

Table 6.1-1 Mitigation Monitoring Program

Impact	Mitigation Measure	Location	Responsible Agency	Timing
<p>work area adjacent to the residence for a distance of 100 feet (30.5 m) on either side of the residence to ensure that construction equipment and materials, including spoil piles, remain within the construction work area.</p>	<ul style="list-style-type: none"> Limiting the construction ROW to 50 feet (50.2 m) when constructing in (non-franchise [i.e., non-public road]) residential areas, where feasible. Maintaining a minimum of 25 feet (7.6 m) between the residence and the construction work area, wherever possible. 	Offshore	USCG/CSLC	Pre- and Post-Construction, Operations
<p>NOISE (Section 4.14)</p>	<p>AM AIR-2a. Fugitive Dust Controls would be implemented (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 would apply here (see Section 4.14, "Noise and Vibration").</p> <p>MM NOI-6b. Equipment Location would apply here (see Section 4.14, "Noise and Vibration").</p> <p>MM TRANS-1a. Traffic Control Plans would apply here (see Section 4.17, "Transportation").</p>	Offshore	USCG/CSLC	Pre- and Post-Construction, Operations
<p>Offshore</p>	<p>NOI-1: Noise Generated During the Installation of the FSRU and Offshore Pipelines</p> <p>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</p>	Offshore	USCG/CSLC	Pre- and Post-Construction, Operations
<p>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</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 	Offshore	USCG/CSLC	Pre- and Post-Construction, Operations

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<p>the area, which could impact sensitive noise receptors such as recreational boaters or fishers (CEQA Class II; NEPA minor adverse, short-term).</p>	<p>the number of noise producing events.</p> <ul style="list-style-type: none"> • 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. 	Offshore	USCG/CSLC	N/A
<p>NOI-2: Long-Term Noise Generated During FSRU Operations Recreational boaters and fishers at certain distances from the FSRU could hear noise generated by FSRU operations over the long-term (CEQA Class I; NEPA moderate adverse, long-term).</p>	<p>MM MT-1c. Notices to Mariners would apply to this impact (see Section 4.3, "Marine Traffic").</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>	Offshore	USCG/CSLC	N/A
<p>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 (CEQA Class I; NEPA moderate adverse, long-term).</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 during daytime hours when there is greater ambient background noise and people are not typically involved in activities that require lower noise levels.</p>	Offshore	USCG/CSLC	Pre-Construction, Construction, Operations

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<p>NOI-4: Temporary Noise Generated During Construction using Horizontal Directional Boring (HDB), Horizontal Directional Drilling (HDD), or Other Drilling Techniques</p> <p>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 (CEQA Class I; NEPA moderate adverse, short-term).</p>	<p>AM NOI-4a. Construction Noise Reduction Measures</p> <ul style="list-style-type: none"> • Monitoring. The work area would be monitored for noise and vibration levels prior to beginning construction work to establish the background and during construction to determine compliance with noise ordinances and vibration criteria. • Enclose power unit. The drilling rig power unit would be enclosed. • Noise Barriers. The drilling rig would be partially enclosed or noise barriers would be placed around it. • Enclose mud pumps and engines. The mud pumps and associated engines would be partially or totally enclosed. • Enclose generator sets. Generator sets would be totally enclosed or acoustically packaged generator sets would be used. • Partially enclose mud mixing. Mud mixing and cleaning equipment would be partially enclosed or noise barriers would be placed around this equipment. • Provide engine compartment treatments. Engine compartment treatments would be provided for mobile cranes and boom trucks. • Modify backup alarms. Lay out construction sites to minimize the need for backup alarms; use strobe lights in place of backup alarms at night; use flagmen to keep the area behind maneuvering vehicles clear; and use self-adjusting backup alarms that adjust the alarm loudness depending on ambient noise. • Orient loading bins. Loading bins would be oriented to minimize noise impacts on adjacent areas. • Restrict use of mobile equipment. Use of mobile equipment would be restricted during nighttime hours. 	<p>Offshore and Onshore</p>	<p>USCG/CSLC</p>	<p>Pre-Construction, Construction</p>

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Impact	<ul style="list-style-type: none"> • Enclose light set engines. Engines for the light sets would be totally enclosed. • Temporary hay bales as noise barriers. Hay bales would be placed on site as a temporary noise barrier. • Place silencers on engines. Silencers on engines would be placed on all equipment where possible. <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 drilling/boring or add additional measures to respond to any noise complaints or exceedances of any ordinances. However, it may not be possible to cease drilling since HDB cannot be stopped once it has begun.</p>	Offshore and Onshore	USCG/CSLC	Pre-Construction, Construction
<p>NOI-5: Temporary Vibration Generated During Horizontal Directional Boring</p>	<p>AM NOI-4a. Construction Noise Reduction Measures.</p> <p>MM NOI-5a. Restricted Work Hours. The Applicant or its</p>	Offshore and Onshore	USCG/CSLC	Pre-Construction, Construction

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<p>(HDB), Horizontal Directional Drilling (HDD), and Pipeline Construction Activities</p> <p>HDB, HDD, boring, trenching, and other construction activities could temporarily create vibration levels at sensitive receptors (CEQA Class I; NEPA moderate adverse, short-term).</p>	<p>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>	Onshore	USCG/CSLC	Pre-Construction, Construction
<p>NOI-6: Noise Generated During Construction of the Onshore Pipeline</p> <p>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 (CEQA Class I; NEPA moderate adverse, short-term).</p>	<p>AM NOI-4a. Construction Noise Reduction Measures.</p> <p>MM NOI-6a. Post Signs. The Applicant or its designated representative shall post signs along the construction right-of-way (ROW) 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 noise receptors to the extent practicable.</p> <p>MM NOI-4c. Limit Heavy Equipment Activity Near Residences would apply here.</p> <p>MM NOI-4d. Cover the Equipment Engine would apply here.</p> <p>MM NOI-4e. Establish Telephone Hotline would apply here.</p> <p>MM NOI-4f. Establish Procedures would apply here.</p> <p>MM NOI-5a. Restricted Work Hours would apply here.</p>	Onshore	USCG/CSLC	Pre-Construction, Construction
<p>NOI-7: Noise Generated by Traveling to the Construction Site</p> <p>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</p>	<p>None.</p>	Onshore	USCG/CSLC	N/A

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(CEQA Class III; NEPA moderate or major adverse, short-term).				
NOI-8: Noise Generated During Onshore Pipeline and Associated Facilities Operations	AM NOI-4a. Construction Noise Reduction Measures would apply here. MM NOI-4c. Limit Heavy Equipment Activity Near Residences would apply here. MM NOI-4d. Cover the Equipment Engine would apply here.	Onshore	USCG/CSLC	Pre-Construction, Construction
Repair or maintenance operations of the onshore pipelines and associated aboveground facilities may temporarily exceed county and/or city noise ordinances or permit conditions (CEQA Class II; NEPA minor adverse, long-term).	MM NOI-5a. Restricted Work Hours would apply here. MM NOI-4f. Establish Procedures would apply here. MM NOI-6a. Post Signs would apply here. MM NOI-6b. Equipment Location would apply here.			
RECREATION (Section 4.15)				
REC-1: Temporary Restrictions on Offshore Recreational Boating and Fishing during Construction and Temporary Reductions of Fish Catch	None.	Offshore	USCG/CSLC	N/A
Construction activities would temporarily restrict recreational boating and recreational marine fishing (CEQA Class III; NEPA minor adverse, short-term).				
REC-2: Restricted Recreational Fishing Due to Area to be Avoided	None.	Offshore	USCG/CSLC	N/A
Operational activities could restrict offshore recreational activities because of the creation of a safety zone around the FSRU (CEQA Class III; NEPA minor adverse, long-term).				
REC-3: Reduce the Quality of the Offshore Recreational Experience	None.	Offshore	USCG/CSLC	N/A
During Project operations, the presence of				

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<p>the FSRU would alter the recreational experience of recreational boaters, including tourists and visitors on whale-watching trips and other visitors to the CINP (CEQA Class I; NEPA moderate adverse, long-term).</p>	None.	Onshore	USCG/CSLC	N/A
<p>REC-4: Reduce the Recreational Experiences at or Restrict Access to Ormond Beach</p> <p>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 an accidental release of drilling fluids or a gas leak (CEQA Class III; NEPA minor adverse, long-term).</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.</p> <p>MM TRANS-1a. Traffic Control Plans would apply to this impact (see Section 4.17, "Transportation").</p>	Onshore	USCG/CSLC	Construction
<p>REC-5: Reduce or Restrict Access to Parks or Reduce User Enjoyment</p> <p>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 (CEQA Class II; NEPA minor adverse, long-term).</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>	Onshore	USCG/CSLC	Pre- and Post-Construction
<p>REC-6: Reduce or Restrict Access to Trails</p> <p>Construction activities for the Line 225 Pipeline Loop would temporarily close the multi-use trails along the South Fork Santa Clara River (CEQA Class II; NEPA minor</p>				

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adverse, short-term).	<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>			
SOCIOECONOMICS (Section 4.16)				
<p>SOCIO-1: Decrease in Catch Revenues for Commercial Fisheries due to Exclusion from Fishing Areas</p> <p>The long-term and temporary exclusion of commercial fishers from fishing grounds could decrease catch revenues for commercial fisheries (CEQA Class II; NEPA moderate adverse, long-term).</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>	Offshore	USCG/CSLC	Pre- and Post Construction Operations
	<p>AM MT-1a. Safety Vessel Warnings would apply to this impact (see Section 4.3, "Marine Traffic").</p>			
	<p>AM MT-1b. Automatic Identification System would apply to this impact (see Section 4.3, "Marine Traffic").</p>			
	<p>AM MT-2b. Established Routes to and from Port Hueneume would apply to this impact (see Section 4.3, "Marine Traffic").</p>			
	<p>AM MT-2c. Compliance with JOFLO Vessel Traffic Corridors would apply to this impact (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>			

