

Appendix D2: Cabrillo Port LNG Project
12.01 nautical miles off the coast of Ventura and Los Angeles Counties

Environmental Topic	Impact(s)	Mitigation	Conclusion
AESTHETICS - Construction	<p>PROJECT SPECIFIC: Impact AES-1: <i>Alter Ocean Views from Onshore and Channel Islands Viewpoints</i> The FSRU in an unobstructed viewshed could alter views from beach areas, residences near sea level, residences at higher elevations, and from hiking trails at higher elevations.</p> <p>Impact AES-2: <i>Alter Nighttime Ocean Views</i> Night lighting on the FSRU could be visible to residents, thereby altering night vistas.</p> <p>Impact AES-3: <i>Alter Views for Recreational Boaters</i> The FSRU would change the visual character of the ocean view for recreational boaters.</p> <p>Impact AES-4: <i>Alter Offshore Views from an Eligible State Scenic Highway</i> The FSRU would be visible to travelers on an eligible State Scenic Highway.</p> <p>Impact AES-5: <i>Alter Ocean Views During Construction</i> Night lighting during offshore construction could be visible from the shore and to residents living in the foothills and higher elevation area in Malibu, thereby temporarily altering the nighttime viewshed.</p> <p>Impact AES-6: <i>Substantial Damage to Onshore Scenic Resources Along a State Scenic Highway</i> Construction of the onshore pipelines could alter the scenic quality of a highway eligible for the State Scenic Highway System.</p> <p>CUMULATIVE: Cabrillo Port, in combination with either or both Clearwater Port or OceanWay, would result in significant cumulative impacts on offshore recreation and regional aesthetics and in short-term offshore noise.</p>	<p>AM BioMar-3a. Construction/Operation Lighting Control (see Section 4.7, Biological Resources – Marine”).</p> <p>AM BioMar-3a. Construction Lighting/Operation Control (see Section 4.7, Biological Resources – Marine”).</p> <p>MM GEO-1b. Backfilling, Compaction, and Grading (see Section 4.11, “Geologic Resources and Hazards”).</p>	Significant

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AESTHETICS – Operational	<p>PROJECT SPECIFIC: Impact AES-1: <i>Alter Ocean Views from Onshore and Channel Islands Viewpoints</i> The FSRU in an unobstructed viewshed could alter views from beach areas, residences near sea level, residences at higher elevations, and from hiking trails at higher elevations.</p> <p>Impact AES-2: <i>Alter Nighttime Ocean Views</i> Night lighting on the FSRU could be visible to residents, thereby altering night vistas.</p> <p>Impact AES-3: <i>Alter Views for Recreational Boaters</i> The FSRU would change the visual character of the ocean view for recreational boaters.</p> <p>Impact AES-4: <i>Alter Offshore Views from an Eligible State Scenic Highway</i> The FSRU would be visible to travelers on an eligible State Scenic Highway.</p> <p>CUMULATIVE: Cabrillo Port, in combination with either or both Clearwater Port or OceanWay, would result in significant cumulative impacts on offshore recreation and regional aesthetics and in short-term offshore noise.</p>	<p>AM BioMar-3a. Construction/Operation Lighting Control (see Section 4.7, Biological Resources – Marine”).</p>	Significant
AGRICULTURE AND SOILS - Construction	<p>PROJECT SPECIFIC: AGR-1: <i>Temporary Loss of Agricultural Land</i> Construction activities could temporarily cause a loss of agricultural land, crops, or crop production.</p> <p>AGR-2: <i>Permanent Conversion of Agricultural Land to Non-Agricultural Use</i> Operational activities could cause a loss of agricultural land, crops, or crop production. Construction of permanent facilities could cause a permanent loss of agricultural land, crops, or crop production. Agricultural land that is preserved under the Williamson Act could be permanently converted from</p>	<p>AM AGR-1a. Compensation for Temporary and Permanent Loss of Agricultural Land, Crop Loss, Future Loss of Production, and Other Negative Impacts. In compliance with California Government Code § 7267 et seq., the Applicant or its designated representative would make every reasonable effort to acquire easements (temporary and permanent) expeditiously by negotiation.</p> <p>AM AGR-1b. Coordinate Pipeline Installation with Farmers. The Applicant or its designated representative would schedule construction to begin immediately after harvest or before planting if the construction and planting/harvest schedules coincide closely enough to not compromise the overall pipeline construction completion schedule.</p> <p>AGR-1c. Post-Construction Restoration Measures. The Applicant or its designated representative would protect all substructures, such as drain tiles or other types of irrigations systems, during construction and replace any substructures if damaged</p> <p>MM AGR-1d. Minimize Orchard Tree Removal. Recognizing that no trees can</p>	Significant

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	<p>agricultural land to non-agricultural land. Prime Farmland or Farmland of Statewide Importance could be converted to non-agricultural uses.</p> <p>AGR-3: Topsoil Loss, Mixing, and/or Compaction Construction activities could result in topsoil and subsoil mixing, compaction, and/or introduction of weed/invasive species, thereby reducing agricultural productivity.</p> <p>AGR-4: Dust Deposition Dust generated during construction could be deposited on adjacent agricultural lands with planted crops, temporarily reducing productivity.</p> <p>AGR-5: Loss of Tree Rows Loss of tree rows could reduce agricultural productivity.</p> <p>AGR-6: Impacts from a Leak or Fire Associated with the Natural Gas Transmission Line If the natural gas transmission line leaked and/or was ignited, the resulting fire could cause the loss of crops or the contamination of the soil in the vicinity of the leak or fire.</p> <p>AGR-7 Alt: Potential for Use of Agricultural Land for Staging Areas Under the Arnold Road Shore Crossing/Arnold Road Pipeline Alternative, construction activities associated with staging areas could temporarily cause a loss of agricultural land, crops, or crop production. Agricultural land that is preserved under the Williamson Act could be temporarily converted from agricultural land to nonagricultural land. Prime Farmland or Farmland of Statewide Importance soils would temporarily be converted to nonagricultural uses.</p>	<p>grow within 15 feet (4.6 m) of the pipeline, the Applicant or its designated representative shall remove, box, maintain, and replant small orchard trees in the area between the TCE and the permanent ROW.</p> <p>AM TerrBio-4a. Weed Management Plan (see Section 4.8, “Biological Resources – Terrestrial”).</p> <p>MM AGR-3a. Topsoil Salvage and Replacement. The Applicant or its designated representative shall ensure that the upper 12 inches (0.3 m) of topsoil (or less, depending on the existing depth of the topsoil) is salvaged, segregated from the rest of the soil, and replaced on top of the disturbed areas and replaced wherever the pipeline is trenched.</p> <p>MM AGR-3b. Landowner Compensation for Soil Productivity Losses. Prior to construction, the Applicant or its designated representative shall negotiate with landowners regarding measures to ensure that soil productivity is maintained and that the criteria for determining loss of soil productivity and the terms for compensation for such loss are determined.</p> <p>MM AIR-2b. Construction Fugitive Dust Plan (see Section 4.6, “Air Quality”).</p> <p>MM AGR-4a. Dust Suppression Water Quality. For dust suppression, the Applicant or its designated representative shall use potable water sources or water sources approved for discharge near agricultural uses.</p> <p>MM TerrBio-2g. Tree Avoidance and Replacement (see Section 4.8, “Biological Resources – Terrestrial”).</p> <p>AM PS-3a. More Stringent Pipeline Design (see Section 4.2, “Public Safety: Hazards and Risk Analysis”).</p> <p>AM PS-4a. Class 3 Pipeline Design Criteria (see Section 4.2, “Public Safety: Hazards and Risk Analysis”).</p> <p>MM AGR-6a. Restoration After a Natural Gas Transmission Line Accident. The Applicant or its designated representative shall restore the area that was either contaminated or burned as a result of a breach in the natural gas transmission line.</p> <p>MM PS-3c. Areas Subject to Accelerated Corrosion, Cathodic Protection System (see Section 4.2, “Public Safety: Hazards and Risk Analysis”).</p> <p>MM PS-4b. Pipeline Integrity Management Program (see Section 4.2, “Public Safety: Hazards and Risk Analysis”).</p> <p>MM PS-4c. Install Additional Mainline Valves Equipped with Either Remote Valve Controls or Automatic Line Break Controls (see Section 4.2, “Public Safety: Hazards and Risk Analysis”).</p> <p>AM AGR-1a. Compensation for Temporary and Permanent Loss of Agricultural Land, Crop Loss, Future Loss of Production, and Other Negative Impacts.</p> <p>AM AGR-1b. Coordinate Pipeline Installation with Farmers.</p> <p>AM AGR-1c. Post-Construction Restoration Measures.</p> <p>MM AGR-1d. Minimize Orchard Tree Removal.</p> <p>AM AGR-1b. Coordinate Pipeline Installation with Farmers.</p> <p>AM AGR-1c. Post-Construction Restoration Measures.</p>	

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	<p>AGR-8 Alt: <i>Permanent Conversion of Agricultural Land to Non-Agricultural Use</i> Under the Arnold Road Shore Crossing/Arnold Road Pipeline Alternative, construction of permanent facilities could cause a permanent loss of agricultural land, crops, or crop production. Agricultural land that is preserved under the Williamson Act could be permanently converted from agricultural land to non-agricultural land. The pipeline corridor could convert Prime Farmland and Farmland of Statewide Importance soils to non-agricultural uses.</p> <p>AGR-9 Alt: <i>Potential for Use of Agricultural Land for Staging Areas</i> Under the Point Mugu Shore Crossing/Casper Road Pipeline Alternative, construction activities associated with staging areas could temporarily cause a loss of agricultural land, agricultural soils, crops, or crop production. Agricultural land that is preserved under the Williamson Act could be temporarily converted from agricultural land to non-agricultural land.</p> <p>AGR-10 Alt: <i>Permanent Conversion of Agricultural Land to Non-Agricultural Use</i> Under the Point Mugu Shore Crossing/Casper Road Pipeline Alternative, construction of permanent facilities could cause a permanent loss of agricultural lands, crops, or crop production. Agricultural land that is preserved under the Williamson Act could be permanently converted from agricultural land to non-agricultural land. Prime Farmland and Farmland of Statewide Importance soils could be converted to non-agricultural uses.</p>	<p>MM AGR-1d. Minimize Orchard Tree Removal.</p>	

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	<p>CUMULATIVE: Clearwater Port would have agricultural effects similar to those of the proposed Project. The onshore pipeline would be installed in some agricultural lands, but these areas would only be disturbed temporarily. 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 would have a significant cumulative impact on agricultural soils.</p>		
<p>AGRICULTURE AND SOILS – Operational</p>	<p>PROJECT SPECIFIC: AGR-2: <i>Permanent Conversion of Agricultural Land to Non-Agricultural Use</i> Operational activities could cause a loss of agricultural land, crops, or crop production. Construction of permanent facilities could cause a permanent loss of agricultural land, crops, or crop production. Agricultural land that is preserved under the Williamson Act could be permanently converted from agricultural land to non-agricultural land. Prime Farmland or Farmland of Statewide Importance could be converted to non-agricultural uses.</p> <p>AGR-6: <i>Impacts from a Leak or Fire Associated with the Natural Gas Transmission Line</i> If the natural gas transmission line leaked and/or was ignited, the resulting fire could cause the loss of crops or the contamination of the soil in the vicinity of the leak or fire.</p> <p>AGR-8 Alt: <i>Permanent Conversion of Agricultural Land to Non-Agricultural Use Under the Arnold Road Shore Crossing/Arnold Road Pipeline</i></p>	<p>MM AGR-6a. Restoration After a Natural Gas Transmission Line Accident. The Applicant or its designated representative shall restore the area that was either contaminated or burned as a result of a breach in the natural gas transmission line.</p> <p>MM PS-3c. Areas Subject to Accelerated Corrosion, Cathodic Protection System (see Section 4.2, “Public Safety: Hazards and Risk Analysis”).</p> <p>MM PS-4b. Pipeline Integrity Management Program (see Section 4.2, “Public Safety: Hazards and Risk Analysis”).</p> <p>MM PS-4c. Install Additional Mainline Valves Equipped with Either Remote Valve Controls or Automatic Line Break Controls (see Section 4.2, “Public Safety: Hazards and Risk Analysis”).</p>	<p>Significant</p>

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	<p>Alternative, construction of permanent facilities could cause a permanent loss of agricultural land, crops, or crop production. Agricultural land that is preserved under the Williamson Act could be permanently converted from agricultural land to non-agricultural land. The pipeline corridor could convert Prime Farmland and Farmland of Statewide Importance soils to non-agricultural uses.</p> <p>AGR-10 Alt: <i>Permanent Conversion of Agricultural Land to Non-Agricultural Use</i> Under the Point Mugu Shore Crossing/Casper Road Pipeline Alternative, construction of permanent facilities could cause a permanent loss of agricultural lands, crops, or crop production. Agricultural land that is preserved under the Williamson Act could be permanently converted from agricultural land to non-agricultural land. Prime Farmland and Farmland of Statewide Importance soils could be converted to non-agricultural uses.</p> <p>CUMULATIVE: Clearwater Port would have agricultural effects similar to those of the proposed Project. The onshore pipeline would be installed in some agricultural lands, but these areas would only be disturbed temporarily. 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 would have a significant cumulative impact on agricultural soils.</p>		
AIR QUALITY - Construction	PROJECT SPECIFIC: Impact AIR-1: <i>Net Emission Increases of Criteria</i>	AM AIR-1a. USEPA Nonroad Engine Standards. At a minimum, all onshore construction equipment would utilize engines compliant with USEPA Tier 2	Significant

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	<p><i>Pollutants from Construction Activities in Designated Nonattainment Areas</i></p> <p>Project construction activities in Ventura and Los Angeles Counties would generate emissions that exceed quantitative thresholds for ozone precursors (NO_x and ROCs) and CO.</p> <p>Impact AIR-2: <i>Violations of Ambient Air Quality Standards Causes by Particulate Emissions from Onshore Construction Activities</i></p> <p>Onshore Project construction activities would generate PM₁₀ and PM_{2.5} emissions that could cause or contribute to existing or projected violations of NAAQS and/or State Ambient Air Quality Standards.</p> <p>Impact AIR-3: <i>Violations of Ambient Air Quality Standards, Exposure of the Public to Substantial Pollutant Concentrations, and/or Creation of Objectionable Odors Caused by an Accidental LNG Spill or Pipeline Rupture</i></p> <p>Although rare, an LNG spill from the FSRU or a pipeline rupture would result in a natural gas release and/or a fire that could cause temporary increases in ambient air concentrations of criteria pollutants in excess of air quality standards, expose sensitive receptors and the general public to substantial concentrations of toxic air contaminants, and/or create objectionable odors.</p> <p>Impact AIR-4: Emissions of Ozone Precursors from the FSRU</p> <p>Emissions of NO_x and ROC generated from FSRU and LNG carrier equipment could contribute to ambient ozone impacts in the areas located downwind of the Project.</p> <p>Impact AIR-6: <i>Emissions of Ozone</i></p>	<p>nonroad engine standards. To the extent possible, onshore equipment would utilize engines compliant with USEPA Tier 3 or 4 nonroad engine standards. AM AIR-1b. Offshore Construction Equipment Standards. All vessels (and associated offshore equipment) used during shore crossing construction, offshore pipeline installation, and mooring/FSRU installation, would utilize only engines that emit CO, PM, NO_x, and ROC at rates less than or equal to USEPA Tier 1 nonroad engine standards (as outlined in 40 CFR 89.112, Table 1).</p> <p>AM AIR-1c. Ultra Low Sulfur Diesel. All Project operational vessels (including LNG carrier, tugs, and crew boat), FSRU equipment, and construction vessels and equipment would be fueled with ultra low sulfur diesel (less than 15 parts per million sulfur). This is consistent with California regulations (starting January 2007) that require that the sulfur content of all vehicular diesel fuel and non-vehicular diesel fuel supplied in California (including fuel for locomotives and harborcraft) not exceed 15 parts per million by weight. As it is anticipated that some of the operational and construction vessels/equipment would be transported from outside of California, this measure applies to vessels regardless of place of origin.</p> <p>MM AIR-1d. Gasoline-Fueled Equipment. The Applicant or its designated representative shall use only gasoline-fueled equipment that meets the exhaust emission standards for CO and NO_x (as listed for engine displacements greater than 1.0 liter) outlined in 13 CCR § 2433: Exhaust Emission Standards and Test Procedures – Off-Road Large Spark-Ignition Engines.</p> <p>MM AIR-1e. USEPA Tier 3 Nonroad Engine Standards. All onshore construction equipment with a rating between 100 and 750 hp would be required to utilize engines compliant with USEPA Tier 3 nonroad engine standards.</p> <p>MM AIR-1f. Construction Emissions Reduction Plan. The Applicant shall prepare a Construction Emissions Reduction Plan to be incorporated into all contracts and contract specifications for construction work. This plan shall specify all Applicant measures and mitigation measures related to construction equipment emission standards/controls as contractual requirements. The plan shall also outline additional specific measures, as contractual requirements, to reduce or eliminate potential impacts associated with construction-related emissions of criteria air pollutants and toxic air contaminants. At a minimum, the plan shall include the following additional specific measures: • As feasible, reduce emissions of diesel particulate matter (DPM) and other pollutants by using alternative clean fuel technology such as electric, hydrogen fuel cells, and propane-powered equipment or compressed natural gas-powered equipment with oxidation catalysts instead of gasoline- or diesel-powered engines. • Ensure that all construction equipment is properly tuned and maintained and shut off when not in direct use; • Prohibit engine tampering to increase horsepower; • Locate engines, motors, and equipment as far as possible from residential areas and at least 300 feet (91 m) from sensitive receptors, such as schools, daycare centers, and hospitals (Note: the proposed pipeline routes would not pass within 300 feet [91 m] of any sensitive receptor locations); • Provide</p>	

