of the pipelines in this area. It is also likely that the Clearwater Port project would

be required to adopt similar measures to compensate commercial fishers for lost gear (CEQA Class II; NEPA minor adverse, long-term). Other projects in the area would not contribute to adverse cumulative socioeconomic impacts. When considered in the context of other offshore projects, the Project or the Santa Barbara Channel/Mandalay Shore Crossing/Gonzales Road Pipeline Alternative would not contribute significantly to cumulative adverse socioeconomic impacts in the Project area (CEQA Class III; NEPA minor adverse, long-term).

Onshore

Several construction projects in the vicinity of the proposed pipeline are planned, some of which would be under construction at the same time as the proposed Project pipeline construction. Overall, it is not expected that these projects would require significantly more public services during construction (CEQA Class III; NEPA minor adverse, short-term). As these other projects are primarily residential, commercial, and industrial and do not require construction workers with the specific skills needed for the proposed Project, most of the workers for these other projects would probably be permanent residents. Because the long-term increase in population would be negligible when viewed in the cumulative context of the greater Project region, the impact of the proposed Project or any of the onshore alternatives would be less than the level of the significance criteria (CEQA Class III; NEPA minor adverse, short-term).

Potential cumulative impacts from the proposed Clearwater Port project have not been included in this analysis because the application for the Clearwater Port project that has been filed under the DWPA is currently under review by the agencies and has not been deemed complete, has not been confirmed by the agencies, and does not provide sufficient detail to allow evaluation of onshore socioeconomic impacts. Therefore the lead agencies have determined that information from the application should not be relied upon or cited in the cumulative analysis of the Cabrillo Port Final EIS/EIR. However, to provide information for disclosure and comparison of this project under NEPA and the CEQA, the cumulative analysis uses information on the Clearwater Port project that is available on the Clearwater Port public website, the California Energy Commission website, and other sources available to the general public.

4.20.3.17 Transportation

The Project is not expected to add significantly to the cumulative impact on transportation. No public roads would be permanently eliminated or created by Project activities. Ventura County has plans to expand roads on portions of Hueneme Road, Pleasant Valley Road, Rice Avenue, and Santa Clara Avenue by 2010. If these activities occurred simultaneously with the installation of the Project pipeline, short-term cumulative impacts on traffic could occur (CEQA Class II; NEPA minor adverse, long-term). These impacts could include traffic slowdowns and/or detours that could last several days. Mitigation measures TRANS-1a and TRANS-1b would reduce this impact to below its significance criteria, and other projects would likely have similar mitigation measures.

Road maintenance activities in the Project area could include repaving, clearing road shoulders, and similar activities. If these activities were to occur at the same time and place as the Project, short-term cumulative impacts on traffic could occur (CEQA Class II; NEPA minor adverse, long-term). These impacts would be limited to temporary disruptions such as slower traffic or detours lasting several days at a time. MM TRANS-4a, MM TRANS-4b, and MM TRANS-5a, as well as BMPs that would likely be used for the possible maintenance projects occurring concurrently, would reduce or eliminate any significant impacts.

If any of the proposed construction projects for Oxnard or Santa Clarita were to occur simultaneously with the proposed Project, a net increase in traffic in each respective area would result from workers and equipment going to and from the construction sites. These are temporary impacts that would cease at the end of construction.

The Project would reduce its contribution to local traffic by implementing traffic control plans (MM TRANS-1a) and implementing notifications, schedule shifts and carpooling BMPs (MM TRANS-1b). These mitigation measures would reduce the impacts, but they could not be fully avoided. Therefore, if other local projects with similar impacts were to occur simultaneously, temporary cumulative impacts on the overall traffic conditions could occur (CEQA Class II; NEPA minor adverse, long-term). The cumulative contribution to traffic impacts from the Gonzales Road Pipeline Alternative and Center Road Pipeline Alternative 1 would be greater than the proposed Project in the Oxnard area because both pass through residential areas. Center Road Pipeline Alternatives 2 and 3 would have a similar contribution to cumulative traffic impacts as the proposed Project because these routes largely pass through agricultural areas.

Also, the contribution to degradation of roads from the Project would be mitigated through MM TRANS-5a, which requires the Applicant or its designated representative to repair roads to their pre-construction condition (CEQA Class II; NEPA minor adverse, short-term). Therefore, the Project would not contribute to cumulative impacts on roads.