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SOCIO-2: Decreased Commercial Fisheries Revenues due to Loss of Fishing Gear The loss of commercial fishing gear from pipelines and supply boat traffic could decrease commercial fisheries revenues (CEQA Class II; NEPA minor adverse, short-term).	AM SOCIO-1a. Compensation for Lost Gear would apply to this impact.	Offshore	USCG/CSLC	Pre- and Post-Construction, Operations
	AM MT-2b. Established Routes to and from Port Huenueme would apply to this impact (see Section 4.3, "Marine Traffic"). AM MT-2c. Compliance with JOFLO Vessel Traffic Corridors would apply to this impact (see Section 4.3, "Marine Traffic"). MM SOCIO-1b. Arbitration would apply to this impact. MM MT-1c. Notices to Mariners would apply to this impact (see Section 4.3, "Marine Traffic"). MM MT-1d. Secure Broadcasts would apply to this impact (see Section 4.3, "Marine Traffic"). MM MT-1e. Safety Vessel would apply to this impact (see Section 4.3, "Marine Traffic").	Offshore	USCG/CSLC	N/A
SOCIO-3: Increase in Regional Fishing Pressure The permanent exclusion of commercial fishing from fishing grounds could increase fishing pressure in other areas or reduce the catch, resulting in negative economic impacts (CEQA Class III; NEPA minor adverse, long-term).	None.	Onshore	USCG/CSLC	N/A
	SOCIO-4: Small Increased Demand for Public Services The Project would cause a slight increased demand for public services during construction and operations (CEQA Class III; NEPA minor adverse, long-term).	None.	Onshore	USCG/CSLC

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<p>TRANSPORTATION (Section 4.17) TRANS-1: Temporary Increase in Traffic 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 (CEQA Class II; NEPA moderate adverse, short-term).</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 route and one for Line 225 Pipeline Loop route. Because CalTrans has its own requirements, where work occurs within a CalTrans ROW, the traffic control plan shall be developed and implemented in accordance with the CalTrans Traffic Manual. The plans shall detail the location, schedule, signage, and safety procedures for lane and road closures based on final pipeline engineering design. The plans shall be submitted to and approved by CalTrans and applicable local agencies at least 60 days prior to construction and shall include the following requirements:</p> <ul style="list-style-type: none"> • Maintain two-way traffic at all times, and use flaggers as necessary; • Keep signage up to date and in good condition at all times; • Provide safety measures to separate motorists from construction workers; • Ensure access for emergency vehicles at all times; • Ensure access to private residences at all times; • Open lanes as soon as possible to restore normal traffic patterns; • Provide temporary access to businesses along the pipeline route during construction; • Cross highways and railroads by conventional HDD to minimize disruption to traffic; • Notify the public during construction, using methods such as large electronic monitoring signs, notification to 	Onshore	USCG/CSLC	Pre-Construction, Construction

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<p>impacted residents, appropriate detour signs, and notifications to schools and emergency providers;</p> <ul style="list-style-type: none"> • Provide an information hotline to be manned during business hours; • Provide a designated traffic control coordinator to ensure compliance with the Traffic Control Plan; • Reopen bicycle lanes as soon as possible to minimize disruption to bicycle traffic; and • After construction, restore the roads to their pre-construction condition. 	<p>For areas outside of the CalTrans ROW, the Applicant or its designated representative would obtain encroachment permits from the appropriate jurisdiction.</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. The Applicant shall incorporate the following measures to minimize the impact of the short-term increase in traffic from the construction workforce and truck deliveries:</p> <ul style="list-style-type: none"> • Coordinate with local jurisdictions to notify residents and transit operators of alternate traffic routes; • Schedule shifts and material deliveries to avoid peak traffic congestion hours; and • Provide incentives to promote carpooling among the construction workforce. 	Onshore	USCG/CSLC	Pre-Construction, Construction
<p>TRANS-2: Temporary Traffic Lane Closures</p> <p>The Project could restrict one or more lanes of major roads, disrupting local traffic</p>	<p>MM TRANS-1a. Traffic Control Plans would apply here.</p>	Onshore	USCG/CSLC	Pre-Construction, Construction

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<p>flow during peak hours (CEQA Class II; NEPA moderate adverse, short-term).</p>	None.	Onshore	USCG/CSLC	N/A
<p>TRANS-3: Temporarily Reduced On-Street Parking Access Construction could temporarily restrict residential on-street parking access (CEQA Class III; NEPA minor adverse, short-term).</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 would apply here.</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 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</p>	Onshore	USCG/CSLC	Pre-Construction, Construction, Post-Construction
<p>TRANS-4. Temporary Closure of Bike Routes 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 (CEQA Class II; NEPA moderate adverse, short-term).</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 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</p>	Onshore	USCG/CSLC	Post-Construction
<p>TRANS-5: Damage to Roads During 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 (CEQA Class II; NEPA minor or moderate adverse, short-term).</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 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</p>	Onshore	USCG/CSLC	Post-Construction

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	with the appropriate jurisdiction regarding videotaping of existing roadways prior to construction and mitigation fees to be deposited into a trust fund.			
WATER QUALITY AND SEDIMENTS (Section 4.18)				
WAT-1: Temporary Degradation of Offshore Water Quality due to Accidental Discharges	None.	Offshore	USCG/CSLC	N/A
Accidental discharges of petroleum, sewage, or other contaminants from vessels during offshore construction and installation activities could temporarily degrade offshore water quality (CEQA Class III; NEPA minor or moderate adverse, short-term).				
WAT-2: Short-Term Increase in Turbidity or Accidental Unearthing of Contaminants during Offshore Construction	None.	Offshore	USCG/CSLC	N/A
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 (CEQA Class III; NEPA minor or moderate adverse, short-term).				
WAT-3: Short-Term Degradation of Surface Water or Groundwater Quality due to Accidental Release of Drilling Fluids	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:	Onshore	USCG/CSLC	Pre-Construction, Construction, Post-Construction
Accidental releases of drilling fluids at the shore during construction could degrade surface water or groundwater quality for the short term (CEQA Class II; NEPA minor or moderate adverse, short-term).				

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<p>WAT-4: Short-Term Increase in Erosion due to Construction Activities Boring and trenching at stream crossings, including release of hydrostatic test water, could cause short-term increases in erosion (CEQA Class II; NEPA minor adverse, short-term).</p>	<ul style="list-style-type: none"> • 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 HDB 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. 	Onshore	USCG/CSLC	Pre-Construction, Post-Construction
<p>AM TerriBio-1a. Erosion Control would apply to this impact (see Section 4.8, "Biological Resources – Terrestrial").</p>	<p>MM WAT-4a. Strategic Location for Drilling Fluids and Cuttings Pit. The Applicant or its designated representative shall ensure 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:</p> <ul style="list-style-type: none"> • Locating the entry pit and exit pit sufficiently far from a 			

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	<ul style="list-style-type: none"> stream bank and at a sufficient elevation to avoid inundation by the stream and to minimize excessive migration of groundwater into the entry pit 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>MM WAT-4b. Transport Excess Trench Spoils Offsite. Excess trench spoils that are not used to backfill trenches 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, Compacting and Grading would apply here (see Section 4.11, "Geologic Resources and Hazards").</p>			
	None.	Offshore	USCG/CSLC	N/A

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

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<p><i>Standards</i></p> <p>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 (CEQA Class III; NEPA moderate adverse, short-term).</p>	None.	Offshore	USCG/CSLC	N/A
<p>WAT-5b: <i>Degradation of Water Quality due to an Accidental Release of Diesel Fuel from the FSRU, Pipelaying Vessel, or Service Vessels.</i></p> <p>An accidental release of diesel fuel to marine waters would violate Federal and State water quality standards or objectives (CEQA Class I; NEPA moderate adverse, short-term).</p>	<p>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.</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>	Onshore	USCG/CSLC	Pre-Construction, Construction
<p>WAT-6: <i>Temporary Degradation of Surface Water Quality During Maintenance Activities</i></p> <p>Releases of petroleum or other contaminants during maintenance activities could temporarily degrade surface water quality (CEQA Class III; NEPA moderate adverse, short-term).</p>	<p>AM WAT-6a. Best Management Practices at Creek Crossings would apply to this impact.</p>	Onshore	USCG/CSLC	Pre-Construction, Construction
<p>WAT-7: <i>Degradation of Surface Water Quality due to Erosion Caused by Regular Maintenance Activities</i></p>	<p>AM WAT-6a. Best Management Practices at Creek Crossings would apply to this impact.</p>	Onshore	USCG/CSLC	Pre-Construction, Construction

Table 6.1-1 Mitigation Monitoring Program

Impact	Mitigation Measure	Location	Responsible Agency	Timing
<p>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 (CEQA Class III; NEPA minor or moderate adverse, short-term).</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.</p> <p>MM PS-4c. Install Additional Mainline Valves Equipped with Either Remote Valve Controls or Automatic Line Break Controls.</p> <p>MM PS-5a. Treat Manufactured Home Residential Community as a High Consequence Area.</p>	Onshore	USCG/CSLC	Pre-Construction, Construction
<p>WAT-8: Degradation of Water Quality due to Operational Thermal Discharges</p> <p>During approximately 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 (CEQA Class III; NEPA minor adverse, short-term).</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.</p> <p>MM PS-4c. Install Additional Mainline Valves Equipped with Either Remote Valve Controls or Automatic Line Break Controls.</p> <p>MM PS-5a. Treat Manufactured Home Residential Community as a High Consequence Area.</p>	Offshore	USCG/CSLC	Operations

ENVIRONMENTAL JUSTICE (Section 4.19)

EJ-1: Disproportionate Impact on Minority and Low-Income Community of a Pipeline Accident near Center Road Pipeline MP 4.1.

There would be a long-term risk of a pipeline rupture that could cause a fire that would disproportionately affect minority or low-income communities near MP 4.1 (NEPA moderate adverse, long-term).

Key: USCG = U.S. Coast Guard; CSLC = California State Lands Commission; USEPA = U.S. Environmental Protection Agency; PHMSA = U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration

EXHIBIT F: CEQA FINDINGS

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EXHIBIT F: CEQA FINDINGS

1.1 INTRODUCTION TO CEQA FINDINGS

This document constitutes the Findings of the California State Lands Commission (CSLC), made pursuant to the Guidelines for Implementation of the California Environmental Quality Act (CEQA) (California Code of Regulations, Title 14, section 15091) on the Cabrillo Port LNG Deepwater Port Project (the Project) proposed by BHP Billiton LNG International Inc. (BHPB, or the Applicant). A Joint Final Environmental Impact Statement/Environmental Impact Report (EIS/EIR), hereinafter referenced as EIR, has been prepared for the proposed Project.