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	<p><i>Precursors from Project Construction Activities in Federal Waters</i> Project construction activities in Federal waters would generate emissions of NO_x and ROCs that could contribute to ambient ozone impacts in the areas located downwind of the Project.</p> <p>Impact AIR-7: Temporary Ambient Air Quality Impacts Caused by Criteria Pollutant Emissions from Onshore and Offshore Construction Activities Air pollutants emitted during onshore and offshore Project construction activities would cause temporary increases in ambient pollutant concentrations.</p> <p>Impact AIR-9: Temporary Ambient Air Quality Impacts Caused by Air Toxic Pollutant Emissions from Onshore and Offshore Construction Activities Air toxic pollutants emitted during onshore and offshore Project construction activities would cause temporary increases in ambient pollutant concentrations.</p> <p>CUMULATIVE: Potentially significant cumulative regional air quality impacts due to the Clearwater Port and OceanWay facilities and the Project can be expected; however, these cumulative impacts are difficult to determine because an air analysis comparable to that done for the proposed Project has not been performed for the Clearwater Port and OceanWay projects. The Project would generate emissions of greenhouse gases that would be insignificant alone, but could exacerbate, in combination with existing greenhouse gases, global warming effects.</p>	<p>carpool shuttles and vans to transport construction workers to and from construction sites, thus eliminating some private vehicle trips; • Arrange for food catering trucks to visit each Project site twice a day; • Reduce construction-related trips of workers and equipment, including trucks; and • Require that on-road vehicles be less than 10 years old. Prior to finalization of the plan, the Applicant shall also consult with the VCAPCD and SCAQMD to identify other potential control measures not specified above. The Applicant or its designated representative shall submit this plan and related construction contract specifications to the California State Lands Commission (CSLC), USEPA, and to the extent applicable under local rules and regulations, VCAPCD and SCAQMD, prior to construction activities. MM AIR-1g. Construction Equipment Documentation. The Applicant or its designated representative shall prepare and maintain documentation that demonstrates implementation of the Applicant's proposed emission reduction measures and required mitigation measures. The following documents and/or files shall be submitted to the CSLC, USEPA, and to the extent applicable under local rules and regulations, VCAPCD and SCAQMD: • Inventory of all equipment and vessels used during each onshore and offshore construction activity. At a minimum, this inventory shall include an equipment description, equipment identification, identification of type of engine(s), and engine emission data; and • Documentation certifying that the actual emission rates for the engine(s) of each equipment and vessel used during construction comply with mitigation measures and applicant measures as required. This documentation shall include USEPA or CARB certification of engine emissions, source testing results for specific engines, or an equivalent means of certifying emission rates of NO_x, CO, ROC, and PM₁₀ from this equipment.</p> <p>AM AIR-2a. Fugitive Dust Controls. The Applicant or its designated representative would provide for the following control measures: • Excavation and spoils would be watered down; • Spoil piles that remain more than a few weeks would be covered with tarps; • Water trucks would be used for dust suppression; and • Disturbed areas not covered with surface structures, such as buildings and pavements, would be stabilized following construction activities. This stabilization may involve planting these areas with suitable vegetation to minimize future on-site soil loss and off-site sedimentation. MM AIR-2b. Construction Fugitive Dust Plan. The Applicant or its designated representative shall be required to develop, and submit to the VCAPCD and the SCAQMD for approval, a Construction Fugitive Dust Control Plan prior to the commencement of construction activities. The plan shall be incorporated into all contracts and contract specifications for construction work. At a minimum, the control measures specified in the plan shall include Applicant measures and conform to all applicable requirements of SCAQMD Rule 403 (as listed for large construction operations) in both Ventura and Los Angeles counties. The plan shall outline the steps to be taken to minimize fugitive dust generated by construction activities by: • Describing each active</p>	

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		<p>operation(s) that may result in the generation of fugitive dust; • Identifying all sources of fugitive dust, e.g., earth moving, storage piles, vehicular traffic; and • Describing the control measures to be applied to each of the sources of dust emissions identified above. The descriptions shall be sufficiently detailed to demonstrate that the best available control measure(s) required by the SCAQMD and the VCAPCD for linear projects will be used and/or installed during all periods of active operations. • Stipulating the use of the following control measures, in addition to or as listed in SCAQMD Rule 403, such as, but not limited to: -Use of street sweeping and trackout devices at all construction sites. -Frequent watering or stabilization of excavation, spoils, access roads, storage piles, and other sources of fugitive dust. -Installing temporary coverings on storage piles when not in use. -Pre-watering of soils prior to trenching. -Dedicating water truck or high capacity hose to any soil screening operations.</p> <p>-Minimizing drop height of material through screening equipment. MM AIR-1e. USEPA Tier 3 Nonroad Engine Standards. MM AIR-1f. Construction Emissions Reduction Plan. MM AIR-1g. Construction Equipment Documentation.</p> <p>AM PS-3a. More Stringent Pipeline Design (see Section 4.2, “Public Safety: Hazards and Risk Analysis”).</p> <p>AM PS-4a. Class 3 Pipeline Design Criteria (see Section 4.2, “Public Safety: Hazards and Risk Analysis”).</p> <p>MM PS-3c. Areas Subject to Accelerated Corrosion, Cathodic Protection System (see Section 4.2, “Public Safety: Hazards and Risk Analysis”).</p> <p>MM PS-4c. Install Additional Mainline Valves Equipped with Either Remote Valve Controls or Automatic Line Break Controls (see Section 4.2, “Public Safety: Hazards and Risk Analysis”).</p> <p>MM PS-4d. Treat Shore Crossing as Pipeline HCA (see Section 4.2, “Public Safety: Hazards and Risk Analysis”).</p> <p>MM PS-4e. Safety Marker Indicating the Presence of Buried Natural Gas Pipeline at Ormond Beach (see Section 4.2, “Public Safety: Hazards and Risk Analysis”).</p> <p>MM PS-4f. Emergency Response (see Section 4.2, “Public Safety: Hazards and Risk Analysis”).</p> <p>MM PS-5a. Treat Manufactured Home Residential Community as a High Consequence Area (see Section 4.2, “Public Safety: Hazards and Risk Analysis”).</p> <p>AM AIR-4a. Emissions Reduction Programs. As part of air permit-to-construct application procedures, the Applicant has committed to the USEPA to achieve emissions reductions (in addition to reductions inherent to the Project) to an amount equal to the FSRU's annual NOx emissions. The Applicant has executed contracts</p>	

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		<p>to retrofit two marine vessels (long haul tugs) by replacing the propulsion engines of each vessel with modern low emitting engines (Tier 2 compliant diesel-fired engines). At the request of the USEPA and the CARB, the Applicant conducted source testing to assist in determining the emission reductions expected as a result of the retrofits. The Applicant estimated that the repowering of two tugs could result in emission reductions of approximately 165.5 tons per year of NOx. In a memorandum from the CARB to the CSLC dated February 9, 2007, the CARB outlined the apportionment of the estimated NOx emission reductions based on the anticipated tug operations within the following regions:</p> <table><tr><td colspan="2"><i>Emission Reductions Local Air District (tons per year)</i></td></tr><tr><td>SCAQMD</td><td>47.4</td></tr><tr><td>VCAPCD</td><td>16.8</td></tr><tr><td>Santa Barbara County APCD</td><td>35.6</td></tr><tr><td>San Luis Obispo County APCD</td><td>15.2</td></tr><tr><td>Monterey Bay Unified APCD</td><td>25.4</td></tr><tr><td>Bay Area AQMD</td><td>25.1</td></tr><tr><td>TOTAL</td><td>165.5</td></tr></table> <p>The CARB reviewed the methodology used to calculate the estimated emission reductions and found it to be reasonable. However, the CARB indicated that, “there is not yet a consensus on the estimated emission reductions from the mitigation proposal and that the USEPA’s estimates are less than those presented here.” (Fletcher 2007). A copy of the CARB memorandum is provided as Appendix G9. The USEPA conducted its own review of the retrofit projects; based on the information submitted by the Applicant, the USEPA determined that the following emission reductions can be expected along the routes traveled by the tugs:</p> <table><tr><td colspan="2"><i>Emission Reductions Local Air District (tons per year)</i></td></tr><tr><td>SCAQMD</td><td>3.15</td></tr><tr><td>VCAPCD</td><td>1.47</td></tr><tr><td>Santa Barbara County APCD</td><td>5.11</td></tr><tr><td>San Luis Obispo County APCD</td><td>0.84</td></tr><tr><td>Monterey Bay Unified APCD</td><td>8.09</td></tr><tr><td>Bay Area AQMD</td><td>7.99</td></tr><tr><td>TOTAL</td><td>16.65</td></tr></table> <p>Thus, the USEPA’s estimate for NOx reductions (116.65 tons per year) is less than the Applicant’s estimate of NOx reductions (165.5 tons per year) by a value of 48.85 tons per year. Further, the CARB staff question the appropriateness of counting the emission reductions in the Bay Area since these reductions would likely not benefit the regions where the Project is located. Excluding the Bay Area emissions would reduce the amount of emission reductions by 25.1 tons per year based on estimates</p>	<i>Emission Reductions Local Air District (tons per year)</i>		SCAQMD	47.4	VCAPCD	16.8	Santa Barbara County APCD	35.6	San Luis Obispo County APCD	15.2	Monterey Bay Unified APCD	25.4	Bay Area AQMD	25.1	TOTAL	165.5	<i>Emission Reductions Local Air District (tons per year)</i>		SCAQMD	3.15	VCAPCD	1.47	Santa Barbara County APCD	5.11	San Luis Obispo County APCD	0.84	Monterey Bay Unified APCD	8.09	Bay Area AQMD	7.99	TOTAL	16.65	
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Environmental Topic	Impact(s)	Mitigation	Conclusion																
		from the Applicant (or 17.99 tons per year based on estimates from the USEPA). MM AIR-1f. Construction Emissions Reduction Plan. MM AIR-1g. Construction Equipment Documentation. MM AIR-1f. Construction Emissions Reduction Plan. MM AIR-1g. Construction Equipment Documentation. MM AIR-1e. USEPA Tier 3 Nonroad Engine Standards. MM AIR-1f. Construction Emissions Reduction Plan. MM AIR-1g. Construction Equipment Documentation.																	
AIR QUALITY – Operational	<p>PROJECT SPECIFIC: Impact AIR-3: <i>Violations of Ambient Air Quality Standards, Exposure of the Public to Substantial Pollutant Concentrations, and/or Creation of Objectionable Odors Caused by an Accidental LNG Spill or Pipeline Rupture</i></p> <p>Although rare, an LNG spill from the FSRU or a pipeline rupture would result in a natural gas release and/or a fire that could cause temporary increases in ambient air concentrations of criteria pollutants in excess of air quality standards, expose sensitive receptors and the general public to substantial concentrations of toxic air contaminants, and/or create objectionable odors.</p> <p>Impact AIR-4: Emissions of Ozone Precursors from the FSRU</p> <p>Emissions of NOx and ROC generated from FSRU and LNG carrier equipment could contribute to ambient ozone impacts in the areas located downwind of the Project.</p> <p>Impact AIR-5: <i>Emissions of Ozone Precursors from Project Vessels Operating in California Coastal Waters</i></p> <p>Emissions of NOx and ROC generated from LNG carriers, tugboats, and the crew/supply boat operating in</p>	<p>MM PS-4d. Treat Shore Crossing as Pipeline HCA (see Section 4.2, “Public Safety: Hazards and Risk Analysis”).</p> <p>MM PS-4e. Safety Marker Indicating the Presence of Buried Natural Gas Pipeline at Ormond Beach (see Section 4.2, “Public Safety: Hazards and Risk Analysis”).</p> <p>MM PS-4f. Emergency Response (see Section 4.2, “Public Safety: Hazards and Risk Analysis”).</p> <p>MM PS-5a. Treat Manufactured Home Residential Community as a High Consequence Area (see Section 4.2, “Public Safety: Hazards and Risk Analysis”).</p> <p>AM AIR-4a. Emissions Reduction Programs. As part of air permit-to-construct application procedures, the Applicant has committed to the USEPA to achieve emissions reductions (in addition to reductions inherent to the Project) to an amount equal to the FSRU’s annual NOx emissions. The Applicant has executed contracts to retrofit two marine vessels (long haul tugs) by replacing the propulsion engines of each vessel with modern low emitting engines (Tier 2 compliant diesel-fired engines). At the request of the USEPA and the CARB, the Applicant conducted source testing to assist in determining the emission reductions expected as a result of the retrofits. The Applicant estimated that the repowering of two tugs could result in emission reductions of approximately 165.5 tons per year of NOx. In a memorandum from the CARB to the CSLC dated February 9, 2007, the CARB outlined the apportionment of the estimated NOx emission reductions based on the anticipated tug operations within the following regions:</p> <table><tr><th colspan="2"><i>Emission Reductions Local Air District (tons per year)</i></th></tr><tr><td>SCAQMD</td><td>47.4</td></tr><tr><td>VCAPCD</td><td>16.8</td></tr><tr><td>Santa Barbara County APCD</td><td>35.6</td></tr><tr><td>San Luis Obispo County APCD</td><td>15.2</td></tr><tr><td>Monterey Bay Unified APCD</td><td>25.4</td></tr><tr><td>Bay Area AQMD</td><td>25.1</td></tr><tr><td>TOTAL</td><td>165.5</td></tr></table>	<i>Emission Reductions Local Air District (tons per year)</i>		SCAQMD	47.4	VCAPCD	16.8	Santa Barbara County APCD	35.6	San Luis Obispo County APCD	15.2	Monterey Bay Unified APCD	25.4	Bay Area AQMD	25.1	TOTAL	165.5	Significant
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Environmental Topic	Impact(s)	Mitigation	Conclusion																
	<p>California Coastal Waters could contribute to ambient ozone impacts in the areas located downwind of the Project.</p> <p>Impact AIR-8: Ambient Air Quality Impacts Caused by Air Pollutant Emissions from the FSRU and Project Vessels Air pollutants emitted from FSRU equipment and Project vessels associated with operations would cause increases in ambient pollutant concentrations.</p> <p>CUMULATIVE: Potentially significant cumulative regional air quality impacts due to the Clearwater Port and OceanWay facilities and the Project can be expected; however, these cumulative impacts are difficult to determine because an air analysis comparable to that done for the proposed Project has not been performed for the Clearwater Port and OceanWay projects. The Project would generate emissions of greenhouse gases that would be insignificant alone, but could exacerbate, in combination with existing greenhouse gases, global warming effects.</p>	<p>The CARB reviewed the methodology used to calculate the estimated emission reductions and found it to be reasonable. However, the CARB indicated that, “there is not yet a consensus on the estimated emission reductions from the mitigation proposal and that the USEPA’s estimates are less than those presented here.” (Fletcher 2007). A copy of the CARB memorandum is provided as Appendix G9. The USEPA conducted its own review of the retrofit projects; based on the information submitted by the Applicant, the USEPA determined that the following emission reductions can be expected along the routes traveled by the tugs:</p> <table><tr><td colspan="2"><i>Emission Reductions Local Air District (tons per year)</i></td></tr><tr><td>SCAQMD</td><td>3.15</td></tr><tr><td>VCAPCD</td><td>1.47</td></tr><tr><td>Santa Barbara County APCD</td><td>5.11</td></tr><tr><td>San Luis Obispo County APCD</td><td>0.84</td></tr><tr><td>Monterey Bay Unified APCD</td><td>8.09</td></tr><tr><td>Bay Area AQMD</td><td>7.99</td></tr><tr><td>TOTAL</td><td>16.65</td></tr></table> <p>Thus, the USEPA’s estimate for NOx reductions (116.65 tons per year) is less than the Applicant’s estimate of NOx reductions (165.5 tons per year) by a value of 48.85 tons per year. Further, the CARB staff question the appropriateness of counting the emission reductions in the Bay Area since these reductions would likely not benefit the regions where the Project is located. Excluding the Bay Area emissions would reduce the amount of emission reductions by 25.1 tons per year based on estimates from the Applicant (or 17.99 tons per year based on estimates from the USEPA).</p> <p>AM AIR-5a. Natural Gas on LNG Carriers. The Applicant would use natural gas as the primary fuel in LNG carrier engines, whenever these vessels are berthed at the FSRU and/or operating within California Coastal Waters. A small amount of ultra low sulfur diesel would be used simultaneously as a pilot fuel in LNG carrier engines resulting in a fuel mixture with a natural gas-to-diesel ratio of approximately 99 to 1. All LNG carriers that deliver LNG to the FSRU would be powered exclusively by Wartsila 50DF series dual-fuel electric engines or equivalent dual-fuel electric engines.</p> <p>AM AIR-5b. Control Equipment on Support Vessels. The Applicant would use ultra low sulfur diesel as the fuel in the engines on the tugboats and crew/supply boat. The diesel engines on these vessels would be fitted with pollution control equipment including SCR, oxidation catalysts, and particulate filters to reduce emissions. The Applicant assumed a NOx control efficiency of 80 percent in developing its emission inventories. The Applicant also expects CO and ROC reductions of 70 percent and 40 percent, respectively. The use of this control equipment would result in emissions comparable to or less than emissions from</p>	<i>Emission Reductions Local Air District (tons per year)</i>		SCAQMD	3.15	VCAPCD	1.47	Santa Barbara County APCD	5.11	San Luis Obispo County APCD	0.84	Monterey Bay Unified APCD	8.09	Bay Area AQMD	7.99	TOTAL	16.65	
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Environmental Topic	Impact(s)	Mitigation	Conclusion
		<p>natural gas-fueled engines.</p> <p>MM AIR-5c. Documentation of Engine Specifications. The Applicant shall prepare and maintain documentation that demonstrates implementation of the Applicant's emission reduction measures. The following documents and/or files shall be submitted to the USCG, CSLC, and CARB:</p> <ul style="list-style-type: none"> • Final design documents for the Project crew/supply boat and tug engines, including engine specifications, air pollution control equipment specifications, and associated manufacturer/vendor emission data. • Documentation certifying that the actual emission rates for the Project crew/supply boat and tug engines are less than or equal to the "controlled" emission rates, in grams per kilowatt-hour, reported for these vessels and documented in Appendix G2. This documentation shall include a report summarizing emission testing of the newly constructed Project crew/supply boat and tug engines for NOx, CO, ROC, and PM10. • Contract documents between the Applicant or its designated representative and LNG carrier operators that specify that all LNG carriers are powered exclusively by Wartsila 50DF series dual-fuel electric engines or equivalent dual-fuel electric engines. • Equivalent air emission rates will be defined in grams per kilowatt-hour. Documentation of all LNG carriers that berth at the FSRU, which at a minimum, will include the vessel name, country of origin, engine power plant description, diesel specifications, and emission certifications. <p>None.</p>	
MARINE BIOLOGY - Construction	<p>PROJECT SPECIFIC: Impact BioMar-1: <i>Burial of Sessile Marine Biota</i> Construction activities associated with pipeline and mooring installation could temporarily disturb soft substrate sediments and could bury or crush sessile marine biota such as benthic invertebrates.</p> <p>Impact BioMar-2: <i>Temporary Avoidance of the Area Due to Increased Turbidity from Construction Activities Offshore or Accidental HDB Release of Drilling Fluids</i> A release of drilling fluids and bentonite into the subtidal environment during HDB could temporarily increase turbidity. Increases in turbidity at the offshore exit point could cause fish to avoid this area.</p> <p>Impact BioMar-3: <i>Temporary or Permanent Alteration or Disturbance of</i></p>	<p>MM WAT-3a. Drilling Fluid Release Monitoring Plan (see Section 4.18, "Water Quality and Sediments," and Appendix D1).</p> <p>AM BioMar-3a. Construction/Operations Lighting Control. A plan would be developed in consultation with a marine bird expert and submitted for approval by the USCG and the CSLC at least 60 days prior to construction.</p> <p>AM NOI-4a. Construction Noise Reduction Measures (see Section 4.14, "Noise and Vibration").</p> <p>MM BioMar-3b. Monitoring. If intertidal beach work occurs between February and September, the Applicant shall ensure that a qualified biologist will monitor the beach within 100 feet (30.5 m) of the route during the two weeks prior to installation. If a grunion spawning event occurs during the two weeks prior to construction activities, installation will be delayed until the grunion eggs have hatched. A qualified biologist shall determine the day in which construction can begin again after the spawning event.</p> <p>MM BioMar-3c. Avoidance. The Applicant shall ensure that any unexpected hard bottom habitats encountered during construction will be avoided.</p> <p>MM NOI-1a. Efficient Equipment Usage (see Section 4.14, "Noise and Vibration").</p> <p>AM BioMar-9a. Avoid Offshore Construction during Gray Whale Migration Season.</p>	Significant