In Santa Clarita, construction of the Line 225 Pipeline Loop route would require closure or rerouting of the South Fork Trailhead bike path for about 10 to 14 days (CEQA Class II; NEPA minor adverse, short-term). If construction of multiple projects were to occur concurrently in Santa Clarita, multiple bike paths could close or be rerouted temporarily. However, these closures would be temporary and rerouting of the paths during the short construction period is often possible. Therefore, this project would not contribute to cumulative impacts on bike trails. Line 225 Loop Alternative would have similar cumulative impacts to the Line 225 Pipeline Loop.

Potential cumulative impacts from the proposed Clearwater Port project have not been included in this analysis because the application for the Clearwater Port project that has been filed under the DWPA is currently under review by the agencies and has not been deemed complete, has not been confirmed by the agencies, and does not provide sufficient detail to allow evaluation of onshore transportation impacts. Therefore the lead agencies have determined that information from the application should not be relied upon or cited in the cumulative analysis of the Cabrillo Port Final EIS/EIR.

However, to provide information for disclosure and comparison of this project under NEPA and the CEQA, the cumulative analysis uses information on the Clearwater Port project that is available on the Clearwater Port public website, the California Energy Commission website, and other sources available to the general public.

4.20.3.18 Water Quality and Sediment Impacts

Offshore

Discharges from the proposed Clearwater Port project, the OceanWay project, offshore oil platforms, industrial facilities, power generating facilities, and municipal wastewater could also impact water resources. Under normal conditions, the discharges from construction at either the proposed Cabrillo Port location or the Santa Barbara Channel/Mandalay Shore Crossing/Gonzales Road Pipeline Alternative would be localized, would dissipate rapidly, and would not contribute to cumulative impacts. The same would be anticipated to be true for the Clearwater Port and OceanWay and projects. Water quality in the receiving water body would be anticipated to meet water quality standards (CEQA Class III; NEPA minor adverse, short-term). Many discharges to marine water from different offshore projects would require adherence to permit conditions and laws that regulate the quality and/or quantity of the discharges. Discharges from the FRSU would require compliance with an EPA-issued NPDES permit at either the Cabrillo Port location or the Santa Barbara Channel/Mandalay Shore Crossing/Gonzales Road Pipeline Alternative. Therefore, any adverse effects from normal operations of the Project at either the proposed Cabrillo Port location or the Santa Barbara Channel/Mandalay Shore Crossing/Gonzales Road Pipeline Alternative would contribute negligibly to marine water quality cumulative impacts. Discharges from vessels associated with the operations at any of these facilities would contribute to potential cumulative impacts; however, all vessels would have to meet, at minimum, all applicable national and international discharge standards (see Section 4.18.2). Since the potential adverse impacts from any of the proposed or ongoing offshore projects would be localized and the receiving water body is the Pacific Ocean, there would not be anticipated cumulative adverse impacts on offshore water quality.

Cumulative impacts on marine water resources would occur as a result of sediment displacement only if FSRU and pipeline installation were concurrent and near another offshore construction project. No other local offshore construction projects are known to have a similar schedule. Furthermore, impacts as a result of sediment displacement would be highly localized. Therefore, cumulative impacts on offshore water resources from the cumulative projects would not be significant (CEQA Class III; NEPA minor adverse, short-term).

Due to the proximity of the proposed Clearwater Port and the Santa Barbara Channel/Mandalay Shore Crossing/Gonzales Road Pipeline Alternative offshore pipelines, if construction of both were to occur simultaneously, then water quality due to increased turbidity could be diminished for a longer period of time over a larger area than for a single project. However, depending on the type of sediments, the increase in turbidity would only be expected for several days. In addition, since the environmental

analysis has not been completed for either the Clearwater Port or OceanWay projects, it is not known whether either would disturb contaminated sediments during construction.

Onshore

Installation of the pipelines at Ormond Beach could result in impacts on local water quality. A feasibility study for a wetlands restoration project at Ormond Beach is currently underway. The restoration activities would be in the general vicinity of the proposed Project; however, the shore crossing would be installed using HDB below the beach and construction activities would occur within the Reliant Energy Ormond Beach Generating Station. The net impact of the Coastal Conservancy's Ormond Beach Wetlands Restoration Project would be beneficial to water quality and sediments in that area. No additional projects are identified for the shore crossing area. Although construction of the proposed Project may occur simultaneously with the restoration project or other potential future projects, along the shoreline potential erosion would be minimal and localized and would not be likely to contribute to cumulative adverse effects on water quality.