1.2 PROJECT DESCRIPTION

On September 3, 2003, BHPB submitted a Deepwater Port Act (DWPA) application to the U.S. Coast Guard (USCG) and the U.S. Maritime Administration (MARAD) and an application for a right-of-way lease on State lands to the California State Lands Commission to own, construct, operate, and maintain the proposed Cabrillo Port LNG Deepwater Port. The proposed facilities include: a new offshore liquefied natural gas (LNG) floating storage and regasification unit (FSRU) located 12.01 nautical miles (NM) (13.83 miles or 22.25 kilometers [km]) off the coast of Ventura County and Los Angeles County, California, in Federal waters approximately 2,900 feet (884 meters [m]) deep; new offshore and onshore natural gas pipelines; and related facilities (the Project). The Applicant's projected in-service life for the FSRU is a maximum of 40 years.

Under normal operating conditions, the annual average throughput would be 800 MMcfd; however, the Applicant has calculated that maximum operating scenarios would allow deliveries of up to 1.2 billion cubic feet per day, or the gas equivalent of 1.5 billion cubic feet per day on an hourly basis for a maximum of six hours. These operating conditions would only be in effect if SoCalGas were to offer the Applicant the opportunity to provide additional gas in cases of supply interruption elsewhere in the SoCalGas system or extremely high power demand, for example, during hot summer days; the analysis is based on this throughput.

The proposed Project would have the following main components:

Offshore (FSRU)

- Installation and operation of the FSRU, which would be anchored and moored on the ocean floor in Federal waters for the life of the Project. The Applicant selected the proposed location for the FSRU by analyzing known marine hazards, existing pipelines, distances from shore, distances from existing fixed offshore facilities, sea floor slope and topography, and the existing onshore natural gas pipeline infrastructure. The proposed location is outside the traffic separation scheme, i.e., the designated marine traffic lanes for large commercial vessels. Operational activities include:
- Shipment within the Exclusive Economic Zone of LNG to the FSRU up to two times weekly in double hulled (double-sided and double-bottom) cryogenic tank ships (LNG carriers);

- Transfer of the LNG from the LNG carriers to the FSRU;
- Heating of the LNG under controlled conditions to return it to its gaseous form as pipeline-quality natural gas;
- Injection of odorant into the natural gas stream on the FSRU; and
- Transmission of the odorized natural gas to the offshore pipelines through the flexible risers located in the mooring turret at the FSRU's bow.

Shore Crossing and Offshore Pipelines

- Installation of two 24-inch (0.6 m) diameter pipelines from shore, using horizontal directional boring beneath the surface of the beach, to the FSRU site, and installation and operation of a new onshore metering station with backup odorant injection equipment. The pipelines transporting natural gas from the FSRU to shore would connect to the Southern California Gas Company (SoCalGas) transmission system at the onshore metering station.

Onshore

- Delivery of the natural gas through: (1) a new 36-inch (0.9 m) diameter pipeline constructed within the City of Oxnard and unincorporated areas of Ventura County; (2) a new 30-inch (0.76 m) diameter pipeline loop in the City of Santa Clarita in Los Angeles County; and (3) three expanded or modified existing onshore valve stations. The onshore pipelines and related facilities would be constructed, owned, and operated by SoCalGas, a natural gas utility regulated by the California Public Utilities Commission (CPUC).

Only LNG carrier vessels and the FSRU itself would handle LNG; both the offshore and onshore pipelines would carry only conventional natural gas. A safety zone from which the public would be excluded would extend 1,640-foot (500 m) radius safety zone around the FSRU. BHPB would also apply to the USCG for a 2NM-radius area to be avoided (ATBA).

The FSRU would obtain its electricity from on-board generators, not power cables to or from shore.

Incorporated within its Project description, BHPB proposes to implement numerous measures to reduce the severity of potential Project-related impacts. These measures are identified by the prefix "AM" to distinguish them from mitigation measures proposed by the lead agencies as further explained below, identified by the prefix "MM." As the FSRU and LNG carriers are designed to carry cryogenic gases, additional International Maritime Organization regulations and conventions would govern their construction. Some of the required major safety features would significantly reduce the likelihood of an accidental cargo release and would substantially mitigate any release, regardless of cause. These include requirements for:

- double hull construction,

- 1 • separation of cargo holds and piping systems,
- 2 • accessibility for inspection,
- 3 • leak detectors in hold spaces,
- 4 • tank requirements for cargo containment,
- 5 • structural analysis,
- 6 • secondary containment and thermal management,
- 7 • tank construction and testing requirements,
- 8 • construction and testing requirements for piping and pressure vessels,
- 9 • emergency shutdown valves and automatic shutdown systems,
- 10 • loading arm emergency release couplings,
- 11 • pressure venting systems,
- 12 • vacuum protection systems,
- 13 • fire protection systems, and
- 14 • cargo tank instrumentation.

15 Applicant measures are incorporated into and modify the Project. They represent
16 commitments by the Applicant that go beyond the minimum required by law. The
17 impact analyses in the Final EIR are based on the Project **as modified**. As previously
18 stated, Applicant measures included in the Project description are identified by the
19 prefix "AM," e.g., AM PS-1a. Mitigation measures that are specified by the lead
20 agencies to reduce any potential significant environmental impacts remaining after
21 taking into account the Project modifications are identified by the prefix "MM," e.g., MM
22 PS-1e.

23 Applicant Proposed Mitigation Measures (AM) that are part of the proposed Project, as
24 analyzed, and affect the determination of potentially significant impacts include:

- 25 AM PS-1a. Applicant Engineering and Project Execution Process.
- 26 AM PS-1b. Class Certification and a Safety Management Certificate for the FSRU.
- 27 AM PS-1c. Periodic Inspections and Surveys by Classification Societies.
- 28 AM PS-1d. Designated Safety Zone and Area to be Avoided.
- 29 AM MT-3a. Patrol Safety Zone.
- 30 AM MT-3d. Control Room Team Management Techniques.
- 31 AM MT-3e. Broadcast of Navigational Warnings.
- 32 AM PS-2a. AIS, Radar, and Marine VHF Radiotelephone.
- 33 AM MT-3b. LNG Carrier Monitoring by the FSRU.

- 1 AM MT-3c. One LNG Carrier in Approach Route.
- 2 AM PS-3a. More Stringent Pipeline Design.
- 3 AM PS-4a. Class 3 Pipeline Design Criteria.
- 4 AM MT-1a. Safety Vessel Warnings.
- 5 AM MT-1b. Automatic Identification System.
- 6 AM MT-2a. Provisions for Delays.
- 7 AM MT-2b. Established Routes to and from Port Hueneme.
- 8 AM MT-2c. Compliance with JOFLO Vessel Traffic Corridors.
- 9 AM AGR-1b. Coordinate Pipeline Installation with Farmers.
- 10 AM AGR-1c. Post-Construction Restoration Measures.
- 11 AM AGR-1c. Post-Construction Restoration Measures.
- 12 AM TerrBio-4a. Weed Management Plan.
- 13 AM AIR-1a. USEPA Nonroad Engine Standards.
- 14 AM AIR-1b. Offshore Construction Equipment Standards.
- 15 AM AIR-1c. Ultra Low Sulfur Diesel.
- 16 AM AIR-2a. Fugitive Dust Controls.
- 17 AM AIR-5a. Natural Gas on LNG Carriers.
- 18 AM AIR-5b. Control Equipment on Support Vessels.
- 19 AM BioMar-9a. Avoid Offshore Construction during Gray Whale Migration Season.
- 20 AM BioMar-9b. Marine Mammal Monitoring.
- 21 AM BioMar-3a. Construction/Operations Lighting Control.
- 22 AM NOI-4a. Construction Noise Reduction Measures.
- 23 AM TerrBio-1a. Erosion Control.
- 24 AM TerrBio-2a. Additional Pre-Construction Plant Surveys.
- 25 AM TerrBio-2b. Biological Resources Mitigation Implementation and Monitoring
- 26 Plan.
- 27 AM TerrBio-2c. Employee Environmental Awareness Program (EEAP).
- 28 AM TerrBio-2d. Biological Monitoring.
- 29 AM TerrBio-2e. Confine Activity to Identified Right-of-Way (ROW).
- 30 AM WAT-6b. Spill Response Plan.
- 31 AM GEO-1a. Drilling Location.
- 32 AM GEO-3a. Avoidance.
- 33 AM GEO-3b. Pipeline Flexibility.

1 AM LU-2a. Minimize Disruption for Residences, Businesses, and Special Land
2 Uses in or near the Construction Area.

3 AM LU-2b. Reduce Disruption for Residences Within 25 Feet (7.6 m) of the
4 Construction Work Area.

5 AM NOI-3a. Daytime Operation.

6 AM REC-5a. Contractor Yard Locations.

7 **1.2.1 Major Changes to the Project and Analyses Between Issuance of the**
8 **October 2004 Draft EIS/EIR and the March 2006 Recirculated Draft EIR**

9 In response to agency and public comments, the Applicant revised the Project in
10 several ways that reduce environmental impacts. These include the following changes.

11 **Project Description**

12 • **New Offshore Pipeline Route.** The route of the offshore pipelines has been
13 revised, following geotechnical analyses, to reduce the potential for turbidity
14 flows to affect the pipelines.

15 • **Pipeline Installation at Shore Crossing.** The Applicant would use horizontal
16 directional boring (HDB) instead of horizontal directional drilling (HDD) to install
17 the Project pipelines beneath the shore. In HDD, excess drilling fluid and spoils
18 are returned to the drill rig under high pressure, risking release into the
19 surrounding environment. HDB uses a semi-closed loop system in which excess
20 mud and cuttings are pumped back to the drill rig; lower pressures are used, and
21 the possibility of drilling fluid release is minimized or eliminated. Vessels used
22 during HDB operations would be anchored. Cofferdams would not be used
23 offshore.

24 • **New Onshore Pipeline Route Segment Near Center Road Station, Ventura**
25 **County.** The northern portion of the proposed Center Road Pipeline route
26 (beginning at approximately milepost 12.5 and continuing to Center Road
27 Station) would be relocated further to the southeast and predominantly through
28 agricultural lands to bypass Mesa Union School on Mesa School Road. The
29 original route it replaces (the proposed route in the October 2004 Draft EIS/EIR)
30 is evaluated in the Final EIR as Center Road Pipeline Alternative 3.