Environmental Topic	Impact(s)	Mitigation	Conclusion
	<p><i>Marine Biota or Sensitive Habitats, including EFH Construction and/or operational activities could affect marine biota or alter EFH or sensitive habitats (beach spawning areas or hard bottom substrate), resulting in cessation or reduction of feeding or reproduction, area avoidance, or changes in migration patterns for both non-threatened and endangered and special status species.</i></p> <p>Impact BioMar-4: <i>Construction or Operation Vessels Act as an Attractive Nuisance or Disrupt Marine Mammal Behavior or Migrations</i> Construction or operational activities could alter sensitive habitats such that marine mammal reproduction could be reduced, prey species could be eliminated, or animals might avoid an area.</p> <p>Impact BioMar-5: <i>Noise Disrupting Marine Mammal Behavior</i> Noise from construction and operation vessels or equipment could disrupt migrations; interfere with or mask communications, prey and predator detection, and/or navigation; cause adverse behavioral changes; or result in temporary or permanent hearing loss.</p> <p>Impact BioMar-9: <i>Collision between Project Vessels and Marine Mammals or Sea Turtles</i> Construction and operational vessels could collide with marine mammals or sea turtles or other special status species resting on the ocean surface, resulting in injury or mortality.</p> <p>Impact BioMar-10: <i>Entanglement of Marine Mammals, Sea Turtles, and Other Special Status Species</i> Marine mammals or sea turtles or other special status species could become entangled</p>	<p>M BioMar-9b. Marine Mammal Monitoring.</p> <p>MM BioMar-5a. Noise Reduction Design. The Applicant shall work with marine architects, acoustic experts and mechanical engineers and the USCG, among others, to design the FSRU and its equipment to reduce, to the maximum extent feasible, the output of cumulative noise from the facility.</p> <p>MM BioMar-5b. Acoustic Monitoring Plan. The Applicant shall prepare an acoustic monitoring plan to obtain site-specific baseline data and empirical data prior to and during LNG operations.</p> <p>MM BioMar-5c. Helicopter Altitude. The Applicant shall ensure that helicopters maintain a flight altitude of at least 2,500 feet (762 m), except during takeoff and landing.</p> <p>MM NOI-1a. Efficient Equipment Usage (see Section 4.14, “Noise and Vibration”).</p> <p>AM BioMar-9a. Avoid Offshore Construction During Gray Whale Migration Season. The Applicant would conduct offshore construction activities outside the gray whale migration season (June 1 through November 30).</p> <p>AM BioMar-9b. Marine Mammal Monitoring. All construction vessels would carry two qualified marine monitors and all operational vessels would carry one qualified marine monitor to provide a 360-degree view and watch for and alert vessel crews of the presence of marine mammals and sea turtles during construction activities.</p> <p>AM BioMar-9b. Marine Mammal Monitoring.</p> <p>MM BioMar-10a. Deployment of Potentially Entangling Material. The Applicant shall ensure that the vessel operator deploys material that has the potential for entangling marine mammals or sea turtles only as long as necessary to perform its task, and then immediately removes such material from the Project site.</p> <p>MM BioMar-10b. Notification. In the unlikely event that a marine mammal or sea turtle is entangled, the Applicant shall require the vessel operator to immediately notify the stranding coordinator at NOAA Fisheries in Long Beach and the Santa Barbara Marine Mammal Center so that a rescue effort may be initiated.</p> <p>AM TerrBio-1a. Erosion Control. To minimize sedimentation, the Applicant or its designated representative would implement erosion control measures during construction.</p> <p>MM TerrBio-1b. Spill Containment/Management. The Applicant or its designated representative shall implement measures to control and manage spills.</p> <p>MM WAT-3a. Drilling Fluid Release Monitoring Plan (see Section 4.18, “Water Quality and Sediments”).</p> <p>MM WAT-4a. Strategic Location for Drilling Fluids and Cuttings Pit (see Section 4.18, “Water Quality and Sediments”).</p> <p>AM TerrBio-2a. Additional Pre-Construction Plant Surveys. The Applicant or its designated representative would conduct additional pre-construction surveys to further define the location of special status species identified during the spring and summer 2005 surveys. The surveys would be conducted according to survey protocols established by the USFWS or the CDFG.</p>	

Environmental Topic	Impact(s)	Mitigation	Conclusion
	<p>in construction or operation equipment, causing injury or mortality.</p> <p>Impact BioMar-11: Discharge of Ballast Water Potentially Containing Exotic Species A release of ballast water containing exotic species could introduce exotic species that directly compete with native organisms, affecting the viability of native species, including special status species.</p> <p>Impact BioMar-12: Increase/Decrease in Fish Abundance or Commercially Important Benthic Species Commercially important fish species could potentially avoid the Project site due to increased human activity and Project-related noise. Additionally, fish and other benthic species could be attracted to the low relief habitat provided by the subsea pipeline, decreasing abundance in other heavily fished areas.</p> <p>Impact TerrBio-1: Temporary Increase in Sedimentation Construction activities could cause a temporary increase in sedimentation and soil erosion and expose contaminated soils during trenching activities, which could cover or damage plants, including special status species. The HDB procedures to install the pipelines beneath Ormond Beach may present remote potential for drilling fluid seepage. These construction methods could cause habitat degradation for sensitive and special status plant species or wetlands.</p> <p>Impact TerrBio-2: Temporary or Permanent Impacts Regarding Construction, Operation, and Maintenance Effects on Rare and Special Status Plants Upland vegetation</p>	<p>AM TerrBio-2b. Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP). Surveys would be conducted within any areas potentially impacted by Project activities during construction or operation where special status species potentially occur. Results of the surveys would be used to develop a BRMIMP, which the Applicant would implement.</p> <p>AM TerrBio-2c. Employee Environmental Awareness Program (EEAP). The Applicant or its designated representative would conduct an employee awareness program before groundbreaking to explain the applicable endangered species laws and any endangered species concerns to contractors working in the area. The EEAP would also include: trash removal, policies regarding habitat protection measures, traffic management and site safety.</p> <p>AM TerrBio-2d. Biological Monitoring. The Applicant or its designated representative would use a qualified biological monitor to conduct the EEAP program and on-site biological monitoring.</p> <p>AM TerrBio-2e. Confine Activity to Identified Right-of-Way (ROW). The Applicant or its designated representative would limit all proposed roadway construction to the existing roadway surface wherever special status plant species or habitats occur adjacent to the roadway.</p> <p>MM TerrBio-2f. Riparian Avoidance and Restoration. The Applicant or its designated representative shall avoid, minimize, and compensate for impacts on riparian habitat during construction due to trenching or open cut crossings of waters of the United States.</p> <p>MM TerrBio-2g. Tree Avoidance and Replacement. The Applicant or its designated representative shall, to the extent possible, avoid, minimize, and compensate for impacts on trees.</p> <p>AM WAT-6b. Spill Response Plan. The Applicant or its designated representative would prepare a spill response plan to protect surface water at and near the surface water crossings. This plan would be incorporated into the SWPPP as a requirement of the construction storm water NPDES permit and the SPCC Plan. The plan would identify specific measures to prevent, contain, and clean up any spills that could enter surface water pathways.</p> <p>MM TerrBio-3a. Avoid, Minimize, or Reduce Impacts on Wetlands. Impacts on wetlands or waters of the United States shall be avoided, minimized, or reduced.</p> <p>MM TerrBio-2f. Riparian Avoidance and Restoration.</p> <p>AM TerrBio-4a. Weed Management. The Applicant or its designated representative would implement measures to prevent the spread of invasive weeds.</p> <p>AM TerrBio-2c. Employee Environmental Awareness Program (EEAP).</p> <p>AM TerrBio-2d. Biological Monitoring.</p> <p>MM TerrBio-5a. Pre-Construction Wildlife Surveys. To minimize the potential for causing mortality of local wildlife, the Applicant or its designated representative shall engage a qualified wildlife biologist to conduct additional pre-construction surveys in advance of any vegetation clearing, or excavation or other activity that</p>	

Environmental Topic	Impact(s)	Mitigation	Conclusion
	<p>removal during onshore pipeline construction, maintenance, and repair activities could result in the loss of special status plants.</p> <p>Impact TerrBio-3: <i>Temporary or Permanent Changes to Wetlands or Waters of the United States during Construction</i> Construction (such as trenching) in wetlands or waters of the United States could remove vegetation, including special status species, disrupt the hydrology of the wetlands within and adjacent to the construction area, or alter the habitat for special status plant species.</p> <p>Impact TerrBio-4: <i>Permanent Impact Caused by Noxious Weed Invasion</i> Construction-related disturbance could provide an opportunity and seedbed for the invasion of weeds, which could adversely affect special status plant species or habitats and upland vegetation.</p> <p>Impact TerrBio-5: <i>Direct Permanent Impact on Wildlife Mortality</i> Construction activities associated with pipeline installation, staging areas, HDD or HDB locations, and access roads could cause the mortality of small mammals, reptiles, and other less-mobile species. Direct mortality could also be associated with increased human activity, particularly involving wildlife habitat removal and animal/vehicle collisions.</p> <p>CUMULATIVE: 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</p>	<p>causes disturbance to surface soils.</p>	

Environmental Topic	Impact(s)	Mitigation	Conclusion
	mammals would be the same as for the proposed offshore pipeline route.		
MARINE BIOLOGY – Operational	<p>PROJECT SPECIFIC: Impact BioMar-3: <i>Temporary or Permanent Alteration or Disturbance of Marine Biota or Sensitive Habitats, including EFH</i> Construction and/or operational activities could affect marine biota or alter EFH or sensitive habitats (beach spawning areas or hard bottom substrate), resulting in cessation or reduction of feeding or reproduction, area avoidance, or changes in migration patterns for both non-threatened and endangered and special status species.</p> <p>Impact BioMar-4: <i>Construction or Operation Vessels Act as an Attractive Nuisance or Disrupt Marine Mammal Behavior or Migrations</i> Construction or operational activities could alter sensitive habitats such that marine mammal reproduction could be reduced, prey species could be eliminated, or animals might avoid an area.</p> <p>Impact BioMar-5: <i>Noise Disrupting Marine Mammal Behavior</i> Noise from construction and operation vessels or equipment could disrupt migrations; interfere with or mask communications, prey and predator detection, and/or navigation; cause adverse behavioral changes; or result in temporary or permanent hearing loss.</p> <p>Impact BioMar-6: <i>Mortality and Morbidity of Marine Biota from Spills</i> Although rare, an accidental release of a significant amount of oil or fuel during construction or operation, or LNG spills or a natural gas leak from subsea pipelines, could cause morbidity or mortality of marine biota, including</p>	<p>AM NOI-4a. Construction Noise Reduction Measures (see Section 4.14, “Noise and Vibration”).</p> <p>MM BioMar-3b. Monitoring. If intertidal beach work occurs between February and September, the Applicant shall ensure that a qualified biologist will monitor the beach within 100 feet (30.5 m) of the route during the two weeks prior to installation. If a grunion spawning event occurs during the two weeks prior to construction activities, installation will be delayed until the grunion eggs have hatched. A qualified biologist shall determine the day in which construction can begin again after the spawning event.</p> <p>MM NOI-1a. Efficient Equipment Usage (see Section 4.14, “Noise and Vibration”). None.</p> <p>M BioMar-9b. Marine Mammal Monitoring.</p> <p>MM BioMar-5b. Acoustic Monitoring Plan. The Applicant shall prepare an acoustic monitoring plan to obtain site-specific baseline data and empirical data prior to and during LNG operations.</p> <p>MM BioMar-5c. Helicopter Altitude. The Applicant shall ensure that helicopters maintain a flight altitude of at least 2,500 feet (762 m), except during takeoff and landing.</p> <p>MM NOI-1a. Efficient Equipment Usage (see Section 4.14, “Noise and Vibration”).</p> <p>AM PS-1a. Applicant Engineering and Project Execution</p> <p>AM PS-1c. Periodic Inspections and Surveys by Classification Societies (see Section 4.2, “Public Safety: Hazards and Risk Analysis”).</p> <p>AM MT-3a. Patrol Safety Zone (see Section 4.3, “Marine Traffic”).</p> <p>MM PS-1e. Cargo Tank Fire Survivability (see Section 4.2, “Public Safety: Hazards and Risk Analysis”).</p> <p>MM PS-1f. Structural Component Exposure to Temperature Extremes (see Section 4.2, “Public Safety: Hazards and Risk Analysis”).</p> <p>MM PS-1g. Pre- and Post-Operational HAZOPs (see Section 4.2, “Public Safety: Hazards and Risk Analysis”). None.</p> <p>AM PS-1c. Periodic Inspections and Surveys by Classification Societies (see Section 4.2, “Public Safety: Hazards and Risk Analysis”).</p> <p>AM MT-3a. Patrol Safety Zone (see Section 4.3, “Marine Traffic”).</p> <p>MM PS-1e. Cargo Tank Fire Survivability (see Section 4.2, “Public Safety: Hazards and Risk Analysis”).</p> <p>MM PS-1f. Structural Component Exposure to Temperature Extremes (see Section 4.2, “Public Safety: Hazards and Risk Analysis”).</p> <p>MM PS-1g. Pre- and Post-Operational HAZOPs (see Section 4.2, “Public Safety:</p>	Significant