The Arnold Road Shore Crossing/Arnold Road Pipeline Alternative would have similar cumulative impacts as the proposed Project. The Point Mugu Shore Crossing/Casper Road Pipeline Alternative would not affect the Ormond Beach Wetland Restoration Project because of its distance from the project boundary. For the Point Mugu Shore Crossing, HDB would be used both for the shore crossing and to cross under wetlands located north of the shore crossing HDB exit point. As a result, this alternative would have a negligible cumulative impact on water quality at the shore crossing and the nearby wetlands.

The shore crossings for the Clearwater Port and the Santa Barbara Channel/Mandalay Shore Crossing/Gonzales Road Pipeline Alternative offshore pipelines are both proposed to be located at the Reliant Energy Mandalay Generating Station. It is assumed that the Clearwater Port shore crossing would be conducted in a similar manner as the one proposed for the Cabrillo Port Project; therefore, potential adverse impacts would be minimized. However, if construction were to occur simultaneously, there could be a cumulative adverse impact.

The cumulative effects on onshore water resources as a result of construction at stream crossings for the proposed Center Road Pipeline and its alternatives could be adverse but could be mitigated through the implementation of MM WAT-3a, MM WAT-4a through MM WAT-4c, and MM GEO-1b to reduce the impact to a level that is less than the significance criteria (CEQA Class II; NEPA minor adverse, short-term). Based on permits and existing studies for the identified projects and the locations and types of water resources in the onshore Project area, the proposed Project and the Center Road Pipeline alternatives would not contribute to any further degradation of surface water quality, primarily because activities that would result in temporary or short-term discharges to surface water would require adherence to permit conditions and BMPs that aim to reduce or avoid such impacts. Therefore, this Project and the Center Road

Pipeline alternatives would not contribute significantly to changes to local water quality and sediment.

If Line 225 Loop alternative were implemented, the Santa Clara River would be crossed using either an existing bridge or HDD. The potential cumulative water quality impacts of construction of any of the projects in the vicinity of the Santa Clara and installation of the Project pipeline in the pipeline bridge would be less than those if HDD were used for this alternative. Impacts from HDD would be similar to those of the proposed Project and are addressed under Impact WAT-4. Implementation of mitigation WAT-3a, WAT-4a, WAT-4c would reduce this alternative's impact to less than significant, so the cumulative contribution of this alternative to water quality would be negligible.

The location or method of onshore water crossings for the Clearwater Port are not known; therefore, the potential cumulative effects are uncertain. However, it is assumed that similar mitigation measures and permits would be required to ensure that potential impacts to water resources would be minimized.[10]

4.20.3.19 Environmental Justice

In the event of a pipeline accident, the proposed Project and Center Road Pipeline Alternatives 2 and 3 would result in potentially significant long-term public safety impacts that could disproportionately impact a low-income, minority community—the mobile home parks located on Pidduck and Dufau Roads near MP 4.1 of the proposed Center Road Pipeline, where a higher proportion of the residents are below the poverty level than in Ventura County and where the population is mostly Hispanic or Latino. The upgrading of pipeline construction to meet the criteria for Class 3 areas and the additional inspection, testing, reporting, and public education required for treating the mobile home parks as a high consequence area (HCA) would reduce the potential frequency of an incident occurring in this area. The installation of additional mainline valves equipped with either remote valve controls or automatic line break controls would reduce the potential consequences of an incident (CEQA Class II; NEPA minor or moderate adverse, short-term). The implementation of the Santa Barbara Channel/Mandalay Shore Crossing/Gonzales Road Pipeline Alternative and the Center Road Pipeline Alternative 1 would have a smaller contribution to the environmental justice-associated public safety impacts because it does not traverse the mobile home parks at Pidduck and Dufau Roads.

Clearwater Port would include an onshore pipeline that would traverse the City of Oxnard, Ventura County, and the City of Santa Clarita.[11] HCAs would be determined for this project and evaluated in a separate EIS/EIR for that project.

No environmental justice impacts were identified for Line 225 Loop or its alternative; therefore, there would be no contribution to cumulative impacts at these locations.

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[10] See Section 4.20.1.1 for a discussion of the availability of information on the Clearwater Port project.
[11] See Section 4.20.1.1 for a discussion of the availability of information on the Clearwater Port project.

4.20.4 References

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