31 • **Gas Odorant Injection.** To assist in leak detection by smell, the Applicant would
32 inject an odorant into the natural gas stream at the FSRU. SoCalGas would
33 operate a backup odorant injection system onshore.

34 • **Calculation of Safety Zone.** The USCG would measure the required 1,641-
35 foot (500 m) safety zone from the circle defined by the rotation of the stern of the
36 FSRU around the mooring point rather than from the mooring point, which
37 enlarges the safety zone.

38 • **Pipeline Safety.** SoCalGas would install additional mainline valves equipped
39 with either remote valve controls or automatic line break controls in the Center

1 Road Pipeline, which would limit the area affected by a potential pipeline
2 accident.

3 **Air Quality**

- 4 • **Air Quality Assessment.** The USEPA has made a preliminary determination
5 that the FSRU should be permitted in the same manner as sources on the
6 Channel Islands. Accordingly, the Project would not require a Prevention of
7 Significant Deterioration permit. In addition, air emissions from the generators
8 aboard the FSRU were recalculated.

9 **1.2.2 Additional Changes to the Project and Analyses Since Publication of the**
10 **March 2006 Revised Draft EIR**

11 In response to agency and public comments, the Applicant has revised the Project in
12 several ways since the issuance of the March 2006 Revised Draft EIR as summarized
13 below:

- 14 • **Reduction in the Number of LNG Carriers and Change in Crew Vessel Trips.**
15 A maximum of 99 LNG carriers would deliver no more than 13.7 million m³ of
16 LNG annually. The size of the LNG carriers would range from 138,000 to
17 210,000 m³. The number of dockings would range from 65 to 99 per year,
18 depending on the size of the LNG carriers that are used. Previously the
19 Applicant had proposed up to 130 LNG carrier dockings per year. Since a crew
20 vessel would be present during the berthing and deberthing of every LNG carrier,
21 crew vessels would travel twice from Port Hueneme to Cabrillo Port for each
22 LNG carrier docking
- 23 • **Closed Tempered Loop Cooling System.** The previously proposed FSRU
24 generator engine cooling system used seawater as the source of cooling water
25 for the four generator engines. The Applicant now proposes using a closed
26 tempered loop cooling system that circulates water from two of the eight SCVs
27 through the engine room and back to the SCVs. The seawater cooling system
28 would serve as a backup system during maintenance of the SCVs or when the
29 inert gas generator is operating. The following Project changes would reduce
30 emissions of air pollutants:
- 31 • **Use of Natural Gas to Power LNG Carriers in California Coastal Waters.**
32 LNG carriers that would operate in California Coastal Waters, as designated by
33 the California Air Resources Board, instead of only within 25 NM of the coastline,
34 would be fueled with a 99 percent natural gas/1 percent diesel mixture.
- 35 • **Diesel-Fueled Support Vessels with Emission Controls.** Instead of fueling
36 tugboats and the crew/supply vessel with LNG during Project operations, the
37 Applicant would use diesel engines equipped with air pollution control technology
38 that would reduce emissions of carbon monoxide, oxides of nitrogen, and
39 reactive organic compounds below levels that would have resulted from the use
40 of natural gas-fueled engines

- 1 • **Ultra-low NO_x SCV Burners.** The Applicant would use burners in the SCVs that
2 are certified for a maximum NO_x emission concentration (4-hour average) of 15
3 ppm at 3% oxygen.¹
- 4 • **Use of Specific Engine Standards for Onshore Construction Equipment.**
5 Engines in onshore construction equipment would comply with the USEPA's
6 tiered nonroad emission standards. As a result of the emission reductions,
7 MARAD and the USCG have determined that the General Conformity Rule would
8 not apply.

9 The CSLC has reviewed the above modifications in light of the provisions of the State
10 CEQA Guidelines concerning recirculation and has determined that these measures do
11 not result in new significant impacts that were not previously discussed in the Final EIR,
12 and, in fact, reduce the levels of potentially significant impacts identified in the March
13 2006 Revised Draft EIR and their inclusion does not meet the criteria listed specifically
14 in section 15088.5(a)(1-4) of the State CEQA Guidelines; therefore, the CSLC believes
15 recirculation is unwarranted.

16 The Applicant has committed to implement the following additional measure to reduce
17 air emissions to counterbalance like emissions from offshore Project components, e.g.,
18 operations at the FSRU and operation of marine vessels (LNG carriers, tugs, and
19 service vessels):

- 20 • **Repowering of Existing Non-Project Vessels with Cleaner Burning Engines.**
21 Two tugs that currently operate in the area and along the California coastline, but
22 which are not related to Project operations, would be repowered with cleaner
23 engines to achieve emissions reductions offshore.

24 1.3 ADMINISTRATIVE RECORD

25 For the purposes of CEQA and the Findings below, the administrative record for the
26 Cabrillo Port Project consists of the following documents:

- 27 1. The October 2004 Draft EIS/EIR, including appendices, technical reports,
28 documents cited in the Draft EIS/EIR, letters submitted on the Draft, and public
29 hearing transcripts;
- 30 2. The March 2006 Revised Draft EIR, including all appendices, technical reports,
31 documents cited in the Revised Draft EIS/EIR, letters submitted on the Revised
32 Draft, and public hearing transcripts;
- 33 3. The March 2007 Final EIS/EIR, including all appendices, technical reports,
34 comments, and responses to comments on both the October 2004 EIS/EIR and
35 the March 2006 Revised Draft EIR, and documents cited in the Final EIS/EIR;

¹ On March 29, 2007, BHPB submitted a response to an information request from the USEPA that commits to the use of a new specification for the submerged combustion vaporizers burners that would reduce NO_x and CO emissions.

- 1 4. All notices issued by the CSLC, USCG, and MARAD to comply with CEQA,
2 NEPA, the Deepwater Port Act, or with any other law governing the processing
3 and approval of the Project;
- 4 5. Relevant CSLC, USCG, and MARAD agency reports, studies, decisions, official
5 opinions, modeling data, informal communications, and planning documents;
- 6 6. Other relevant State, Federal, and local agency reports, studies, decisions,
7 official opinions, modeling data, informal communications, and planning
8 documents;
- 9 7. Other environmental documentation prepared by the CSLC, USCG, MARAD, and
10 other public agencies for other actions and programs relevant to the Project;
- 11 8. All documents submitted by members of the public and non-privileged
12 documents submitted by public agencies in connection with the Project;
- 13 9. All relevant reports, documentary or other evidence submitted at workshops,
14 public meetings and public hearings on the Project;
- 15 10. Minutes and transcripts of all public hearings held on the Project;
- 16 11. All non-privileged, application materials, relevant reports, memoranda, maps,
17 letters and other planning documents prepared by the Applicant, CSLC staff,
18 USCG staff and consultants, for the development of the Final EIS/EIR;
- 19 12. Scientific, technical and other professional judgment, published and unpublished
20 articles, and other nonconfidential or security sensitive information relied upon by
21 CSLC and USCG staff and participants in workshops and informal
22 communications; and
- 23 13. Other written materials relevant to compliance with CEQA and NEPA or to
24 decisions on the Project.

25 The location of the administrative record presently is the office of **Ecology &**
26 **Environment Inc., 130 Battery Street, Suite 400, San Francisco, CA 94111** and the
27 Sacramento office of the **California State Lands Commission, 100 Howe Avenue,**
28 **Suite 100-South, Sacramento, CA 95825.**

29 **1.4 FINDINGS ON SPECIFIC INCREMENTAL IMPACTS AND MITIGATION** 30 **MEASURES**

31 **1.4.1 CEQA SIGNIFICANCE CRITERIA**

32 CEQA requires the lead agency to identify each significant incremental effect on the
33 environment resulting from the Project and appropriate mitigation if feasible. All
34 significant adverse impacts of the proposed Project identified in the joint Final EIR are
35 included in the Findings and organized according to the resource affected as they are
36 listed in the EIS/EIR and numbered in accordance with the impact and mitigation
37 numbers identified in the Mitigation Monitoring Program table (see Chapter 6 of the
38 Final EIR). The CEQA Finding numbers are not numbered sequentially because the

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- 1 Class III impacts were less than significant before mitigation. An explanation of the
 2 rationale for each finding accompanies each incremental impact.
- 3 Impacts are classified using the four categories identified in Table Exhibit X-1. Both the
 4 CSLC and USCG criteria apply to the class definitions.

Table Exhibit X-1 Categories of Impacts

Class Definition	CSLC Criteria	USCG Criteria
Class I	Significant adverse impact that remains significant after mitigation	Major, permanent, long-term, or short-term
Class II	Significant adverse impact that can be eliminated or reduced below an issue's significance criteria	Minor, long-term
Class III	Adverse impact that does not meet or exceed an issue's significance criteria	Minor, short-term, or temporary
Class IV	Beneficial impact	Positive, may be major or minor, short- or long-term or permanent

- 5 Class III and Class IV impacts do not require mitigation or findings, but Class IV impacts
 6 of the Project are mentioned in Exhibit G, the Statement of Overriding Considerations.
 7 In accordance with the State CEQA Guidelines § 15093, a Statement of Overriding
 8 Considerations addresses Class I impacts.

9 **1.4.2 CEQA Findings Designations**

10 The Findings are those allowed by Section 21081 of the California Public Resources
 11 Code. For each significant impact, i.e., Class I or II, a finding has been made as to one
 12 or more of the following Findings provided in section 15091 of the State CEQA
 13 Guidelines:

- 14 a) Changes or alterations have been required in, or incorporated into, the project
 15 that avoid or substantially lessen the significant environmental effect as identified
 16 in the final EIR.
- 17 b) Such changes or alterations are within the responsibility and jurisdiction of
 18 another public agency and not the agency making the finding. Such changes
 19 have been adopted by such other agency or can and should be adopted by such
 20 other agency.
- 21 c) Specific economic, legal, social, technological, or other considerations, including
 22 provision of employment opportunities for highly trained workers, make infeasible
 23 the mitigation measures or project alternatives identified in the final EIR.