Environmental Topic	Impact(s)	Mitigation	Conclusion
	<p>fish, invertebrates, seabirds, and special status species such as sea turtles, through direct contact or ingestion of the material.</p> <p>Impact BioMar-7: Discharge of Bilge Water, Gray Water, and Deck Runoff An accidental discharge of untreated bilge water, gray water, or deck runoff from the FSRU or from the LNG carriers could result in the release of contaminants into the marine environment. A release of contaminants could cause mortality or morbidity of fish and/or benthic communities, and would have the potential to adversely affect special status species.</p> <p>Impact BioMar-8: Release of LNG, Natural Gas, Fuel, or Oil Causes Injury or Mortality of Marine Mammals A release of LNG, natural gas, fuel, or oil could cause injury or mortality of marine mammals through direct contact or ingestion of the material, and would have the potential to adversely affect special status species.</p> <p>Impact BioMar-9: Collision between Project Vessels and Marine Mammals or Sea Turtles Construction and operational vessels could collide with marine mammals or sea turtles or other special status species resting on the ocean surface, resulting in injury or mortality.</p> <p>Impact BioMar-10: Entanglement of Marine Mammals, Sea Turtles, and Other Special Status Species Marine mammals or sea turtles or other special status species could become entangled in construction or operation equipment, causing injury or mortality.</p> <p>Impact BioMar-11: Discharge of</p>	<p>Hazards and Risk Analysis”).</p> <p>MM MT-3f. Live Radar and Visual Watch (see Section 4.3, “Marine Traffic”).</p> <p>AM BioMar-9b. Marine Mammal Monitoring. All construction vessels would carry two qualified marine monitors and all operational vessels would carry one qualified marine monitor to provide a 360-degree view and watch for and alert vessel crews of the presence of marine mammals and sea turtles during construction activities.</p> <p>AM BioMar-9b. Marine Mammal Monitoring.</p> <p>MM BioMar-10a. Deployment of Potentially Entangling Material. The Applicant shall ensure that the vessel operator deploys material that has the potential for entangling marine mammals or sea turtles only as long as necessary to perform its task, and then immediately removes such material from the Project site.</p> <p>MM BioMar-10b. Notification. In the unlikely event that a marine mammal or sea turtle is entangled, the Applicant shall require the vessel operator to immediately notify the stranding coordinator at NOAA Fisheries in Long Beach and the Santa Barbara Marine Mammal Center so that a rescue effort may be initiated.</p> <p>None.</p> <p>None.</p> <p>AM TerrBio-2b. Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP). Surveys would be conducted within any areas potentially impacted by Project activities during construction or operation where special status species potentially occur. Results of the surveys would be used to develop a BRMIMP, which the Applicant would implement.</p> <p>AM TerrBio-2c. Employee Environmental Awareness Program (EEAP). The Applicant or its designated representative would conduct an employee awareness program before groundbreaking to explain the applicable endangered species laws and any endangered species concerns to contractors working in the area. The EEAP would also include: trash removal, policies regarding habitat protection measures, traffic management and site safety.</p> <p>AM TerrBio-2d. Biological Monitoring. The Applicant or its designated representative would use a qualified biological monitor to conduct the EEAP program and on-site biological monitoring.</p> <p>AM TerrBio-2e. Confine Activity to Identified Right-of-Way (ROW). The Applicant or its designated representative would limit all proposed roadway construction to the existing roadway surface wherever special status plant species or habitats occur adjacent to the roadway.</p> <p>MM TerrBio-2f. Riparian Avoidance and Restoration. The Applicant or its designated representative shall avoid, minimize, and compensate for impacts on riparian habitat during construction due to trenching or open cut crossings of waters of the United States.</p> <p>MM TerrBio-2g. Tree Avoidance and Replacement. The Applicant or its designated representative shall, to the extent possible, avoid, minimize, and</p>	

Environmental Topic	Impact(s)	Mitigation	Conclusion
	<p><i>Ballast Water Potentially Containing Exotic Species</i> A release of ballast water containing exotic species could introduce exotic species that directly compete with native organisms, affecting the viability of native species, including special status species.</p> <p>Impact BioMar-12: <i>Increase/Decrease in Fish Abundance or Commercially Important Benthic Species</i></p> <p>Commercially important fish species could potentially avoid the Project site due to increased human activity and Project-related noise. Additionally, fish and other benthic species could be attracted to the low relief habitat provided by the subsea pipeline, decreasing abundance in other heavily fished areas.</p> <p>Impact TerrBio-2: <i>Temporary or Permanent Impacts Regarding Construction, Operation, and Maintenance Effects on Rare and Special Status Plants</i></p> <p>Upland vegetation removal during onshore pipeline construction, maintenance, and repair activities could result in the loss of special status plants.</p> <p>CUMULATIVE: 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</p>	compensate for impacts on trees.	

Environmental Topic	Impact(s)	Mitigation	Conclusion
	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.		
CULTURAL RESOURCES - Construction	<p>PROJECT SPECIFIC: Impact CULT-1: <i>Marine Archaeological Sites and Artifacts</i> The Project could violate cultural resource standards or cause an adverse change in archaeologically significant resources in offshore Project areas.</p> <p>Impact CULT-2: <i>Native American Values</i> The Project could violate cultural resource standards by impacting resources that are of value to Native American culture and heritage, particularly the Ventura Chumash.</p> <p>Impact CULT-3: <i>Terrestrial Historic or Archaeological Resources</i> The Project could violate cultural resource standards, cause an adverse change in the significance of a historic or archaeological resource, or disturb human remains in onshore Project areas.</p> <p>CUMULATIVE: 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.</p>	<p>AM CULT-1a. Marine Archaeological Surveys. Additional marine archaeological surveys would be performed to confirm the location of and gather further information on the submerged objects determined to be subject to potential impact from the Project. Shipwrecks or other underwater cultural resources identified as culturally significant would be avoided. Pipelaying barges would use dynamic positioning except near shore, where normal anchoring could occur (as identified in the Applicant's Anchor Mitigation Plan for HDB Nearshore Pipeline Project Marine Operations).</p> <p>AM CULT-2a. Site Avoidance. The Applicant would avoid identified sites and adhere to State of California burial remains legislation and the Native American Graves Protection and Repatriation Act as applicable. AM CULT-2b. Native American Values. The Applicant would incorporate the following measures to avoid impacts on Native American values: • Native American monitoring would be included in Project-related activities that result in disturbance of surface and subsurface components of archaeological sites; • Artifacts recovered from archaeological sites would be curated at a qualified museum or historical facility that allows access to Native Americans; • Procedures specified in CEQA Guidelines 15064.5(e) and Health and Safety Code § 7050.5 and Public Resources Code § 5097.98 would be implemented if human remains are discovered in the Project area; and • Significant oak trees and other plants and animals of local Native American concern would be avoided to the extent possible, and impacts on native plants would be minimized by allowing collection of herbs before construction and by relocating and replanting grasses. If such resources are unavoidable during Project construction or maintenance, further investigations in the form of complete documentation would be implemented. All such investigations would include Native American participation where mandated by Federal, State, and local law. AM CULT-1a. Marine Archeological Surveys.</p> <p>AM CULT-3a. Archaeological Monitoring.</p> <p>AM CULT-3b. Unanticipated Discovery Plan.</p> <p>AM CULT-3c. Pre-Construction Pedestrian Survey (onshore only).</p> <p>AM CULT-3a. Archaeological Monitoring. A qualified archaeologist would monitor all construction within 328 feet (100 m) of archaeological sites and areas with high potential for the occurrence of sites buried under alluvium, including the shoreline crossing. If sites are identified during the monitoring phase of</p>	Less than significant

Environmental Topic	Impact(s)	Mitigation	Conclusion
		<p>construction, the archaeologist would be empowered to stop all construction activities in the vicinity of the find and evaluate the resource. Such evaluation would require a Phase 2 subsurface testing and evaluation program. If remains prove to be significant and site avoidance cannot be implemented through Project redesign, a Phase 3 data recovery program would be implemented to mitigate impacts.</p> <p>AM CULT-3b. Unanticipated Discovery Plan. To ensure compliance with mitigation measures, a cultural resources management plan has been developed pursuant to all relevant Federal, State, and local cultural resources guidelines and criteria, including NEPA § 101(b), and CEQA Guidelines §§ 15064.5(e) and (f). The plan includes an overview of the regulations that apply in the event of an unanticipated discovery, and identifies specific steps to be undertaken for treatment or discovery of remains. The plan covers: • Authority to halt construction; • Procedures when skeletal remains are found; • Protection while awaiting recommendations from most likely descendants; • Treatment as recommended by most likely descendants; • Reporting; and • Curation of archaeological material not associated with human remains.</p> <p>AM CULT-3c. Pre-Construction Pedestrian Survey. The Applicant would employ a qualified archaeologist to conduct a pre-construction pedestrian survey over any segments of the route that have not already been surveyed. If unanticipated surface evidence of an archaeological site is observed, the Applicant would follow the Unanticipated Discovery Plan.</p>	
ENERGY AND MINERALS - Construction	<p>PROJECT SPECIFIC: ENE-1: <i>Access to Oil and Gas Resources</i> The Project may temporarily restrict access to or availability of oil and gas resources.</p> <p>CUMULATIVE: 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.</p>	None.	Less than significant
ENERGY AND MINERALS – Operational	<p>PROJECT SPECIFIC: ENE-2: <i>Create Significant Effects on Local or Regional Energy Supplies</i> The Project would have a beneficial impact on local and regional energy supplies.</p> <p>CUMULATIVE: Because the Project</p>	Not applicable.	Beneficial impact

Environmental Topic	Impact(s)	Mitigation	Conclusion
	<p>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.</p>		
GEOLOGY - Construction	<p>PROJECT SPECIFIC: Impact GEO-1: <i>Worsens Existing Unfavorable Geologic Conditions and/or Releases Toxic or Other Damaging Material into the Environment</i> Construction activities could temporarily worsen existing unfavorable geologic conditions.</p> <p>Impact GEO-2: <i>Cause a Loss of a Unique Paleontological Resource</i> Construction activities could disturb or destroy paleontological resources; such impacts are typically permanent.</p> <p>Impact GEO-3: <i>Expose People or Structures to Adverse Effects Due to Direct Rupture along Fault Lines,</i></p>	<p>AM GEO-1a. Drilling Location. For HDB activities at the shore crossing, the Applicant or its representative would locate the onshore entry and offshore exit points of the drilling outside of the area affected by normal storms. In addition, the pipeline would be buried deep enough to prevent surfacing due to storm-induced erosion.</p> <p>AM TerrBio-1a. Erosion Control (see Section 4.8, "Biological resources – Terrestrial").</p> <p>MM GEO-1b. Backfilling, Compaction, and Grading. Following construction of the onshore pipelines, the Applicant or its designated representative shall properly backfill and compact the right-of-way as defined by standard construction practices, grade the trench to preexisting contours and revegetate/restore the landscape to preexisting conditions to prevent preferential flow paths, erosion, or subsidence.</p> <p>MM WAT-3a. Drilling Fluid Release Monitoring Plan (see Section 4.18, "Water Quality and Sediments").</p> <p>MM GEO-2a. Inspection. The Applicant or its designated representative shall have</p>	Less than significant

Environmental Topic	Impact(s)	Mitigation	Conclusion
	<p><i>Ground Shaking, or Seismic-related Ground Failure</i> Damage to pipelines or other facilities could occur due to direct rupture (ground offset) along fault lines.</p> <p>Impact GEO-4: <i>Cause Severe Damage to Project Components as a Direct Consequence of a Geologic Event, Releasing Toxic or Other Damaging Materials into the Environment</i> Ground shaking from earthquakes, which is of a transitory and sporadic nature, could damage Project components.</p> <p>Impact GEO-5: <i>Damage a Pipeline due to Landslides, Mudflow, Lateral Spreading, Subsidence, Liquefaction, or Collapse as a Result of Locating the Project on a Geologic Unit or Soil that is Unstable</i> Mass movement, which is of a transitory and sporadic nature, could damage pipelines or structures.</p> <p>Impact GEO-6: <i>Damage to Pipelines from Tsunamis</i> Tsunamis, which are transitory and sporadic in nature, could damage nearshore pipelines or facilities due to the typical force and erosive nature of these storms.</p> <p>CUMULATIVE: 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</p>	<p>a qualified paleontologist complete a paleontological inspection prior to excavating in the suspect areas.</p> <p>AM GEO-3a. Avoidance. The Applicant would avoid crossing known active fault zones, where possible.</p> <p>AM GEO-3b. Pipeline Flexibility. Except for the shore crossing, where the pipelines would be installed beneath Ormond Beach, the Applicant would install the offshore pipelines directly on the seabed surface to allow enhanced flexibility (compared with a buried pipeline) and to help them withstand movement caused by fault rupture. Under normal conditions (not due to mass movement) some sediment may cover the pipelines; however, minor sediment should not affect the flexibility of the pipelines. Pipeline routes would also be designed to cross potential faults at as much as a right angle as possible if determined by site-specific conditions to be the most appropriate design. Offset of pipelines crossing strike-slip or normal faults at right angles typically induces tension in the pipe, rather than compression. Pipelines can withstand significant offset when in tension.</p> <p>MM GEO-3c. Geotechnical Studies. The Applicant, as a condition of any lease, shall complete final site-specific geotechnical and seismic hazard studies, to be approved by the CSLC and USCG or MARAD, as appropriate, prior to final pipeline design and construction.</p> <p>MM GEO-3d. Design and Operational Procedures. The Applicant shall evaluate a larger trench, engineered backfill, thicker wall pipe, and telemetric control for final pipeline design.</p> <p>MM PS-4c. Install Additional Mainline Valves Equipped with Either Remote Valve Controls or Automatic Line Break Controls (see Section 4.2, “Public Safety: Hazards and Risk Analysis”).</p> <p>MM GEO-4a. Design for Ground Shaking. The Applicant shall employ proper seismic design, including but not limited to the design guidelines in the publications <i>Guidelines for the Design of Buried Steel Pipe</i>, <i>Guidelines for the Seismic Design of Oil and Gas Pipeline Systems</i>, and the American Society of Mechanical Engineers’ <i>Managing System Integrity of Gas Pipelines</i>.</p> <p>AM GEO-5a. Avoid Areas of Mass Movement. To the extent possible, the Applicant would avoid areas of soil susceptible to mass movement and areas of steeper slopes.</p> <p>MM GEO-3c. Geotechnical Studies.</p> <p>MM GEO-3d. Design and Operational Procedures.</p> <p>AM GEO-6a. Pipeline Burial. The pipeline at the shore crossing would be buried at least 50 feet (15.2 m) below the surface of the beach and deeply enough below sea level to minimize the potential of frac-outs. This will also avoid potential damage from tsunamis.</p>	

Environmental Topic	Impact(s)	Mitigation	Conclusion
	<p>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. 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.</p> <p>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</p>		

Environmental Topic	Impact(s)	Mitigation	Conclusion
	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.		
GEOLOGY – Operational	<p>PROJECT SPECIFIC: Impact GEO-3: <i>Expose People or Structures to Adverse Effects Due to Direct Rupture along Fault Lines, Ground Shaking, or Seismic-related Ground Failure</i></p> <p>Damage to pipelines or other facilities could occur due to direct rupture (ground offset) along fault lines.</p> <p>CUMULATIVE:</p>	MM GEO-3d. Design and Operational Procedures. The Applicant shall evaluate a larger trench, engineered backfill, thicker wall pipe, and telemetric control for final pipeline design.	Less than significant
HAZARDOUS MATERIALS - Construction	<p>PROJECT SPECIFIC: Impact HAZ-2: <i>Release of Oil or Hazardous Materials Spills Could Result in Soil Contamination due to Pipeline Construction Activities</i></p> <p>Activities associated with site preparation, construction, and drilling, as well as operations and maintenance activities, could result in an accidental spill of hazardous materials or oil and exposure of workers or the public.</p> <p>Impact HAZ-3: <i>Release of Existing Contaminants from Sediments, Soils, or Groundwater</i></p> <p>Construction activities could unearth existing contaminated</p>	<p>MM HAZ-2a. Maintain Equipment. The Applicant, or its designated representative, shall maintain equipment in good operating condition to reduce the likelihood of fuel or oil line breaks and leakage. Any vehicles with chronic or continuous leaks shall be removed from the construction site and repaired before being returned to operation.</p> <p>MM HAZ-2b. Hazardous Material Contingency Plan. The Applicant, or its designated representative, shall prepare a detailed hazardous material contingency plan per RCRA and the Hazards Waste Control Act that describes how the contaminated soil and/or groundwater is to be handled and disposed pursuant to law, as well as training for personnel. This plan must receive prior approval from the USEPA or the DTSC before construction begins.</p> <p>MM WAT-3a: Drilling Fluid Release Monitoring Plan (see Section 4.18, “Water Quality and Sediments”).</p> <p>MM HAZ-3a. Consult with DTSC Regarding Cleanup of Soil and Groundwater at Whittaker-Bermite Site (MP 0.2 to 1.25). Soil contamination in</p>	Less than significant

Environmental Topic	Impact(s)	Mitigation	Conclusion
	<p>sites onshore and offshore, causing potential health hazards to construction workers, the public, and marine and terrestrial ecology.</p> <p>Impact HAZ-4: <i>Potential Disturbance or Detonation of Unexploded Ordnance due to Onshore or Offshore Construction</i> Offshore pipeline installation and onshore pipeline construction activities could encounter UXO, causing an explosion that could result in serious injuries or fatalities to workers or the public, and—for offshore locations—serious injuries or fatalities to marine life from subsurface blast pressures.</p> <p>CUMULATIVE: 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</p>	<p>Operable Unit 2 immediately adjacent to or within the proposed pipeline route is expected to be cleaned up by 2006 and certified as such by DTSC. The Applicant or its designated representative shall coordinate with the DTSC to identify potential soil and/or groundwater contamination hazards present in the proposed pipeline alignment and to determine whether additional surveys or screening-level sampling are warranted in areas to be disturbed by pipeline construction prior to any construction. To confirm that the appropriate level of coordination occurs with the DTSC, the Applicant, or its designated representative, shall submit a letter detailing the results of consultation with the DTSC and any specific measures that are to be implemented during construction to the CSLC, with a copy to the DTSC, 60 days prior to initiating construction. The CSLC would assist the Applicant, or its designated representative, with DTSC consultation, if requested by the Applicant, or its designated representative.</p> <p>MM HAZ-3b. Onshore Surveys. In areas where the proposed pipeline alignments diverge from existing ROWs, the Applicant or its designated representative shall conduct additional surveys to identify potential areas of soil and/or groundwater contamination. If contaminated sites are identified, the Applicant or its designated representative shall implement its Hazardous Material Contingency Plan (see MM HAZ-2b) and implement best management practices.</p> <p>MM HAZ-4a. Offshore Surveys. The Applicant shall conduct additional surveys at the offshore pipeline installation within and near the Point Mugu Sea Range to locate visible and shallowly buried UXO that might be disturbed by pipeline installation and avoid identified UXO or develop, in consultation with the U.S. Navy, procedures to eliminate such UXO. MM HAZ-4b. Coordination with the California Department of Toxic Substances Control. The Applicant, or its designated representative, shall coordinate with the DTSC and notify the City of Santa Clarita before conducting any surveys or construction activities at parts of the Line 225 Pipeline Loop route on or near the Whittaker-Bermite site to determine whether additional UXO surveys would be warranted and shall ensure that those surveys are conducted if deemed necessary. If UXO is present, the Applicant will recover and dispose it as required by DTSC prior to beginning construction. The Applicant, or its designated representative, shall submit a letter to the CSLC and the USCG with a copy to the DTSC documenting the outcome of coordination and the status of follow-up 60 days prior to beginning construction.</p>	

Environmental Topic	Impact(s)	Mitigation	Conclusion
	hazardous materials.		
HAZARDOUS MATERIALS – Operational	<p>PROJECT SPECIFIC: Impact HAZ-1: <i>Release of Oil or Hazardous Materials and Contamination of Marine Environment due to Offshore Operations</i> Improper handling of hazardous materials or leaks in containers on the FSRU and support vessels could result in a release to the marine environment or exposure of workers or the public.</p> <p>CUMULATIVE: 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.</p>	None.	Less than significant
PUBLIC SAFETY -	PROJECT SPECIFIC: Impact PS-1:	AM PS-1a. Applicant Engineering and Project Execution Process.	Significant

Environmental Topic	Impact(s)	Mitigation	Conclusion
Construction	<p><i>Potential Minor Release of LNG due to Operational Incident or Natural Phenomena at the FSRU or an LNG Carrier</i> An incident at the FSRU or LNG carrier due to human error, upsets, or equipment failures, or as a result of natural phenomena (severe wave conditions, high winds, etc.) could cause a release of LNG from the FSRU or an LNG carrier that would have a limited area of effect.</p> <p>Impact PS-2: Potential Release of LNG due to High-Energy Marine Collision or Intentional Attack A high-energy collision of another vessel with the FSRU or an LNG carrier or an intentional attack could cause a rupture of the Moss tank(s) holding LNG, leading to a release of an unignited flammable vapor cloud that could extend beyond the 1,640-foot (500 m) radius safety zone around the FSRU, impact any members of the boating public in the identified potential impact area, and impact boats traveling in the Traffic Separation Scheme.</p> <p>Impact PS-3: Potential Release of Odorized Natural Gas due to Damage to Subsea Pipelines Fishing gear could become hung up on the pipelines and potentially damage one or both of the subsea pipelines. Similar damage may occur due to a seismic event or subsea landslide.</p> <p>Impact PS-4: Potential Release of Odorized Natural Gas due to Accidental Damage to Onshore Pipelines The potential exists for accidental or intentional damage to the onshore pipelines or valves carrying odorized natural gas. Damage, fires and explosions may occur due to human</p>	<ol style="list-style-type: none"> 1. Undertake a full Front End Engineering Design (FEED) exercise. 2. Undertake a comprehensive offshore site survey to determine bathymetry, geology, and geotechnical characteristics of the area in and immediately around the locations of each element of the Project. 3. Fully implement the proposed Project under a self-imposed "Safety Case" process for the detailed design of the proposed Project. 4. Ensure detailed engineering would be conducted for all components. 5. Commission a series of model tests of the FSRU facility at an experienced and well-established model test basin. 6. The Applicant would require independent third-party verification of detailed engineering, procured equipment, fabrication, construction, and offshore installation and commissioning of all Project components. 7. During the construction phases of the proposed Project, both quality and safety audits at major fabrication/construction sites would be undertaken by the Applicant to ensure quality and safety of the Project components. 8. The Applicant would conduct a formal pre-startup review. <p>AM PS-1b. Class Certification and a Safety Management Certificate for the FSRU. The Applicant would obtain class and safety management certification for the facility, including the subsea pipelines, pipeline end manifold, and risers. The FSRU would be certifiable under International Safety Management, International Organization for Standardization (ISO) ISO-9000 quality standards and ISO-14000 environmental standards.</p> <p>AM PS-1c. Periodic Inspections and Surveys by Classification Societies.</p> <p>AM PS-1d. Designated Safety Zone and Area to be Avoided.</p> <p>AM MT-3a. Patrol Safety Zone (see Section 4.3, "Marine Traffic").</p> <p>AM MT-3d. Control Room Team Management Techniques (see Section 4.3, "Marine Traffic").</p> <p>AM MT-3e. Broadcast of Navigational Warnings (see Section 4.3, "Marine Traffic").</p> <p>MM PS-1e. Cargo Tank Fire Survivability</p> <p>MM PS-1f. Structural Component Exposure to Temperature Extremes</p> <p>MM PS-1g. Pre- and Post-Operational HAZOPs.</p> <p>MM MT-3f. Live Radar and Visual Watch (see Section 4.3, "Marine Traffic").</p> <p>AM PS-2a. AIS, Radar, and Marine VHF Radiotelephone. The Applicant would equip the FSRU with an AIS and with real-time radar and marine VHF radiotelephone capabilities. AM PS-1a. Applicant Engineering and Project Execution Process.</p> <p>AM PS-1b. Class Certification and a Safety Management Certificate for the FSRU.</p> <p>AM PS-1c. Periodic Inspections and Surveys by Classification Societies.</p> <p>AM PS-1d. Designated Safety Zone.</p> <p>AM MT-3a. Patrol Safety Zone (see Section 4.3, "Marine Traffic").</p>	

Environmental Topic	Impact(s)	Mitigation	Conclusion
	<p>error, equipment failure, natural phenomena (earthquake, landslide, etc.). This would result in the release of an odorized natural gas cloud at concentrations that are likely to be in the flammable range.</p> <p>Impact MT-1: <i>Temporary Increase in Maritime Traffic during Installation of the Mooring System, FSRU Mooring, Offshore Pipeline Construction, and Shore Crossing Resulting in Increased Safety Risks</i> Marine activities associated with site preparation, transportation, and installation of the mooring system, FSRU, and subsea pipelines could temporarily increase maritime traffic congestion and increase the risk of vessel collision.</p> <p>Impact MT-2: <i>Long-Term Increase in Maritime Traffic during Offshore Operations</i> LNG carriers, tugs, and attending vessels transiting to and from the FSRU, could increase maritime traffic congestion during Project operations.</p> <p>Impact MT-3: <i>Long-Term Increase in Safety Hazards due to the Presence of the FSRU and LNG Carriers</i> The FSRU mooring location would be situated approximately 2 NM (2.3 miles or 3.7 km) from the Southbound Coastwise Traffic Lane of the Santa Barbara Channel TSS, which has relatively high levels of maritime traffic. In addition, vessels entering/leaving Port Hueneme or other local marina could pass nearby; thus, maritime traffic could be substantially increased with Project operations and the risk of vessel collision could be increased.</p> <p>Impact MT-4: <i>FSRU or LNG Carrier Accident Impact on Marine Traffic</i> An</p>	<p>AM MT-3b. LNG Carrier Monitoring by the FSRU (see Section 4.3, “Marine Traffic”).</p> <p>AM MT-3c. One LNG Carrier in Approach Route (see Section 4.3, “Marine Traffic”).</p> <p>AM MT-3d. Control Room Team Management Techniques (see Section 4.3, “Marine Traffic”).</p> <p>AM MT-3e. Broadcast of Navigational Warnings (see Section 4.3, “Marine Traffic”).</p> <p>MM PS-1e. Cargo Tank Fire Survivability. MM PS-1f. Structural Component Exposure to Temperature Extremes.</p> <p>MM PS-1g. Pre- and Post-Operational HAZOPs.</p> <p>MM MT-3f. Live Radar and Visual Watch (see Section 4.3, “Marine Traffic”).</p> <p>MM MT-3g. Information for Navigational Charts (see Section 4.3, “Marine Traffic”).</p> <p>AM PS-3a. More Stringent Pipeline Design. The Applicant would design and install pipelines to meet seismic criteria to ensure that pipeline integrity is maintained during severe seismic events that might be expected to bend or bow the pipelines.</p> <p>MM PS-3b. Emergency Communication/ Warnings. The Applicant shall institute emergency plans and procedures that require immediate notification of vessels in any offshore area, including hailing and Securite broadcasts, and immediate notification of local police and fire services whenever the monitoring system indicates that there might be a problem with subsea pipeline integrity.</p> <p>MM PS-3c. Areas Subject to Accelerated Corrosion, Cathodic Protection System. The Applicant shall identify any offshore or onshore areas where the new transmission pipelines may be subject to accelerated corrosion due to stray electrical currents, and implement precautions and mitigation measures as recommended in a November 12, 2003, Federal OPS pipeline safety advisory (68 FR 64189). Cathodic protection systems shall be installed and made fully operational as soon as possible during pipeline construction.</p> <p>MM MT-1d. Securite Broadcasts (see Section 4.3, “Marine Traffic”).</p> <p>MM MT-3g. Information for Navigational Charts (see Section 4.3, “Marine Traffic”).</p> <p>AM PS-4a. Class 3 Pipeline Design Criteria. The Applicant or its designated representative would construct all pipeline segments to meet the minimum design criteria for a USDOT Class 3 location, which would improve safety and reduce the need to reconstruct the pipeline segments as additional development and population densities increase along the onshore pipeline corridor.</p> <p>MM PS-4b. Pipeline Integrity Management Program. The Applicant shall develop and implement a pipeline integrity management program, including confirming all potential High Consequence Areas (including identification of potential sites from “licensed” facility information [day care, nursing care, or similar facilities] available at the city and county level) and ensuring that the public</p>	

Environmental Topic	Impact(s)	Mitigation	Conclusion
	<p>incident at the FSRU or on an LNG carrier could adversely affect marine traffic.</p> <p>Impact MT-5: <i>Temporary Interference with Operations in the Point Mugu Sea Range or the SOCAL Range Complex during Offshore Construction</i> Marine activities associated with site preparation, transportation, and installation of the mooring system, FSRU, or subsea pipelines could temporarily burden maritime traffic tracking systems or make clearing of some warning areas impossible; thus, temporary disruption of operations in the Point Mugu Sea Range or the SOCAL Range Complex could occur.</p> <p>Impact MT-6: <i>Long-Term Interference with Operations in the Point Mugu Sea Range and the SOCAL Range Complex</i> Marine activities associated with Project operations could burden maritime traffic tracking systems or could make clearing of some warning areas impossible; thus, disruption of operations in the Point Mugu Sea Range or the SOCAL Range Complex could occur.</p> <p>Impact MT-7: <i>Long-Term Interference with Operations at Port Hueneme</i> Activities associated with Project operations could increase traffic at Port Hueneme; thus, disruption of operations at Port Hueneme could occur.</p> <p>CUMULATIVE: The potential for cumulative public safety impacts from simultaneous incidents involving Cabrillo Port, Clearwater Port, and OceanWay would be limited to intentional acts. Although the probability of simultaneous offshore</p>	<p>education program is fully implemented before beginning pipeline operations.</p> <p>MM PS-4c. Install Additional Mainline Valves Equipped with Either Remote Valve Controls or Automatic Line Break Controls. The Applicant shall install five approximately equally spaced sectionalizing valves with appropriately sited and sized blowdown stacks on the Center Road Pipeline. The Applicant shall install three approximately equally spaced sectionalizing valves with appropriately sited and sized blowdown stacks on the Line 225 Pipeline Loop. The number of valves includes the station valves at each end of these pipelines. All valves shall be equipped with either remote valve controls or automatic line break controls.</p> <p>MM PS-4d. Treat Shore Crossing as Pipeline HCA. The Applicant shall treat any onshore public beach area, under which is located a pipeline(s) that is carrying natural gas, as an HCA.</p> <p>MM PS-4e. Safety Marker Indicating the Presence of Buried Natural Gas Pipeline at Ormond Beach. Prior to the operation of the shore crossing pipelines, the Applicant shall install signage indicating the presence of the buried natural gas pipelines at Ormond Beach.</p> <p>MM PS-4f. Emergency Response. The Applicant shall implement emergency plans and procedures as specified in its operations plan and shall immediately dispatch trained personnel to the area to investigate the emergency and secure the area until the release has been stopped and pipeline integrity under the beach is assured as verified by the Applicant</p> <p>MM PS-3c. Areas Subject to Accelerated Corrosion, Cathodic Protection System.</p> <p>AM MT-1a. Safety Vessel Warnings. During offshore construction, a safety vessel would be stationed 3 to 5 NM (3.5 to 5.8 miles or 5.6 to 9.3 km) from the pipelaying barge in the direction of predominant traffic flow to warn vessels approaching construction that deviation from their course and speed is necessary.</p> <p>AM MT-1b. Automatic Identification System. The pipelaying barge and associated vessels would be equipped with AIS.</p> <p>MM MT-1c. Notices to Mariners. The Applicant shall ensure that Notices to Mariners contain planned positions of vessels for the entire construction period, planned traffic lane closures, speed restrictions in the vicinity of vessels, and alternative routes and radio channels that Project vessels shall monitor and work</p> <p>MM MT-1d. Securite Broadcasts. The Applicant shall ensure that a Project vessel in the construction area makes Securite broadcasts on VHF-FM at half-hour intervals, informing mariners about the current construction location, any lane restrictions, and preferred speed and standoff distances from the Project vessels and trailing pipeline. The vessel could be the safety vessel identified in MM MT-1e.</p> <p>MM MT-1e. Safety Vessel. The Applicant shall ensure that the safety vessel is present at all times during construction, be equipped with radar and marine VHF radio, be of sufficient size and type, and have a sufficiently trained crew to respond to emergencies.</p>	