1 Whenever a Finding is made under section 15091©, the CSLC has determined that
2 sufficient feasible mitigation is not available to reduce the impact to a level below an
3 issue's significance criteria and, even after implementation of all such feasible mitigation
4 measures, there will or could be an unavoidable significant adverse Class I impact due
5 to the project.

6 Twenty Class I impacts requiring Finding (c) were identified in the Final EIR.

7 **1.4.3 CEQA Findings for Environmental Impacts of the Project and Adopted**
8 **Mitigation Measures**

9 These findings are based on the information contained in the October 2004 Draft
10 EIS/EIR, the March 2006 Revised Draft EIR, and the Final EIR for the Project, as well
11 as information provided by the applicant and gathered through the public involvement
12 process, all of which is contained in the Administrative Record indicated in Section
13 1.3. The mitigation measures are briefly described in these Findings; more detail on
14 each of the mitigation measures is included in the text of the Final EIR.

1 **CEQA Finding No. PS-1**

2 **Public Safety**

3 Impact: **PS-1:** Potential Minor Release of LNG due to Operational Incident or
4 Natural Phenomena at the FSRU or an LNG Carrier

5 Class: II

6 Finding(s): a) Changes or alterations have been required in, or incorporated into, the
7 Project that avoid or substantially lessen the significant environmental
8 effect as identified in the final EIR.

9 b) Such changes or alterations are within the responsibility and
10 jurisdiction of the USCG and not the agency making the finding. Such
11 changes have been adopted by such other agency or can and should
12 be adopted by such other agency.

13 **Facts Supporting the Finding(s)**

14 Description of the Impact

15 An incident at the FSRU or LNG carrier due to human error, upsets, or equipment
16 failures, or as a result of natural phenomena (severe wave conditions, high winds, etc.)
17 could cause a release of LNG from the FSRU or an LNG carrier. As part of the
18 independent risk assessment, a hazard identification study was conducted by the lead
19 agencies and with the participation of Federal (including Sandia National Laboratory),
20 State, and local government agencies to systematically identify potential accident
21 hazards that could potentially impact the public and/or the environment. Based on this
22 analysis and subsequent modeling, the IRA determined that operational incidents would
23 not affect members of the public because the consequences of such incidents would not
24 extend farther than the safety zone from which the public is excluded; intentional events
25 are considered under Impact PS-2. The safety zone would extend a 1,640-foot (500 m)
26 radius around the FSRU from which the public would be excluded.

27 The Deepwater Port Act specifies regulations that all deepwater ports must meet, and
28 specific design criteria and specifications, final design requirements, and safety
29 standards would govern the construction and operation of the FSRU. The U.S. Coast
30 Guard has final approval of the design of the Cabrillo Port. A recognized third-party
31 verification agent approved by the USCG, in consultation with the CSLC, would assess
32 the proposed criteria and standards for design, construction, and operation. The FSRU
33 and LNG carriers would meet the marine safety and security requirements identified in
34 Appendix C3-2 of the Final EIS/EIR and would comply with any updated standards and
35 conventions that are in place at the time of licensing.

36 Proposed Mitigation

37 MM PS-1e. Cargo tank fire survivability.

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- 1 MM PS-1f. Structural Component Exposure to Temperature Extremes.
2 MM PS-1g. Pre- and Post-Operational HAZOPs (hazard and operability studies).
3 MM MT-3f. Live Radar and Visual Watch.
- 4 MM PS-1e would improve the ability of LNG storage tanks to withstand the effects of a
5 fire and could also potentially limit the extent of damage caused by an incident. It is
6 expected that additional advances in cargo tank insulation will be made in the near
7 future, and this mitigation measure would help to ensure that the best available
8 technology is used.
- 9 MM PS-1f would reduce the likelihood of a major structural failure by requiring
10 consideration of potentially improbable but high consequence events during Project
11 design. Safety engineering, HAZOPs and quantitative risk assessment (QRA) are
12 widely used in processing industries to improve safety; these methodologies represent
13 best management practices.
- 14 MM PS-1g would reduce the likelihood of a potential emergency incident at the FSRU
15 and would improve the crew's response if such a situation were to occur. HAZOPs
16 have been recognized to reduce risk by both industry and regulations such as the
17 California and Federal Risk Management and Prevention Programs. Conducting a
18 HAZOP prior to operation would help to refine operations practices and emergency
19 response provisions and subsequent HAZOPS during operations would critically
20 evaluate actual practices.
- 21 Finally, MM MT-3f would reduce the likelihood of a collision because the crew would
22 have early warning of nearby vessels or aircraft and would assist in managing an
23 incident should one occur. The provision for live radar and visual watch at the vessel
24 control center of the FSRU is comparable to the established and proven in service,
25 policies, and procedures of the Louisiana Offshore Oil Port (LOOP), the only operational
26 oil deepwater port in the U.S. These measures would reduce the potential for incidents
27 due to operational errors, upsets, or equipment failures or natural phenomena.
- 28 The impact would be adverse, but reduced to a level below its significance criteria, for
29 all the reasons stated, with the implementation of the mitigation measures described
30 above.

1 **CEQA Finding No. PS-2**

2 **Public Safety**

3 Impact: **PS-2: Potential Release of LNG due to High-Energy Marine Collision or**
4 **Intentional Attack**

5 Class: I

6 Finding(s): a) Changes or alterations have been required in, or incorporated into, the
7 Project that avoid or substantially lessen the significant environmental
8 effect as identified in the final EIR.

9 b) Such changes or alterations are within the responsibility and
10 jurisdiction of the USCG and not the agency making the finding. Such
11 changes have been adopted by such other agency or can and should
12 be adopted by such other agency.

13 c) Specific economic, legal, social, technological, or other considerations,
14 including provision of employment opportunities for highly trained
15 workers, make infeasible the mitigation measures or Project
16 alternatives identified in the final EIR.

17 **Facts Supporting the Finding(s)**

18 Description of the Impact

19 A high-energy collision with the FSRU or an LNG carrier and another vessel or an
20 intentional attack could cause a rupture of the Moss tank(s) holding LNG, leading to a
21 release of an unignited but potentially flammable vapor cloud that could extend beyond
22 the 1,640-foot (500 m) radius safety zone around the FSRU, or could impact members
23 of the boating public in the identified potential impact area, and impact boats traveling in
24 the Traffic Separation Scheme (TSS).

25 The IRA concluded that the FSRU design “demonstrates a very robust performance
26 against marine collisions” and that, given the many safety features that have been
27 incorporated in the design of the proposed Project, accidents at the FSRU would be
28 rare and would not reach shore, even in the case of a worst credible release such as a
29 deliberate attack. Only vessels with very specific geometry, strength, and speed would
30 have the physical capacity to penetrate the hull’s structural steel and breach the cargo
31 containment. The likelihood of a marine collision is estimated to be 2.4 X 10⁻⁶ per year
32 (once in 420,000 years), but the frequency of intentional events was not estimated due
33 to the uncertainty. The IRA states that the frequency estimation for the accidental
34 marine collision scenario is a conservative overestimate and that the scenario is
35 improbable.

36 Figure ES-1 in the Final EIR depicts the consequence distances surrounding the FSRU
37 location for worst credible events. The number of boaters and fishermen who could be

1 within the identified potential impact areas cannot be reliably estimated because no
2 reliable records of recreational and fishing use exist for the area. Although recreational
3 boaters and fishers would be prohibited from entering the safety zone, they would not
4 be prohibited from the ATBA, which would extend 2 NM from the FSRU, and it is not
5 possible to estimate the deterrent effect of such designation. Other variables include
6 the day of the week, time, season of the year, and weather conditions during the
7 incident. In addition, to avoid underestimating the hazard distance, the analysis
8 assumed the release of full tank volumes even though the events may not lead to the
9 full release of all the LNG from each tank, which would result in a smaller area being
10 affected.

11 Proposed Mitigation

12 MM PS-1e. Cargo Tank Fire Survivability.

13 MM PS-1f. Structural Component Exposure to Temperature Extremes.

14 MM PS-1g. Pre- and Post-Operational HAZOPs.

15 MM MT-3f. Live Radar and Visual Watch.

16 MM MT-3g. Information for Navigational Charts.

17 MM PS-1e would improve the ability of LNG storage tank to withstand the effects of a
18 fire and could also potentially limit the extent of damage caused by an incident. It is
19 expected that additional advances in cargo tank insulation will be made in the near
20 future, and this mitigation measure would ensure that the best available technology is
21 used.

22 MM PS-1f would reduce the likelihood of a major structural failure by requiring
23 consideration of potentially improbable but high consequence events during Project
24 design. Safety engineering, HAZOPs and QRA are widely used in processing industries
25 to improve safety; these methodologies represent best management practices.

26 MM PS-1g would reduce the likelihood of a potential emergency incident at the FSRU
27 and would improve the crew's response if such a situation were to occur. HAZOPs
28 have been recognized to reduce risk by both industry and regulations such as the
29 California and Federal Risk Management and Prevention Programs. Conducting a
30 HAZOP prior to operation would help to refine operations practices and emergency
31 response provisions and subsequent HAZOPS during operations would critically
32 evaluate actual practices.

33 MM MT-3f describes how equipment in the control room would be operated. The
34 provision for live radar and visual watch at the vessel control center of the FSRU is
35 comparable to the established and proven in service, policies, and procedures of the
36 Louisiana Offshore Oil Port (LOOP), the only operational oil deepwater port in the U.S.
37 As a result, approaching vessels would be able to take measures to avoid the FSRU.

38 MM MT-3g would ensure that navigational charts would be promptly changed and
39 published expeditiously to coincide with mooring of the FSRU; typically changes are not

1 initiated until a facility is in place. Once published, the safety zone and the ATBA
2 delineations on navigational charts would assist all mariners transiting the Project area
3 to plan accordingly to avoid the safety zone and the ATBA. The safety zone would be
4 patrolled by tugs and/or a service vessel at all times to prevent incursions by
5 unauthorized non-Project vessels.

6 The likelihood of potential impacts from high energy marine collisions or intentional
7 attacks would be reduced, as described, with implementation of the mitigation measures
8 described above; however, hazard and risk evaluations for these types of incidents
9 indicated that the potential consequences could extend beyond the 1,640-foot (500 m)
10 safety zone around the FSRU. The impacts would thus still be potentially significant,
11 i.e., could result in serious injury or fatality to members of the public should an incident
12 occur; therefore, this impact remains potentially significant after application of all
13 feasible mitigation.