Environmental Topic	Impact(s)	Mitigation	Conclusion
	incidents is very low, such incidents could result in serious injury or fatality to members of the general public.	<p>MM MT-1f. Guard Boats. The Applicant shall station two guard boats, in addition to the safety vessel identified in MM MT-1e, on watch while construction takes place in waters less than 656 feet (200 m) deep where trawling occurs to warn or intercept commercial fishing vessels before they reach the construction area.</p> <p>MM MT-1g. Construction Schedule Signs. The Applicant shall post signs at local marinas and ports to inform the public of the nearshore construction schedule at least one month prior to the first day of construction.</p> <p>AM MT-2a. Provisions for Delays. Project vessels for Project operations (including LNG carriers) would not use anchorages except possibly in emergency situations</p> <p>AM MT-2b. Established Routes to and from Port Hueneme. Vessels would use the routes depicted on Figure 4.3-3 to travel to and from Port Hueneme.</p> <p>AM MT-2c. Compliance with JOFLO Vessel Traffic Corridors. The Applicant would abide by the JOFLO corridors that direct traffic into specified patterns within 30 fathoms (180 feet) of shore established by JOFLO.</p> <p>MM MT-2d. Incorporation of Procedures for Delays. To formalize AM MT-2a, the Applicant shall incorporate procedures that mandate early notification of possible delays into the facility operations manual for LNG carriers so that a carrier might reduce transit speed in order to arrive at a later time and shall contact the incoming ship once it is determined that a delay may occur to instruct them to stay at least 100 NM (115 miles or 158 km) offshore.</p> <p>MM MT-2e. Evaluation of Routes to and from Port Hueneme. After operating for six months, the Applicant and the Port of Hueneme Safety Committee shall assess the volume of vessel traffic, types of vessels, frequency of encounters, if any, and any reported incidents to determine whether Project vessel operations should be modified.</p> <p>AM MT-3a. Patrol Safety Zone. Two tugboats on standby duty would patrol Cabrillo Port's designated safety zone, except during docking and undocking operations.</p> <p>AM MT-3b. LNG Carrier Monitoring by the FSRU. LNG carriers inbound and outbound would be monitored by the FSRU's own marine traffic management system.</p> <p>AM MT-3c. One LNG Carrier in Approach Route. Only one LNG carrier would be permitted to transit the approach route at any given time (see Figure 4.3-2). Minimum distances between LNG carriers when enroute on the LNG carrier approach route would be prescribed.</p> <p>AM MT-3d. Control Room Team Management Techniques. The Applicant would ensure that all members of the control room team are aware of possible dangers of upcoming operations and would inform all crew members that it is their responsibility to bring indication of danger to the attention of higher authorities.</p> <p>AM MT-3e. Broadcast of Navigational Warnings. The FSRU would broadcast navigational warnings of arriving and departing LNG carriers on radio, TOR,</p>	

Environmental Topic	Impact(s)	Mitigation	Conclusion
		<p>NAVTEX, and Sat-C.</p> <p>MM MT-3f. Live Radar and Visual Watch. The Applicant shall ensure that a live radar and visual watch is maintained at all times on board the FSRU.</p> <p>MM MT-3g. Information for Navigational Charts. The Applicant shall ensure that all required information is provided to the USCG and other agencies, as necessary, to place the FSRU location, safety zone information, and subsea pipeline locations and warnings on navigational charts.</p> <p>AM PS-2a. AIS, Radar, and Marine VHF Radiotelephone. The Applicant would equip the FSRU with an AIS and with real-time radar and marine VHF radiotelephone capabilities.</p> <p>AM MT-3a. Patrol Safety Zone.</p> <p>AM MT-3b. LNG Carrier monitoring by the FSRU.</p> <p>AM MT-3c. One LNG Carrier Approach Route.</p> <p>MM PS-3b. Emergency Communication/ Warnings. The Applicant shall institute emergency plans and procedures that require immediate notification of vessels in any offshore area, including hailing and Securite broadcasts, and immediate notification of local police and fire services whenever the monitoring system indicates that there might be a problem with subsea pipeline integrity.</p> <p>MM MT-3f. Live Radar and Visual Watch.</p> <p>MM MT-5a. Avoid Point Mugu Sea Range. The Applicant shall ensure that Project-related vessels, unless such vessels are related to pipeline construction, do not intrude into the waters in the Point Mugu Sea Range.</p> <p>MM MT-5b. Daily Safety Briefs. The Applicant shall ensure that daily safety briefs aboard all Project vessels include instructions to avoid use of Point Mugu Sea Range waters.</p> <p>MM MT-5c. Daily Coordination with the U.S. Navy. The Applicant shall coordinate daily (or at an interval that the U.S. Navy deems sufficient) with the U.S. Navy to ensure that no conflicts exist between Navy operations and Project construction when Project vessels would be expected to be in any warning area.</p> <p>MM MT-6a. Follow U.S. Navy Securite Broadcasts. The Applicant shall heed U.S. Navy Securite broadcasts and coordinate with the U.S. Navy range scheduling authorities regarding LNG carrier shipments to ensure that they do not conflict with range operations.</p> <p>MM MT-6b. LNG Carrier Schedules. The Applicant shall provide long-range LNG carrier schedules in advance and master schedules at least quarterly to the U.S. Navy so that transits can be coordinated.</p> <p>MM MT-6c. Coordinate with the U.S. Navy. The Applicant shall notify the U.S. Navy range scheduling authorities when approaching LNG carriers are 24 to 48 hours from the FSRU.</p> <p>MM MT-7a. Project Pilots. The Applicant shall have all masters of Project tugboats obtain an endorsement on their master's license and a pilot's license from the USCG and the Port of Hueneme Pilots Association before construction begins.</p>	

Environmental Topic	Impact(s)	Mitigation	Conclusion
		<p>MM MT-7b. U.S. Navy Exemption. The Applicant shall apply for an U.S. Navy exemption to the requirement that operations cease in the Port of Hueneme channel.</p> <p>MM MT-7c. Scheduling of Tug trips to the Port of Hueneme. The Applicant shall make arrangements for use of a dedicated berth and coordinate at least 48 hours in advance with the Port of Hueneme to schedule tugboat arrivals and departures such that they do not conflict with commercial fish offloading operations</p>	
PUBLIC SAFETY – Operational	<p>PROJECT SPECIFIC: Impact PS-1: <i>Potential Minor Release of LNG due to Operational Incident or Natural Phenomena at the FSRU or an LNG Carrier</i> An incident at the FSRU or LNG carrier due to human error, upsets, or equipment failures, or as a result of natural phenomena (severe wave conditions, high winds, etc.) could cause a release of LNG from the FSRU or an LNG carrier that would have a limited area of effect.</p> <p>Impact PS-2: <i>Potential Release of LNG due to High-Energy Marine Collision or Intentional Attack</i> A high-energy collision of another vessel with the FSRU or an LNG carrier or an intentional attack could cause a rupture of the Moss tank(s) holding LNG, leading to a release of an unignited flammable vapor cloud that could extend beyond the 1,640-foot (500 m) radius safety zone around the FSRU, impact any members of the boating public in the identified potential impact area, and impact boats traveling in the Traffic Separation Scheme.</p> <p>Impact PS-3: <i>Potential Release of Odorized Natural Gas due to Damage to Subsea Pipelines</i> Fishing gear could become hung up on the pipelines and potentially damage one or both of the subsea pipelines. Similar damage may occur due to a seismic event or subsea landslide.</p> <p>Impact PS-4: <i>Potential Release of</i></p>	<p>AM PS-1b. Class Certification and a Safety Management Certificate for the FSRU. The Applicant would obtain class and safety management certification for the facility, including the subsea pipelines, pipeline end manifold, and risers. The FSRU would be certifiable under International Safety Management, International Organization for Standardization (ISO) ISO-9000 quality standards and ISO-14000 environmental standards.</p> <p>AM PS-1c. Periodic Inspections and Surveys by Classification Societies.</p> <p>AM PS-1d. Designated Safety Zone and Area to be Avoided.</p> <p>AM MT-3a. Patrol Safety Zone (see Section 4.3, “Marine Traffic”).</p> <p>AM MT-3d. Control Room Team Management Techniques (see Section 4.3, “Marine Traffic”).</p> <p>AM MT-3e. Broadcast of Navigational Warnings (see Section 4.3, “Marine Traffic”).</p> <p>MM PS-1e. Cargo Tank Fire Survivability.</p> <p>MM PS-1f. Structural Component Exposure to Temperature Extremes.</p> <p>MM PS-1g. Pre- and Post-Operational HAZOPs.</p> <p>MM MT-3f. Live Radar and Visual Watch (see Section 4.3, “Marine Traffic”).</p> <p>AM PS-2a. AIS, Radar, and Marine VHF Radiotelephone. The Applicant would equip the FSRU with an AIS and with real-time radar and marine VHF radiotelephone capabilities. AM PS-1a. Applicant Engineering and Project Execution Process.</p> <p>AM PS-1b. Class Certification and a Safety Management Certificate for the FSRU.</p> <p>AM PS-1c. Periodic Inspections and Surveys by Classification Societies.</p> <p>AM PS-1d. Designated Safety Zone.</p> <p>AM MT-3a. Patrol Safety Zone (see Section 4.3, “Marine Traffic”).</p> <p>AM MT-3b. LNG Carrier Monitoring by the FSRU (see Section 4.3, “Marine Traffic”).</p> <p>AM MT-3c. One LNG Carrier in Approach Route (see Section 4.3, “Marine Traffic”).</p> <p>AM MT-3d. Control Room Team Management Techniques (see Section 4.3, “Marine Traffic”).</p> <p>AM MT-3e. Broadcast of Navigational Warnings (see Section 4.3, “Marine Traffic”). MM PS-1e. Cargo Tank Fire Survivability. MM PS-1f. Structural Component Exposure to Temperature Extremes.</p> <p>MM PS-1g. Pre- and Post-Operational HAZOPs.</p>	Significant

Environmental Topic	Impact(s)	Mitigation	Conclusion
	<p><i>Odorized Natural Gas due to Accidental Damage to Onshore Pipelines</i> The potential exists for accidental or intentional damage to the onshore pipelines or valves carrying odorized natural gas. Damage, fires and explosions may occur due to human error, equipment failure, natural phenomena (earthquake, landslide, etc.). This would result in the release of an odorized natural gas cloud at concentrations that are likely to be in the flammable range.</p> <p>Impact MT-2: <i>Long-Term Increase in Maritime Traffic during Offshore Operations</i> LNG carriers, tugs, and attending vessels transiting to and from the FSRU, could increase maritime traffic congestion during Project operations.</p> <p>Impact MT-3: <i>Long-Term Increase in Safety Hazards due to the Presence of the FSRU and LNG Carriers</i> The FSRU mooring location would be situated approximately 2 NM (2.3 miles or 3.7 km) from the Southbound Coastwise Traffic Lane of the Santa Barbara Channel TSS, which has relatively high levels of maritime traffic. In addition, vessels entering/leaving Port Hueneme or other local marina could pass nearby; thus, maritime traffic could be substantially increased with Project operations and the risk of vessel collision could be increased.</p> <p>Impact MT-4: <i>FSRU or LNG Carrier Accident Impact on Marine Traffic</i> An incident at the FSRU or on an LNG carrier could adversely affect marine traffic.</p> <p>Impact MT-5: <i>Temporary Interference with Operations in the</i></p>	<p>MM MT-3f. Live Radar and Visual Watch (see Section 4.3, “Marine Traffic”).</p> <p>MM MT-3g. Information for Navigational Charts (see Section 4.3, “Marine Traffic”).</p> <p>MM PS-3b. Emergency Communication/ Warnings. The Applicant shall institute emergency plans and procedures that require immediate notification of vessels in any offshore area, including hailing and Securite broadcasts, and immediate notification of local police and fire services whenever the monitoring system indicates that there might be a problem with subsea pipeline integrity.</p> <p>MM PS-3c. Areas Subject to Accelerated Corrosion, Cathodic Protection System. The Applicant shall identify any offshore or onshore areas where the new transmission pipelines may be subject to accelerated corrosion due to stray electrical currents, and implement precautions and mitigation measures as recommended in a November 12, 2003, Federal OPS pipeline safety advisory (68 FR 64189). Cathodic protection systems shall be installed and made fully operational as soon as possible during pipeline construction.</p> <p>MM MT-1d. Securite Broadcasts (see Section 4.3, “Marine Traffic”).</p> <p>MM MT-3g. Information for Navigational Charts (see Section 4.3, “Marine Traffic”).</p> <p>MM PS-4b. Pipeline Integrity Management Program. The Applicant shall develop and implement a pipeline integrity management program, including confirming all potential High Consequence Areas (including identification of potential sites from “licensed” facility information [day care, nursing care, or similar facilities] available at the city and county level) and ensuring that the public education program is fully implemented before beginning pipeline operations.</p> <p>MM PS-4c. Install Additional Mainline Valves Equipped with Either Remote Valve Controls or Automatic Line Break Controls. The Applicant shall install five approximately equally spaced sectionalizing valves with appropriately sited and sized blowdown stacks on the Center Road Pipeline. The Applicant shall install three approximately equally spaced sectionalizing valves with appropriately sited and sized blowdown stacks on the Line 225 Pipeline Loop. The number of valves includes the station valves at each end of these pipelines. All valves shall be equipped with either remote valve controls or automatic line break controls.</p> <p>MM PS-4d. Treat Shore Crossing as Pipeline HCA. The Applicant shall treat any onshore public beach area, under which is located a pipeline(s) that is carrying natural gas, as an HCA.</p> <p>MM PS-4e. Safety Marker Indicating the Presence of Buried Natural Gas Pipeline at Ormond Beach. Prior to the operation of the shore crossing pipelines, the Applicant shall install signage indicating the presence of the buried natural gas pipelines at Ormond Beach.</p> <p>MM PS-4f. Emergency Response. The Applicant shall implement emergency plans and procedures as specified in its operations plan and shall immediately dispatch trained personnel to the area to investigate the emergency and secure the</p>	

Environmental Topic	Impact(s)	Mitigation	Conclusion
	<p><i>Point Mugu Sea Range or the SOCAL Range Complex during Offshore Construction</i> Marine activities associated with site preparation, transportation, and installation of the mooring system, FSRU, or subsea pipelines could temporarily burden maritime traffic tracking systems or make clearing of some warning areas impossible; thus, temporary disruption of operations in the Point Mugu Sea Range or the SOCAL Range Complex could occur.</p> <p>Impact MT-6: Long-Term Interference with Operations in the Point Mugu Sea Range and the SOCAL Range Complex Marine activities associated with Project operations could burden maritime traffic tracking systems or could make clearing of some warning areas impossible; thus, disruption of operations in the Point Mugu Sea Range or the SOCAL Range Complex could occur.</p> <p>Impact MT-7: Long-Term Interference with Operations at Port Hueneme Activities associated with Project operations could increase traffic at Port Hueneme; thus, disruption of operations at Port Hueneme could occur.</p> <p>CUMULATIVE: The potential for cumulative public safety impacts from simultaneous incidents involving Cabrillo Port, Clearwater Port, and OceanWay would be limited to intentional acts. Although the probability of simultaneous offshore incidents is very low, such incidents could result in serious injury or fatality to members of the general public. The offshore pipelines from the three deepwater ports would be in separate</p>	<p>area until the release has been stopped and pipeline integrity under the beach is assured as verified by the Applicant</p> <p>MM PS-3c. Areas Subject to Accelerated Corrosion, Cathodic Protection System.</p> <p>AM MT-2a. Provisions for Delays. Project vessels for Project operations (including LNG carriers) would not use anchorages except possibly in emergency situations</p> <p>AM MT-2b. Established Routes to and from Port Hueneme. Vessels would use the routes depicted on Figure 4.3-3 to travel to and from Port Hueneme.</p> <p>AM MT-2c. Compliance with JOFLO Vessel Traffic Corridors. The Applicant would abide by the JOFLO corridors that direct traffic into specified patterns within 30 fathoms (180 feet) of shore established by JOFLO.</p> <p>MM MT-2d. Incorporation of Procedures for Delays. To formalize AM MT-2a, the Applicant shall incorporate procedures that mandate early notification of possible delays into the facility operations manual for LNG carriers so that a carrier might reduce transit speed in order to arrive at a later time and shall contact the incoming ship once it is determined that a delay may occur to instruct them to stay at least 100 NM (115 miles or 158 km) offshore.</p> <p>MM MT-2e. Evaluation of Routes to and from Port Hueneme. After operating for six months, the Applicant and the Port of Hueneme Safety Committee shall assess the volume of vessel traffic, types of vessels, frequency of encounters, if any, and any reported incidents to determine whether Project vessel operations should be modified.</p> <p>AM MT-3a. Patrol Safety Zone. Two tugboats on standby duty would patrol Cabrillo Port's designated safety zone, except during docking and undocking operations.</p> <p>AM MT-3b. LNG Carrier Monitoring by the FSRU. LNG carriers inbound and outbound would be monitored by the FSRU's own marine traffic management system.</p> <p>AM MT-3c. One LNG Carrier in Approach Route. Only one LNG carrier would be permitted to transit the approach route at any given time (see Figure 4.3-2). Minimum distances between LNG carriers when enroute on the LNG carrier approach route would be prescribed.</p> <p>AM MT-3d. Control Room Team Management Techniques. The Applicant would ensure that all members of the control room team are aware of possible dangers of upcoming operations and would inform all crew members that it is their responsibility to bring indication of danger to the attention of higher authorities.</p> <p>AM MT-3e. Broadcast of Navigational Warnings. The FSRU would broadcast navigational warnings of arriving and departing LNG carriers on radio, TOR, NAVTEX, and Sat-C.</p> <p>MM MT-3f. Live Radar and Visual Watch. The Applicant shall ensure that a live radar and visual watch is maintained at all times on board the FSRU.</p>	

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	and distinct pipeline corridors, and no cumulative public safety effects would be anticipated from the operation of the offshore pipelines, based on their proposed locations.	<p>MM MT-3g. Information for Navigational Charts. The Applicant shall ensure that all required information is provided to the USCG and other agencies, as necessary, to place the FSRU location, safety zone information, and subsea pipeline locations and warnings on navigational charts.</p> <p>AM PS-2a. AIS, Radar, and Marine VHF Radiotelephone. The Applicant would equip the FSRU with an AIS and with real-time radar and marine VHF radiotelephone capabilities. AM MT-3a. Patrol Safety Zone. AM MT-3b. LNG Carrier monitoring by the FSRU. AM MT-3c. One LNG Carrier Approach Route.</p> <p>MM PS-3b. Emergency Communication/ Warnings. The Applicant shall institute emergency plans and procedures that require immediate notification of vessels in any offshore area, including hailing and Securite broadcasts, and immediate notification of local police and fire services whenever the monitoring system indicates that there might be a problem with subsea pipeline integrity.</p> <p>MM MT-3f. Live Radar and Visual Watch.</p> <p>MM MT-5a. Avoid Point Mugu Sea Range. The Applicant shall ensure that Project-related vessels, unless such vessels are related to pipeline construction, do not intrude into the waters in the Point Mugu Sea Range.</p> <p>MM MT-5b. Daily Safety Briefs. The Applicant shall ensure that daily safety briefs aboard all Project vessels include instructions to avoid use of Point Mugu Sea Range waters.</p> <p>MM MT-5c. Daily Coordination with the U.S. Navy. The Applicant shall coordinate daily (or at an interval that the U.S. Navy deems sufficient) with the U.S. Navy to ensure that no conflicts exist between Navy operations and Project construction when Project vessels would be expected to be in any warning area.</p> <p>MM MT-6a. Follow U.S. Navy Securite Broadcasts. The Applicant shall heed U.S. Navy Securite broadcasts and coordinate with the U.S. Navy range scheduling authorities regarding LNG carrier shipments to ensure that they do not conflict with range operations.</p> <p>MM MT-6b. LNG Carrier Schedules. The Applicant shall provide long-range LNG carrier schedules in advance and master schedules at least quarterly to the U.S. Navy so that transits can be coordinated.</p> <p>MM MT-6c. Coordinate with the U.S. Navy. The Applicant shall notify the U.S. Navy range scheduling authorities when approaching LNG carriers are 24 to 48 hours from the FSRU.</p> <p>MM MT-7a. Project Pilots. The Applicant shall have all masters of Project tugboats obtain an endorsement on their master's license and a pilot's license from the USCG and the Port of Hueneme Pilots Association before construction begins.</p> <p>MM MT-7b. U.S. Navy Exemption. The Applicant shall apply for an U.S. Navy exemption to the requirement that operations cease in the Port of Hueneme channel.</p> <p>MM MT-7c. Scheduling of Tug trips to the Port of Hueneme. The Applicant shall make arrangements for use of a dedicated berth and coordinate at least 48</p>	

Environmental Topic	Impact(s)	Mitigation	Conclusion
		hours in advance with the Port of Hueneme to schedule tugboat arrivals and departures such that they do not conflict with commercial fish offloading operations	
LAND USE	<p>PROJECT SPECIFIC: Impact LU-1: <i>Changes in Existing Land Use</i> Implementation of the Project would change an existing land use.</p> <p>Impact LU-2: <i>Disruption to Adjacent Properties</i> Construction may cause temporary disturbances or nuisances to nearby residents and businesses or to special land uses.</p> <p>CUMULATIVE: Not discussed.</p>	<p>AM LU-1. Construction of Center Road Pipeline in Future ROW Along McWane Boulevard if McWane Boulevard is Approved and Constructed Prior to the Construction of the Center Road Pipeline. The Draft Ormond Beach Specific Plan in the City of Oxnard identifies McWane Boulevard as a future east-west public street that may be located south of Hueneme Road. In the event that McWane Boulevard is approved and constructed prior to the construction of the Center Road Pipeline, the Applicant shall locate the Center Road Pipeline within the ROW for McWane Boulevard. The pipeline shall run north from the metering station at Ormond Beach, turn east along McWane Boulevard to Arnold Road, turn north along Arnold Road to Hueneme Road, and turn east along Hueneme Road to resume the proposed alignment of the Center Road Pipeline.</p> <p>AM AGR-1a. Compensation for Temporary and Permanent Loss of Agricultural Land, Crop Loss, Future Loss of Production, and Other Negative Impacts (see Section 4.5, "Agriculture and Soils").</p> <p>AM LU-2a. Minimize Disruption for Residences, Businesses, and Special Land Uses in or near the Construction Area. The Applicant or its designated representative would minimize disruption in residential and business areas during construction.</p> <p>AM LU-2b. Reduce Disruption for Residences Within 25 Feet (7.6 m) of the Construction Work Area. The Applicant or its designated representative would further reduce disruption in residential areas during construction.</p> <p>AM AIR-2a. Fugitive Dust Controls (see Section 4.6, "Air Quality").</p> <p>MM LU-2c. Coordinate with Other Utilities. Before construction, coordinate with other utility service providers to ensure conflicts with other maintenance or construction activities are minimized during construction.</p> <p>MM NOI-6a. Post Signs (see Section 4.14, "Noise and Vibration").</p> <p>MM NOI-6b. Equipment Location (see Section 4.14, "Noise and Vibration").</p> <p>MM TRANS-1a. Traffic Control Plans (see Section 4.17, "Transportation").</p>	Less than significant
NOISE - Construction	<p>PROJECT SPECIFIC: Impact NOI-1: <i>Noise Generated During the Installation of the FSRU and Offshore Pipelines</i> Noise generated by vessels or equipment during installation of the mooring system, FSRU, and offshore pipelines could result in temporary increases in noise levels in the area, which could impact sensitive noise receptors such as recreational boaters or fishers.</p> <p>Impact NOI-4: Temporary Noise</p>	<p>AM MT-1a. Safety Vessel Warnings (see Section 4.3, "Marine Traffic").</p> <p>MM NOI-1a. Efficient Equipment Usage. The Applicant shall:</p> <ul style="list-style-type: none"> • Operate construction equipment only on an as-needed basis during this period, and maintain it to the manufacturer's specifications. This will serve to reduce the number of noise producing events. • Ensure that equipment engine covers are in place and mufflers are in good working condition for the installation of the mooring system, FSRU, and offshore pipeline. • Require that prospective contractors for the offshore pipeline installation address noise reduction measures in their respective bid proposals, such as (1) the extent to which they will use engines with lower noise ratings, (2) phased construction activities to reduce simultaneous operations of engines, and (3) all other practices they would follow to reduce equipment noise emissions. <p>MM MT-1c. Notices to Mariners (see Section 4.3, "Marine Traffic").</p>	Significant

Environmental Topic	Impact(s)	Mitigation	Conclusion
	<p><i>Generated During Construction using Horizontal Directional Boring (HDB), Horizontal Directional Drilling (HDD), or Other Drilling Techniques HDB at the shore crossing and HDD or other drilling techniques at onshore waterways and intersection crossings could temporarily increase noise levels for sensitive receptors. Noise levels could exceed local noise ordinances or permit conditions.</i></p> <p>Impact NOI-5: <i>Temporary Vibration Generated During Horizontal Directional Boring (HDB), Horizontal Directional Drilling (HDD), and Pipeline Construction Activities HDB, HDD, boring, trenching, and other construction activities could temporarily create vibration levels at sensitive receptors.</i></p> <p>Impact NOI-6: <i>Noise Generated During Construction of the Onshore Pipeline Site preparation, pipeline installation, and construction of aboveground facilities could temporarily increase noise levels for sensitive receptors, such as schools and residences. Noise levels may exceed county and/or city noise ordinances or permit conditions during the installation of the onshore pipeline and associated structures.</i></p> <p>Impact NOI-7: <i>Noise Generated by Traveling to the Construction Site Additional vehicular traffic carrying workers, equipment, and materials to the construction sites could temporarily increase noise levels for residences, schools, places of worship, or hospitals.</i></p> <p>Impact NOI-8: <i>Noise Generated During Onshore Pipeline and Associated Facilities Operations Repair</i></p>	<p>AM NOI-4a. Construction Noise Reduction Measures. The Applicant shall monitor noise levels to comply with applicable regulations, enclose power units, implement noise barriers, enclose mud pumps and engines, enclose generator sets, partially enclose mud mixing, provide engine compartment treatments, modify backup alarms, orient loading bins, restrict use of mobile equipment, enclose light set engines, use temporary hay bales as noise barriers, and place silencers on engines where possible.</p> <p>MM NOI-4b. Use Noise Blankets. During Project construction noise blankets shall be used to fully enclose equipment associated with boring where residences occur within 2,000 feet (610 m) and work occurs after 6 p.m.</p> <p>MM NOI-4c. Limit Heavy Equipment Activity Near Residences. Heavy equipment activity adjacent to residences shall be limited to the shortest possible period required to complete pipeline installation.</p> <p>MM NOI-4d. Cover the Equipment Engine. The equipment engine shall be covered and the Applicant shall ensure that mufflers are in good working condition.</p> <p>MM NOI-4e. Establish Telephone Hotline. A phone number shall be established and publicized for members of the public to call should they have a noise complaint. Upon receiving a complaint, noise monitors will measure the levels and ensure that all appropriate noise controls are being implemented.</p> <p>MM NOI-4f. Establish Procedures. The Applicant or its designated representative shall establish procedures to stop or curtail work or add additional measures to respond to any noise complaints or exceedances of any ordinances.</p> <p>AM NOI-4a. Construction Noise Reduction Measures.</p> <p>MM NOI-5a. Restricted Work Hours. The Applicant or its designated representative shall ensure that work hours are restricted for pipeline construction activities, with the exception of HDB, involving motorized equipment from 7 a.m. to 7 p.m. Monday through Saturday.</p> <p>MM NOI 4c. Limit Heavy Equipment Activity Near Residences.</p> <p>AM NOI-4a. Construction Noise Reduction Measures. MM NOI-6a. Post Signs. The Applicant or its designated representative shall post signs along the construction right-of-way with approximate schedule and contact information.</p> <p>MM NOI-6b. Equipment Location. The Applicant or its designated representative shall locate stationary equipment, such as compressors and welding machines, away from the noise receptors to the extent practicable.</p> <p>MM NOI-4c. Limit Heavy Equipment Activity Near Residences.</p> <p>MM NOI-4d. Cover the Equipment Engine.</p> <p>MM NOI-4e. Establish Telephone Hotline.</p> <p>MM NOI-4f. Establish Procedures.</p> <p>MM NOI-5a. Restricted Work Hours.</p> <p>AM NOI-4a. Construction Noise Reduction Measures. MM NOI-4c. Limit Heavy Equipment Near Residences</p> <p>MM NOI-4d. Cover the Equipment Engine.</p>	

Environmental Topic	Impact(s)	Mitigation	Conclusion
	<p>or maintenance operations of the onshore pipelines and associated aboveground facilities may temporarily exceed county and/or city noise ordinances or permit conditions.</p> <p>CUMULATIVE: Cabrillo Port, in combination with either or both Clearwater Port or OceanWay, would result in significant cumulative impacts on offshore recreation and regional aesthetics and in short-term offshore noise. In addition, proposed expansions of the Port of Hueneme and the Port of Long Beach would add to cumulative short-term noise impacts.</p>	<p>MM NOI-5a. Restricted Work Hours.</p> <p>MM NOI-4f. Establish Procedures. MM NOI-6a. Post Signs. MM NOI-6b. Equipment Location.</p>	
NOISE – Operational	<p>PROJECT SPECIFIC: Impact NOI-2: Long-Term Noise Generated During FSRU Operations Recreational boaters and fishers at certain distances from the facility could hear noise generated by FSRU operations over the long-term.</p> <p>Impact NOI-3: Temporary Noise Generated by Support Vessels During Offshore Operations LNG carriers, crew boats and supply vessels, or helicopters could temporarily increase noise levels for sensitive receptors, such as recreational boaters and fishers during operations.</p> <p>CUMULATIVE: Cabrillo Port, in combination with either or both Clearwater Port or OceanWay, would result in significant cumulative impacts on offshore recreation and regional aesthetics and in short-term offshore noise. In addition, proposed expansions of the Port of Hueneme and the Port of Long Beach would add to cumulative short-term noise impacts.</p>	<p>MM BioMar-5a. Noise Reduction Design. The Applicant shall work with marine architects, acoustic experts and mechanical engineers and the USCG, among others, to design the FSRU and its equipment to reduce, to the maximum extent feasible, the output of cumulative noise from the facility.</p> <p>AM NOI-3a. Daytime Operations. The Applicant would operate crew boats, supply vessels, and helicopters during daytime hours, except during emergencies. The operation of these vessels would be less disturbing to receptors during daytime hours when there is greater ambient background noise and people are not typically involved in activities that require lower noise levels.</p>	Significant
RECREATION - Construction	<p>PROJECT SPECIFIC: Impact REC-1: Temporary Restrictions on Offshore Recreational Boating and Fishing</p>	<p>AM REC-5a. Contractor Yard Locations. Contractor yards would be located at least 1 mile (1.6 km) away from park and recreational areas. MM TRANS-1a. Traffic Control Plans (see Section 4.17, “Transportation”).</p>	Less than significant

Environmental Topic	Impact(s)	Mitigation	Conclusion
	<p>during Construction and Temporary Reductions of Fish Catch Construction activities would temporarily restrict recreational boating and recreational marine fishing.</p> <p>Impact REC-4: <i>Reduce the Recreational Experiences at or Restrict Access to Ormond Beach</i> Construction or maintenance activities at the shore crossing could temporarily impede recreational uses or degrade recreational experiences at Ormond Beach because of the noise, dust, and light generated during construction and repairs or because of accidental release of drilling fluids or a gas leak.</p> <p>Impact REC-5: <i>Reduce or Restrict Access to Parks or Reduce User Enjoyment</i> Construction activities could temporarily restrict access to parks due to increased traffic congestion or other nuisances in the general area of parks in the vicinity of pipeline construction.</p> <p>Impact REC-6: <i>Reduce or Restrict Access to Trails</i> Construction activities for the Line 225 Pipeline Loop would temporarily close the multi-use trails along the South Fork Santa Clara River</p> <p>CUMULATIVE: Cabrillo Port, in combination with either or both Clearwater Port or OceanWay, would result in significant cumulative impacts on offshore recreation and regional aesthetics and in short-term offshore noise.</p>	<p>MM REC-6a. Trail Closure Signage and Information. The Applicant or its designated representative shall post signs and disseminate information to the public about the multi-use trail along the South Fork Santa Clara River stating how long the trail will be closed, when it will be restored, and alternate routes.</p> <p>MM REC-6b. Trail Restoration. The Applicant or its designated representative shall restore the multi-use trail along the South Fork Santa Clara River to its previous condition before construction within 21 days after completion of the section of the pipeline along the trail.</p>	
RECREATION – Operational	<p>PROJECT SPECIFIC: Impact REC-2: <i>Restricted Recreational Fishing Due to Area to be Avoided</i> Operational activities could restrict offshore recreational activities because of the creation of a safety zone around the FSRU.</p>	None.	Significant