1 **CEQA Finding No. PS-3**

2 **Public Safety**

3 Impact: **PS-3: Potential Release of Odorized Natural Gas due to Damage to**
4 **Subsea Pipelines**

5 Class: I

6 Finding(s): a) Changes or alterations have been required in, or incorporated into, the
7 Project that avoid or substantially lessen the significant environmental
8 effect as identified in the final EIR.

9 c) Specific economic, legal, social, technological, or other considerations,
10 including provision of employment opportunities for highly trained
11 workers, make infeasible the mitigation measures or Project
12 alternatives identified in the final EIR.

13 **Facts Supporting the Finding(s)**

14 Description of the Impact

15 Fishing gear could become hung up on the pipeline and potentially damage one or both
16 of the subsea pipelines. Similar damage may occur due to a seismic event or subsea
17 landslide.

18 The frequencies of significant events per pipeline mile have been very conservatively
19 estimated, based on reportable accidents that include the Gulf of Mexico, for offshore
20 pipelines at four in one hundred thousand that a pipeline incident would result in a
21 serious public injury, and about one in one hundred thousand that a pipeline incident
22 would result in a public fatality.. Although members of the public such as fishers and
23 recreational boaters could potentially be affected if the released natural gas formed a
24 flammable cloud once it breached the ocean surface, recorded incidents where this
25 occurred were in shallow water (less than 10 to 20 feet). The offshore pipelines for the
26 proposed Project would be deeply buried to about 4,000 feet offshore, and trawling is
27 prohibited in California waters (within 3 NM of shore), thus reducing the potential that
28 people would be exposed to this hazard. The monitoring systems at the FSRU would
29 detect leaks in the offshore pipelines and would shut them down in the event of a
30 release, which would limit the potential for an accident involving a flammable vapor
31 cloud.

32 The number of people who could be affected by an accident cannot be accurately
33 estimated because no reliable information exists on the number of people frequenting
34 the areas near the route of the offshore pipelines; however, boats would offer some
35 protection to their occupants in the unlikely event of a fire caused by a release from an
36 offshore pipeline.

1 Proposed Mitigation

2 MM PS-3b. Emergency Communication/ Warnings.

3 MM PS-3c. Areas Subject to Accelerated Corrosion, Cathodic Protection System.

4 MM MT-1d. Securite Broadcasts.

5 MM MT-3g. Information for Navigational Charts.

6 MM PS-3b would provide for notification of vessels in the area of a release of natural
7 gas so that they could avoid the area. This would reduce the likelihood of potential
8 impacts on vessels in the area of the offshore pipelines and could increase the
9 timeliness and/or effectiveness of emergency response systems, such as fire fighting, in
10 addition to those in place at the FSRU.

11 MM PS-3c would increase the overall integrity of the offshore pipelines, thereby
12 reducing the potential for accidents. The purpose of Federal Office of Pipeline Safety
13 pipeline safety advisories is to communicate issues based on experience in order to
14 improve safety.

15 MM MT-1d would serve as a reminder to those familiar with the Notice to
16 Mariners/posted signs and notify others of required actions.

17 MM MT-3g would ensure that navigational charts would be promptly changed and
18 published expeditiously to coincide with mooring of the FSRU; typically changes are not
19 initiated until a facility is in place. Once published, the safety zone and the ATBA
20 delineations on navigational charts would assist all mariners transiting the Project area
21 to plan accordingly to avoid the safety zone and the ATBA and to identify the location of
22 the route of the offshore pipelines. The safety zone would be patrolled by tugs and/or a
23 service vessel at all times to prevent incursions by unauthorized non-Project vessels.

24 The mitigation measures discussed above would reduce, for the reasons stated, both
25 the likelihood and consequences of a release from should such an incident occur;
26 however, the impacts would still be significant, i.e., could result in serious injury or
27 fatality to members of the public. Therefore, this impact would remain potentially
28 significant after application of all feasible mitigation.

1 **CEQA Finding No. PS-4**

2 **Public Safety**

3 Impact: **PS-4:** Potential Release of Odorized Natural Gas due to Accidental
4 Damage to Onshore Pipelines

5 Class: I

6 Finding(s): a) Changes or alterations have been required in, or incorporated into, the
7 Project that avoid or substantially lessen the significant environmental
8 effect as identified in the final EIR.

9 c) Specific economic, legal, social, technological, or other considerations,
10 including provision of employment opportunities for highly trained
11 workers, make infeasible the mitigation measures or Project
12 alternatives identified in the final EIR.

13 **Facts Supporting the Finding(s)**

14 Description of the Impact

15 The potential exists for accidental or intentional damage to the onshore pipelines or
16 valves carrying odorized natural gas. Damage, fires, and explosions may occur due to
17 human error, equipment failure, natural phenomena (earthquake, landslide, etc.). This
18 would result in the release of an odorized natural gas cloud at concentrations that could
19 be in the flammable range. The proposed pipelines would exceed regulatory standards
20 and would be subject to design review, construction and operational safety inspections
21 and enforcement by the CPUC and ongoing safety oversight subsequent to construction
22 through its comprehensive pipeline safety inspections. SoCalGas has franchise
23 agreements with Ventura County and the cities of Oxnard and Santa Clarita that grant it
24 the right to lay and use natural gas pipelines in public streets and other rights of way.

25 The annual frequencies of significant events per pipeline mile have been very
26 conservatively estimated for onshore pipelines at about four in one hundred thousand
27 that a pipeline incident would result in a serious public injury and about one in one
28 hundred thousand that a pipeline incident would result in a public fatality. These
29 frequencies would be expected to be lower for the proposed Project pipelines, however,
30 because they would be new pipelines built to current standards. The number of people
31 who could be affected by an accident cannot be reliably estimated because it would
32 depend on the nature and severity of the incident and the number of people in proximity
33 at the time of the incident. However, a review of incident reports filed by SoCalGas
34 between January 1994 and May 2006 indicates no fatalities.

35 Proposed Mitigation

36 MM PS-4b. Pipeline Integrity Management Program.

1 MM PS-4c. Install Additional Mainline Valves Equipped with Either Remote Valve
2 Controls or Automatic Line Break Controls.

3 MM PS-4d. Treat Shore Crossing as Pipeline HCA.

4 MM PS-4e. Safety Marker Indicating the Presence of Buried Natural Gas Pipeline at
5 Ormond Beach.

6 MM PS-4f. Emergency Response.

7 MM PS-3c. Areas Subject to Accelerated Corrosion, Cathodic Protection System.

8 MM PS-4b would increase public awareness by requiring implementation of the Pipeline
9 Integrity Management Program prior to pipeline operations instead of afterwards.

10 MM PS-4c would limit the area affected by a potential pipeline accident by allowing
11 SoCalGas to automatically control the influx of gas into sections of the pipeline system.
12 A team of engineers from the CSLC and CPUC evaluated project-specific pipeline valve
13 spacing and design and determined that they were appropriate to limit the potential
14 release duration and the quantity of natural gas that might be released from a ruptured
15 pipeline segment by reducing the distance between the mainline valves.

16 MM PS-4d would provide for implementation of the pipeline integrity management
17 program at beach recreation areas where people could be located in the vicinity of the
18 pipelines.

19 MM PS-4e would improve the safety of the system by enabling members of the public to
20 report gas leaks.

21 MM PS-4f would improve the timeliness and effectiveness of emergency response
22 measures and facilitate evacuation of beach users in the unlikely event of a potential
23 pipeline accident.

24 Finally, MM PS-3c would increase the overall integrity of the pipelines, thereby reducing
25 the potential for accidents.

26 With the implementation of the measures and for the reasons described above, both the
27 likelihood and the severity of an accident would be reduced. Should such an incident
28 occur, however, the impacts would still be significant, i.e., could cause serious injury or
29 fatality to members of the public. Therefore, this impact would remain potentially
30 significant after application of all feasible mitigation.

1 **CEQA Finding No. PS-5**

2 **Public Safety**

3 Impact: **PS-5:** Increased Potential for Injury, Fatality, and Property Damage Due to
4 Fire or Explosion in Areas with Less Robust Housing Construction and
5 Outdoor Activity.

6 Class: I

7 Finding(s): a) Changes or alterations have been required in, or incorporated into, the
8 Project that avoid or substantially lessen the significant environmental
9 effect as identified in the final EIR.

10 c) Specific economic, legal, social, technological, or other considerations,
11 including provision of employment opportunities for highly trained
12 workers, make infeasible the mitigation measures or Project
13 alternatives identified in the final EIR.

14 **Facts Supporting the Finding(s)**

15 Description of the Impact

16 In the event of an accident, there is a greater likelihood of injury, fatality, and property
17 damage near Center Road Pipeline MP 4.1. The pipeline right-of-way (ROW) is
18 approximately 565 feet from the closest structure in the area and Highway 1 forms a
19 physical barrier between the pipeline ROW and the area of less robust housing.

20 Proposed Mitigation

21 Mitigation measures include the following:

22 MM PS-5a, Treat Manufactured Home Residential Community as a High Consequence
23 Area (HCA).

24 MM PS-5a would implement additional pipeline safety measures, above the level of
25 standards (based on population densities) applicable under law, rule and regulation, for
26 areas along the pipeline route with a predominance of semi-permanent housing. The
27 measure would also increase public awareness by requiring implementation of the
28 Pipeline Integrity Management Program, which requires continuing public education and
29 a public awareness program.

30 Potential impacts from a natural gas release in areas with less robust housing
31 construction and outdoor activities would be reduced, considering the distance of the
32 closest structure from the pipeline ROW and the presence of the highway between the
33 ROW and the nearest structure, with the implementation of the additional measures
34 described above; however, the impacts would still be potentially significant should an

- 1 incident occur. Therefore this impact would remain potentially significant after
- 2 application of all feasible mitigation.

1 **CEQA Finding No. MT-1**

2 **Marine Traffic**

3 Impact: **MT-1:** Temporary Increase in Maritime Traffic during FSRU Mooring,
4 Offshore Pipeline Construction, and Shore Crossing Resulting in
5 Increased Safety Risks

6 Class: II

7 Finding(s): a) Changes or alterations have been required in, or incorporated into, the
8 Project that avoid or substantially lessen the significant environmental
9 effect as identified in the final EIR.

10 **Facts Supporting the Finding(s)**

11 Description of the Impact

12 The FSRU would be towed to the proposed Port location from the shipyard where it
13 would be fabricated. Installation of the mooring system, PLEM, and PLET would begin
14 before the FSRU would arrive. Six vessels would be used to install the PLET and
15 PLEM and moor the FSRU over a period of 20 days, working 24 hours per day. This
16 operation would take place over 2 NM (2.3 miles or 3.8 km) from the boundary of the
17 southbound TSS. Offshore pipelaying would occur over a 35-day period, 24 hours per
18 day. Four vessels would be used over the entire 35-day period. Two additional vessels
19 would be used for a 10-day and an 8-hour period, respectively. The subsea pipelines
20 would cross the Santa Barbara TSS (see Impact PS-1 for an explanation of the TSS).

21 The Applicant would shut down parts of the vessel traffic lanes during construction;
22 therefore, transiting vessels would have to either exit the portion of the lane being used
23 by the construction vessels (to the northeast or southwest depending on their direction
24 of travel) and/or slow down for safe passage so as not to endanger the construction
25 crews due to their wakes. One half of one traffic lane would be shut down as the
26 pipelay barge approaches and crosses the TSS. The only time when more than half of
27 a traffic lane may be closed would be when the pipeline is being laid through the lane;
28 with a construction rate of 1.87 NM (2.15 miles or 3.46 km) per day, this would occur for
29 less than half a day. This would not stop vessel traffic because vessel traffic could be
30 diverted temporarily outside of the traffic lane. Once pipelaying has been completed
31 across the TSS, it would continue until reaching the HDB exit point.

32 As a result, marine activities associated with site preparation, transportation, and
33 installation of the mooring system, FSRU, and subsea pipelines could temporarily
34 increase maritime traffic congestion and increase the risk of vessel collision.

35 Proposed Mitigation

36 MM MT-1c. Notices to Mariners.

1 MM MT-1d. Securite Broadcasts.

2 MM MT-1e. Safety Vessel.

3 MM MT-1f. Guard Boats.

4 MM MT-1g. Construction Schedule Signs.

5 The Applicant would be required under maritime law to issue a Notice to Mariners for
6 the period of construction. Because there are no specific requirements for the contents
7 of a Notice to Mariners, MM MT-1c requires that the Notice to Mariners give mariners
8 advance notice of construction areas, TSS lane closures, etc., allowing pre-planning of
9 routes to minimize delays or inconveniences associated with diverting around the
10 construction. Construction schedule signs posted onshore would serve to notify
11 recreational vessel operators who do not normally check Notices to Mariners.

12 Securite broadcasts required by MT-1d would serve as a reminder to those familiar with
13 the Notice to Mariners/posted signs, and as an initial notification of construction
14 activities/required actions to everyone else.

15 The safety vessel required by MM MT-1e would serve as one possible platform for
16 originating Securite broadcasts, but more importantly, as an active means of contacting
17 vessels directly by name, course/speed, etc.

18 Under MM MT-1f, the guard boats would perform the same role closer to shore for the
19 small craft and specifically trawlers that might require more than a radio call to make
20 them aware of construction activities and required actions.

21 Implementation of the mitigation measures described above would, for the reasons
22 stated, decrease marine traffic congestion, thereby reducing the risk of vessel collision
23 to a level below its significance criteria.

1 **CEQA Finding No. MT-2**

2 **Marine Traffic**

3 Impact: **MT-2: Long-Term Increase in Maritime Traffic during Offshore Operations**

4 Class: II

5 Finding(s): a) Changes or alterations have been required in, or incorporated into, the
 6 Project that avoid or substantially lessen the significant environmental
 7 effect as identified in the final EIR.

8 **Facts Supporting the Finding(s)**

9 Description of the Impact

10 LNG carriers would travel across the Pacific and would approach the FSRU along one
 11 of two routes. Both routes avoid the vessel traffic service (VTS) and the TSS (see
 12 Impact PS-1 for an explanation of the TSS). A maximum of 99 LNG carrier arrivals
 13 would occur annually at Cabrillo Port. The Applicant's support vessels would have a
 14 maximum of 500 annual transits traveling to and from Port Hueneme.

15 Project support vessels transiting between the FSRU and Port Hueneme would be
 16 required to use the appropriate designated traffic lane wherever possible for most of any
 17 transit, and would enter and depart such traffic lanes in accordance with the
 18 International Regulations for Avoiding Collisions at Sea (the nautical "rules of the road")
 19 and any applicable local requirements. Vessel traffic from Port Hueneme and the Port
 20 of Long Beach/Los Angeles is projected to increase over the next 40 years. Much of
 21 this vessel traffic will travel through the Santa Barbara Channel TSS. The Project would
 22 contribute at most one vessel roundtrip per day in increased vessel traffic in the TSS.
 23 No LNG carrier would enter the Santa Barbara Channel TSS.

24 As a result of the presence of the Project, LNG carriers, tugs, and attending vessels
 25 transiting to and from the FSRU, could increase maritime traffic congestion during
 26 Project operations.

27 Proposed Mitigation

28 MM MT-2d. Incorporation of Procedures for Delays.

29 MM MT-2e. Evaluation of Routes to and from Port Hueneme.

30 Although the Applicant has specified provisions for delays, such provisions would only
 31 become formalized for the Project if they are included in the facility operations manual.
 32 Once included in the facility operations manual as required by MM MT-2d, procedures
 33 for delays for all vessels calling on the FSRU would be established and would ensure
 34 that all the Project LNG carriers would operate in a consistent manner.

- 1 The provision to evaluate vessel routes to and from the Port of Hueneme would allow
- 2 both parties to make potential adjustments to the routes based on operational data to
- 3 ensure the safest routes would regularly be used.

- 4 As a result of the implementation of the above mitigation measures, the impact would ,
- 5 for the reasons stated, be reduced a level below its significance criteria.

1 **CEQA Finding No. MT-3**

2 **Marine Traffic**

3 Impact: **MT-3: Long-Term Increase in Safety Hazards due to the Presence of the**
4 **FSRU and LNG Carriers**

5 Class: II

6 Finding(s): a) Changes or alterations have been required in, or incorporated into, the
7 Project that avoid or substantially lessen the significant environmental
8 effect as identified in the final EIR.

9 **Facts Supporting the Finding(s)**

10 Description of the Impact

11 The FSRU mooring location would be situated approximately 2 NM (2.3 miles or 3.7 km)
12 from the Southbound Coastwise Traffic Lane of the Santa Barbara Channel Traffic
13 Separation Scheme, which has relatively high levels of maritime traffic (see Impact PS-1
14 for an explanation of the TSS). The presence of the FSRU and approaching/departing
15 LNG carriers could cause other vessels to make course and speed adjustments
16 because large vessels typically try to avoid approach within 2 NM (2.3 miles or 3.7 km)
17 of each other in the open ocean.

18 The presence of the Project would increase the number of vessels in the area and
19 therefore could increase the risk of collisions. Ships could collide with the FSRU or
20 Project-support vessels could collide with other vessels. An analysis of marine traffic
21 risks showed that the greatest potential for vessel collision would occur between
22 merchant vessels and a Project LNG carrier; a small craft has the greatest potential to
23 collide with the FSRU. Project and non-Project vessels would have to comply with all
24 USCG navigational safety regulations.

25 The world's LNG fleet has operated for many years under the regulation of the USCG
26 and other international regulatory bodies. Since 1944, only five LNG carrier accidents
27 have occurred when LNG ships were at sea. The rest occurred when ships were in port
28 and during loading and offloading operations. None of these accidents resulted in
29 injuries, fatalities, or a release of LNG, and only one was the result of a collision with
30 another vessel.

31 Proposed Mitigation

32

33 MM MT-3f. Live Radar and Visual Watch.

34 MM MT-3g. Information for Navigational Charts.

1 Under the Deepwater Port Act, the FSRU is required to have a control center, but the
2 Deepwater Port Act does not specify how it would be operated.

3 MM MT-3f prescribes how equipment in the control room would be operated. Live radar
4 and visual watchstanders would provide an extra level of security to ensure that vessels
5 approaching the FSRU would be monitored and tracked and to inform them of the
6 FSRU's location, intentions, and the nature of safety and/or security zones in effect.
7 The provision for live radar and visual watch at the vessel control center of the FSRU is
8 comparable to the established and proven in service, policies, and procedures of the
9 Louisiana Offshore Oil Port (LOOP), the only operational oil deepwater port in the U.S.
10 As a result, approaching vessels would be able to take measures to avoid the FSRU.

11 MM MT-3g would ensure that navigational charts would be promptly changed and
12 published expeditiously to coincide with mooring of the FSRU; typically changes are not
13 initiated until a facility is in place. Interim corrections could be made by mariners in
14 response to the areas/zones being published in Notices to Mariners. Once published
15 on navigational charts, the safety zone and the ATBA delineations would assist all
16 mariners transiting the Project area to plan accordingly to avoid the safety zone and the
17 ATBA. Interim corrections could be made by mariners in response to the areas/zones
18 being published in Notices to Mariners.

19 The implementation of the measures described above would, for the reasons stated,
20 reduce the effects of the proposed Project on long-term marine traffic to a level below
21 the significance criteria.

1 **CEQA Finding No. MT-4**

2 **Marine Traffic**

3 Impact: **MT-4: FSRU or LNG Carrier Accident Impact on Marine Traffic**

4 Class: II

5 Finding(s): a) Changes or alterations have been required in, or incorporated into, the
6 Project that avoid or substantially lessen the significant environmental
7 effect as identified in the final EIR.

8 **Facts Supporting the Finding(s)**

9 Description of the Impact

10 An incident at the FSRU or on an LNG carrier could adversely affect marine traffic. The
11 vessel collision analysis showed that the probabilities of vessel collisions are small;
12 however, marine traffic could be adversely affected if an incident were to occur. Since
13 LNG carriers would approach no closer to the mainland and traffic lanes than the vicinity
14 of the FSRU, and the FSRU LNG capacity greatly exceeds that of LNG carriers, it was
15 assumed that the potential consequences modeled for the FSRU represented the worst
16 credible scenarios for an LNG incident. Potential threats would be generated to vessels
17 in the area, including ships in the TSS, by the potential drifting of an unignited methane
18 cloud. With a wind speed of 2 m per second (4.5 mph or 7.2 km per hour), an unignited
19 cloud would take approximately 89 minutes to reach the TSS; however, faster wind
20 speeds would reduce this time. (See Impact PS-1 for an explanation of the TSS).