Environmental Topic	Impact(s)	Mitigation	Conclusion
	<p>Impact REC-3: <i>Reduce the Quality of the Offshore Recreational Experience</i> During Project operations, the presence of the FSRU would alter the recreational experience of recreational boaters, including tourists and visitors on whale-watching trips and other visitors to the CINP.</p> <p>Impact REC-4: <i>Reduce the Recreational Experiences at or Restrict Access to Ormond Beach</i> Construction or maintenance activities at the shore crossing could temporarily impede recreational uses or degrade recreational experiences at Ormond Beach because of the noise, dust, and light generated during construction and repairs or because of accidental release of drilling fluids or a gas leak.</p> <p>CUMULATIVE: Cabrillo Port, in combination with either or both Clearwater Port or OceanWay, would result in significant cumulative impacts on offshore recreation and regional aesthetics and in short-term offshore noise.</p>		
<p>SOCIOECONOMICS – Operational</p>	<p>PROJECT SPECIFIC: SOCIO-1: <i>Decrease in Catch Revenues for Commercial Fisheries due to Exclusion from Fishing Areas</i> The long-term and temporary exclusion of commercial fishers from fishing grounds could decrease catch revenues for commercial fisheries.</p> <p>SOCIO-2: <i>Decreased Commercial Fisheries Revenues due to Loss of Fishing Gear</i> The loss of commercial fishing gear from pipelines and supply boat traffic could decrease commercial fisheries revenues.</p> <p>SOCIO-3: <i>Increase in Regional Fishing Pressure</i> The permanent</p>	<p>AM SOCIO-1a. Compensation for Lost Gear. As a member of the Oil Caucus of the Joint Oil/Fisheries Committee of South Central California, the Applicant would negotiate mitigation for impacts on fishers using guidance from existing Joint Oil/Fisheries Committee guidelines for lost or damaged gear.</p> <p>AM MT-1a. Safety Vessel Warnings (see Section 4.3, “Marine Traffic”).</p> <p>AM MT-1b. Automatic Identification System (see Section 4.3, “Marine Traffic”).</p> <p>AM MT-2b. Established Routes to and from Port Hueneme (see Section 4.3, “Marine Traffic”).</p> <p>AM MT-2c. Compliance with JOFLO Vessel Traffic Corridors (see Section 4.3, “Marine Traffic”).</p> <p>MM SOCIO-1b. Arbitration. If there is a complaint by a fisher related to impacts from the Project, the Applicant shall comply with a mutually agreed-upon settlement between itself and the injured party. If a settlement cannot be reached through voluntary negotiation that is acceptable to both parties, dispute resolution shall be conducted by a mutually agreed-upon arbitrator. The arbitrator shall be compensated by the Applicant. An arbitrator shall become involved if the voluntary negotiation is not concluded within three months.</p>	<p>Less than significant</p>

Environmental Topic	Impact(s)	Mitigation	Conclusion
	<p>exclusion of commercial fishing from fishing grounds could increase fishing pressure in other areas or reduce the catch, resulting in negative economic impacts.</p> <p>SOCIO-4: <i>Small Increased Demand for Public Services</i> The Project would cause a slight increased demand for public services during construction and operations.</p> <p>CUMULATIVE: 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.</p>	<p>AM SOCIO-1a. Compensation for Lost Gear.</p> <p>AM MT-2b. Established Routes to and from Port Hueneme (see Section 4.3, "Marine Traffic").</p> <p>AM MT-2c. Compliance with JOFLO Vessel Traffic Corridors (see Section 4.3, "Marine Traffic").</p> <p>MM SOCIO-1b. Arbitration. MM MT-1c. Notices to Mariners (see Section 4.3, "Marine Traffic").</p> <p>MM MT-1d. Securite Broadcasts (see Section 4.3, "Marine Traffic").</p> <p>MM MT-1e. Safety Vessel (see Section 4.3, "Marine Traffic").</p>	
TRANSPORTATION - Construction	<p>PROJECT SPECIFIC: TRANS-1: <i>Temporary Increase in Traffic</i> During construction, the addition of the construction-related workforce and material deliveries to and from staging areas could temporarily increase traffic during peak construction periods.</p> <p>TRANS-2: <i>Temporary Traffic Lane Closures</i> The Project could restrict one or more lanes of major roads, disrupting local traffic flow during peak hours.</p> <p>TRANS-3: <i>Temporarily Reduced On-Street Parking Access</i> Construction could temporarily restrict residential on-street parking access.</p> <p>TRANS-4: <i>Temporary Closure of Bike Routes</i> Construction could result in temporary closure and/or restricted access to bike paths crossed by the onshore pipelines, which could adversely affect the safety of bicyclists.</p> <p>TRANS-5: <i>Damage to Roads During</i></p>	<p>MM TRANS-1a. Traffic Control Plans. Two traffic control plans shall be prepared by a registered professional engineer in accordance with the Work Area Protection and Traffic Control Manual (1999): one for the Center Road Pipeline and one for Line 225 Pipeline Loop.</p> <p>MM TRANS-1b. Notification, Schedule Shifts, Carpooling. During construction, the Applicant or its designated representative shall implement best management practices approved by CalTrans and/or the affected local government, such as notification, schedule shifts, and carpooling, to minimize increases in traffic.</p> <p>MM TRANS-1a. Traffic Control Plans (see Impact TRANS-1).</p> <p>MM TRANS-4a. Bike Detour Lanes. Where bike paths are closed, the Applicant or its designated representative shall provide an alternative bike route, provide signs and notice of the pending closure at least 30 days prior to commencement of work at the affected location, and ensure that the route remains posted until the access is restored to its pre-construction condition.</p> <p>MM TRANS-4b. Repair Damage to Bike Paths. The Applicant or its designated representative shall restore any bike paths damaged as a result of Project construction to their pre-construction condition within 21 days of completion of the bike route-based portion of each alignment.</p> <p>MM TRANS-1a. Traffic Control Plans (see Impact TRANS-1).</p> <p>MM TRANS-5a. Repair Damage to Roads. The Applicant or its designated representative shall repair to pre-construction conditions any damage to roads that occurs as a result of the Project within 21 days of completion of the road-based</p>	Less than significant

Environmental Topic	Impact(s)	Mitigation	Conclusion
	<p>Construction Roads crossed or paralleled by the onshore pipelines, as well as those used to access the Project, could be temporarily damaged by increased traffic and heavy equipment.</p> <p>CUMULATIVE: 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.</p>	<p>portion of each alignment or in accordance with local road encroachment permit conditions determined prior to construction, whichever is less. In addition, where a roadway has been rehabilitated within the past five years, the Applicant or its designated representative shall provide a full width overlay after trenching is completed. The Applicant or its designated representative shall negotiate with the appropriate jurisdiction regarding videotaping of existing roadways prior to construction and mitigation fees to be deposited into a trust fund.</p>	
<p>WATER - Construction</p>	<p>PROJECT SPECIFIC: WAT-1: <i>Temporary Degradation of Offshore Water Quality due to Accidental Discharges</i> Accidental discharges of petroleum, contaminants, gray water, or sewage from vessels during offshore construction and installation activities could temporarily degrade offshore water quality.</p> <p>WAT-2: <i>Short-Term Increase in Turbidity or Accidental Unearthing of Contaminants during Offshore Construction</i> The installation of the FSRU and subsea pipelines could disturb seafloor sediments or release drill cuttings or fluids, causing a short-term increase in turbidity or accidental unearthing of contaminants.</p> <p>WAT-3: <i>Short-Term Degradation of Surface Water or Groundwater Quality due to Accidental Release of Drilling Fluids</i> Accidental releases of drilling fluids at the shore crossing during construction could degrade surface water or groundwater quality for the short term.</p> <p>WAT-4: <i>Short-Term Increase in</i></p>	<p>MM WAT-3a. Drilling Fluid Release Monitoring Plan. The Applicant shall implement its Drilling Fluid Release Monitoring Plan to minimize the potential for releases of drilling fluids, to properly clean up drilling fluids in the event of a release, and notify appropriate agencies should a release occur. The plan (see Appendix D1) would incorporate best management practices to reduce the impacts from releases of drilling fluids, including the following: • Maintaining containment equipment for drilling fluids on site; • Adding a non-toxic color dye to the drilling fluids to easily and quickly detect release of drilling fluids; • Ensuring that a qualified environmental monitor or suitably trained water quality specialist is on site full time near sensitive habitat areas during horizontal directional boring activities; • Stopping work immediately if there is any detection of bentonite seeps into surface water or sensitive habitats, for example, by a loss in pressure or visual observation of changes in turbidity or surface sheen; • Reporting all bentonite seeps into waters of the State or sensitive habitat immediately to the Project's resource coordinator, the CSLC, the Los Angeles RWQCB, and the appropriate resource agencies: National Oceanic and Atmospheric Administration Fisheries, U.S. Fish and Wildlife Service, the U.S Army Corps of Engineers, the California Department of Water Resources, the California Reclamation Board, the applicable city (Oxnard or Santa Clarita) and county (Ventura or Los Angeles); and • Cleaning up and properly disposing of any release of drilling fluids to the satisfaction of regulatory agencies.</p> <p>AM TerrBio-1a. Erosion Control. MM WAT-4a. Strategic Location for Drilling Fluids and Cuttings Pit. The Applicant or its designated representative shall ensure that a pit has been excavated at the exit hole to collect and contain the drilling fluids and cuttings. Engineering controls shall be installed to ensure that fluids remain contained in the pit, including: • Locating the entry pit and exit pit sufficiently far from a stream bank and at a sufficient elevation to avoid inundation by the stream and to minimize excessive migration of groundwater into the entry pit</p>	<p>Significant</p>

Environmental Topic	Impact(s)	Mitigation	Conclusion
	<p><i>Erosion due to Construction Activities</i> Boring and trenching at stream crossings, including release of hydrostatic test water, could cause short-term increases in erosion.</p> <p>WAT-5a. Degradation of Water Quality due to Accidental Release of Untreated Gray Water, Deck Drainage, and other Discharges that do not Meet Water Quality Standards The FSRU or other Project vessels could accidentally release small amounts of contaminants, including bilge water, detergents, or human waste, to marine waters in excess of water quality standards.</p> <p>WAT-5b. Degradation of Water Quality due to an Accidental Release of Diesel Fuel from the FSRU, Pipelaying Vessel, or Service Vessels An accidental release of diesel fuel to marine waters would violate Federal and State water quality standards or objectives.</p> <p>CUMULATIVE: 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.</p>	<p>or exit pit; • Isolating the entry pit and exit pit with silt fencing to avoid sediment transport into the surface water body; • Isolating the spoils storage from the excavation of the entry pit using silt fencing to avoid sediment transport; • Undertaking and completing proper disposal of excess spoils; backfilling and restoring the original contour of the entry pit and exit pit; and revegetating the area upon completion of the bore; • Monitoring the drilling fluid, if a release of drilling fluids occurs, by a qualified environmental monitor or suitably trained water quality specialist to determine the appropriate cleanup response; and • Consulting with regulatory agencies to determine the next appropriate step to clean up the area.</p> <p>MM WAT-4b. Transport Sediment Spoils Off-Site. Sediment spoils that are not utilized to backfill trenches in stream channels shall be transported and disposed of offsite at an approved facility.</p> <p>MM WAT-4c. Monitor Stream Crossing Construction. A qualified environmental monitor or suitably trained water quality specialist shall be present at each stream crossing construction site to ensure compliance with applicable permits and mitigation.</p> <p>MM GEO-1b. Backfilling, Compaction, and Grading (see Section 4.11, "Geologic Resources and Hazards").</p>	
WATER – Operational	PROJECT SPECIFIC: WAT-5a. <i>Degradation of Water Quality due to Accidental Release of Untreated Gray Water, Deck Drainage, and other</i>	AM WAT-6a. Best Management Practices at Creek Crossings. Best management practices would be employed at all creek crossings for major maintenance activities that could result in spills that could enter surface water pathways.	Significant

Environmental Topic	Impact(s)	Mitigation	Conclusion
	<p><i>Discharges that do not Meet Water Quality Standards</i> The FSRU or other Project vessels could accidentally release small amounts of contaminants, including bilge water, detergents, or human waste, to marine waters in excess of water quality standards.</p> <p>WAT-5b. Degradation of Water Quality due to an Accidental Release of Diesel Fuel from the FSRU, Pipelaying Vessel, or Service Vessels An accidental release of diesel fuel to marine waters would violate Federal and State water quality standards or objectives.</p> <p>WAT-6: Temporary Degradation of Surface Water Quality During Maintenance Activities Releases of petroleum or other contaminants during onshore pipeline maintenance activities could temporarily degrade surface water quality.</p> <p>WAT-7: Degradation of Surface Water Quality due to Erosion Caused by Regular Maintenance Activities Regular maintenance of the pipelines could cause erosion and sedimentation of creeks from the use of maintenance vehicles or equipment, leading to short-term violations of water quality standards.</p> <p>WAT-8: Degradation of Water Quality due to Operational Thermal Discharges During eight days per year, non-contact seawater cooling water would be discharged to the ocean at temperatures above ambient and could exceed the guidelines in the California Thermal Plan.</p> <p>CUMULATIVE: The shore crossings for the Clearwater Port and the Santa Barbara Channel/Mandalay Shore Crossing/Gonzales Road Pipeline</p>	<p>AM WAT-6b. Spill Response Plan. The Applicant or its designated representative would prepare a spill response plan to protect surface water at and near the surface water crossings. This plan would be incorporated into the SWPPP as a requirement of the construction storm water NPDES permit and the SPCC Plan. The plan would identify specific measures to prevent, contain, and clean up any spills that could enter surface water pathways.</p> <p>AM WAT-6a. Best Management Practices at Creek Crossings.</p>	

Environmental Topic	Impact(s)	Mitigation	Conclusion
	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.		
ENVIRONMENTAL JUSTICE - Construction	<p>PROJECT SPECIFIC: EJ-1: <i>Disproportionate Impact on Minority and Low-Income Community of a Pipeline Accident near Center Road Pipeline MP 4.1</i> There would be a long-term risk of a pipeline rupture that could cause a fire that would disproportionately adversely affect minority or low-income communities near MP 4.1.</p> <p>CUMULATIVE: Cumulative impacts from other projects are either less or unknown.</p>	<p>AM PS-4a. Class 3 Pipeline Design Criteria (see Section 4.2, “Public Safety: Hazards and Risk Analysis”).</p> <p>MM PS-4b. Pipeline Integrity Management Program (see Section 4.2, “Public Safety: Hazards and Risk Analysis”).</p> <p>MM PS-4c. Install Additional Mainline Valves Equipped with Either Remote Valve Controls or Automatic Line Break Controls (see Section 4.2, “Public Safety: Hazards and Risk Analysis”).</p> <p>MM PS-5a. Treat Manufactured Home Residential Community as a High Consequence Area (see Section 4.2, “Public Safety: Hazards and Risk Analysis”).</p>	Less than significant
ENVIRONMENTAL JUSTICE – Operational	<p>PROJECT SPECIFIC: EJ-1: <i>Disproportionate Impact on Minority and Low-Income Community of a Pipeline Accident near Center Road Pipeline MP 4.1</i> There would be a long-term risk of a pipeline rupture that could cause a fire that would disproportionately adversely affect minority or low-income communities near MP 4.1.</p> <p>CUMULATIVE: Cumulative impacts from other projects are either less or unknown.</p>	<p>AM PS-4a. Class 3 Pipeline Design Criteria (see Section 4.2, “Public Safety: Hazards and Risk Analysis”).</p> <p>MM PS-4b. Pipeline Integrity Management Program (see Section 4.2, “Public Safety: Hazards and Risk Analysis”).</p> <p>MM PS-4c. Install Additional Mainline Valves Equipped with Either Remote Valve Controls or Automatic Line Break Controls (see Section 4.2, “Public Safety: Hazards and Risk Analysis”).</p> <p>MM PS-5a. Treat Manufactured Home Residential Community as a High Consequence Area (see Section 4.2, “Public Safety: Hazards and Risk Analysis”).</p>	Less than significant