21 Commercial vessels over 65 feet (20 m) using the TSS are required to monitor Channel
22 16 and use AIS and the Global Marine Distress Safety System (GMDSS) (if equipped
23 per IMO and U.S. regulations); therefore, they would be alerted as soon as a notice
24 would be sent. Upon receipt of the notice, commercial vessels ideally would take
25 evasive actions by either changing course or increasing their speed or both to avoid or
26 evacuate the affected area. Commercial fishing vessels over 300 domestic gross
27 registered tons are required to have an AIS and GMDSS and therefore would also
28 receive the notification.

29 Recreational vessels would be alerted if they are adhering to maritime communication
30 regulations; however, some vessels may not know to take measures to avoid entering a
31 potentially hazardous area.

32 If an incident were to occur, the USCG would take immediate action. The Captain of
33 the Port (COTP) of LA/LB would immediately issue an Urgent Marine Information
34 Broadcast to warn vessels to avoid the area. In addition, USCG would deploy vessels
35 to conduct search and rescue.

1 Proposed Mitigation

2 MM PS-3b. Emergency Communication/ Warnings.

3 MM MT-3f. Live Radar and Visual Watch.

4 As required by MM PS-3b, the Applicant would use all available communication devices
5 on the FSRU, LNG carrier, and/or Project support vessels to immediately notify vessels
6 in any offshore area, including hailing and Pan Pan broadcasts, if an incident were to
7 occur. This would allow vessels in the area to take evasive maneuvers to avoid or
8 minimize potential harm. Finally, MM MT-3f would reduce the likelihood of a collision
9 because the crew would have early warning of nearby vessels or aircraft and would
10 assist in managing an incident should one occur. The provision for live radar and visual
11 watch at the vessel control center of the FSRU is comparable to the established and
12 proven in service, policies, and procedures of the Louisiana Offshore Oil Port (LOOP),
13 the only operational oil deepwater port in the U.S. .

14 With the implementation of the mitigation measures described above, which would
15 reduce the potential for incidents due to operational errors, upsets, or equipment
16 failures or natural phenomena, the impact on marine traffic would, for the reasons
17 stated, be reduced to a level that is below the marine traffic significance criteria.

1 **CEQA Finding No. MT-5**

2 **Marine Traffic**

3 Impact: **MT-5:** Temporary Interference with Operations in the Point Mugu Sea
4 Range or the SOCAL Range Complex during Offshore Construction

5 Class: II

6 Finding(s): a) Changes or alterations have been required in, or incorporated into, the
7 Project that avoid or substantially lessen the significant environmental
8 effect as identified in the final EIR.

9 **Facts Supporting the Finding(s)**

10 Description of the Impact

11 Marine activities associated with site preparation, transportation, and installation of the
12 mooring system, FSRU, or subsea pipelines could temporarily burden maritime traffic
13 tracking systems or make clearing of some warning areas impossible; thus, temporary
14 disruption of operations in the Point Mugu Sea Range or the SOCAL Range Complex
15 could occur.

16 The subsea pipelines (from approximately milepost [MP] 3 to MP 16.8) would be
17 installed across the Point Mugu Sea Range. The U.S. Navy has indicated that the
18 support and construction vessels used during the installation of the subsea pipelines
19 would not have a significant impact on operations, if that work is coordinated well in
20 advance with the Navy. However, precautions would be necessary to ensure that
21 impacts do not become significant. No construction activities would occur within the
22 SOCAL Range Complex, with the exception of transport of the FSRU from its overseas
23 location.

24 Proposed Mitigation

25 MM MT-5a. Avoid Point Mugu Sea Range.

26 MM MT-5b. Daily Safety Briefs.

27 MM MT-5c. Daily Coordination with the U.S. Navy.

28 MM MT-5d. Monitor U.S. Navy Securite Broadcasts.

29 As required by MM MT-5a, potential impacts on the Point Mugu Sea Range would be
30 reduced if offshore pipeline construction is coordinated with the US Navy and only
31 vessels directly related to construction enter the Range.

32 Under MM MT-5b, all crews on Project construction vessels would be briefed daily,
33 which would remind construction workers to avoid the Range.

- 1 Under MM MT-5c, in addition, the Applicant would be required to coordinate with the
- 2 Navy daily to ensure that construction activities, once authorized by the Navy, would not
- 3 conflict with Navy activities.

- 4 Under MM 5d, the Applicant would have to monitor Navy broadcasts to proactively
- 5 avoid interference with Navy activities.

- 6 The implementation, at the request of the U.S. Navy, of the mitigation measures
- 7 described above would, for the reasons stated, avoid and ultimately reduce interference
- 8 with U.S. Navy activities to a level below its significance criteria.

1 **CEQA Finding No. MT-6**

2 **Marine Traffic**

3 Impact: **MT-6: Long-Term Interference with Operations in the Point Mugu Sea**
4 **Range and the SOCAL Range Complex**

5 Class: II

6 Finding(s): a) Changes or alterations have been required in, or incorporated into, the
7 Project that avoid or substantially lessen the significant environmental
8 effect as identified in the final EIR.

9 **Facts Supporting the Finding(s)**

10 Description of the Impact

11 Marine activities associated with Project operations could burden maritime traffic
12 tracking systems or could make clearing of some warning areas impossible and disrupt
13 operations in the Point Mugu Sea Range or the SOCAL Range Complex.

14 LNG carriers would transit through a small portion of the Point Mugu Sea Range.
15 Although infrequent, Navy operations could preclude use of either or both LNG carrier
16 routes for periods up to several hours. Project support vessels used during operations
17 may cross the Point Mugu Sea Range. LNG carriers would transit within the SOCAL
18 Range Complex, but not through the FLETA HOT, SHOBA, SWTR, or SOAR active
19 ranges.

20 The U.S. Navy has indicated in 2004 and 2006 that Project operations would not pose a
21 problem as long as U.S. Navy Securite broadcasts are heeded, LNG carrier schedules
22 are provided, and the U.S. Navy is notified in advance of an LNG carrier's approach,

23 Proposed Mitigation

24 MM MT-6a. Follow U.S. Navy Securite Broadcasts.

25 MM MT-6b. LNG Carrier Schedules.

26 MM MT-6c. Coordinate with the U.S. Navy.

27 MM MT-6a would prevent transiting LNG carriers from entering any areas in which the
28 Navy was conducting exercises because they would heed Navy Securite broadcasts.

29 MM MT-6b would require the LNG carrier schedule to be provided to the Navy and then
30 require notification of the Navy when LNG carriers are approaching the FSRU.

31 MM MT-6c would ensure that both the Navy and the LNG carrier captains would avoid
32 any potential interference with Navy activities by the use of any LNG carrier route.

- 1 With the implementation, at the request of the U.S. Navy, of the mitigation measures
- 2 described above, this impact would, for the reasons stated, be reduced to a level below
- 3 its significant criteria.

1 **CEQA Finding No. MT-7**

2 **Marine Traffic**

3 Impact: **MT-7: Long-Term Interference with Operations at Port Hueneme**

4 Class: II

5 Finding(s): a) Changes or alterations have been required in, or incorporated into, the
6 Project that avoid or substantially lessen the significant environmental
7 effect as identified in the final EIR.

8 **Facts Supporting the Finding(s)**

9 Description of the Impact

10 Activities associated with Project operations could increase traffic at Port Hueneme;
11 thus, disruption of operations at Port Hueneme could occur. Port Hueneme has limited
12 berth space and is in the process of changing its mission to focus on cargo rather than
13 support for offshore oil and gas facilities. The harbor provides berth space on a first-
14 come, first-served basis. The Applicant has stated that the crew/supply boat would be
15 berthed at Port Hueneme and would take two trips to each LNG carrier that is docked at
16 the FSRU during cargo unloading. In addition, one tugboat would make weekly trips to
17 its berth at Port Hueneme to pick up supplies. The Applicant's use of the Port would
18 increase vessel traffic in and out of the Port from 1,750 to 2,250 vessel round trips
19 annually, representing a 28 percent increase in vessel traffic. This increase could be
20 significant if Project vessels were to loiter within the Port waiting for berth space to
21 become available; however, this impact could be mitigated through coordination
22 between the Applicant and the Port of Hueneme.

23 Port Hueneme requires that local licensed pilots guide all vessels that are more than 2
24 300 gross registered tons. The tug boats would exceed 300 gross registered tons.
25 Therefore, every week a local pilot would need to pilot the tugboat in and out of the Port.
26 Port Hueneme currently has two pilots; therefore, the Project's use of pilots may impede
27 other traffic in and out of the Port. In addition, every time a 300-gross-registered-ton
28 vessel would enter the Port, all activity in the main channel of the Port entrance would
29 cease. Although it would only take the tugboat less than 10 minutes to transit the
30 channel, this could cause minor delays to commercial fishing and potentially other
31 operations.

32 Proposed Mitigation

33 MM MT-7a. Project Pilots.

34 MM MT-7b. U.S. Navy Exemption.

35 MM MT-7c. Scheduling of Tug trips to the Port of Hueneme.

1 As required by MM MT-7a, having the masters of Project tugs obtain Port of Hueneme-
2 endorsed masters would eliminate the need for the use of Port of Hueneme's limited
3 number of existing pilots. As a result, Port of Hueneme pilots could continue to pilot
4 other vessels as they currently do, and vessel transits into and out of the Port would
5 continue as they currently do so that other commercial uses are not impaired.

6 Under MT-7b, a Navy exemption to the requirement to cease operations when Project
7 tugs enter and leave the Port of Hueneme would eliminate potential adverse impacts on
8 commercial fishing operations.

9 Under MT-7c, if the exemption were not granted, the 48-hour notification of tugboat
10 arrivals would reduce or eliminate any adverse impacts on commercial fishing
11 operations at Port Hueneme. In addition, the advanced coordination with Port of
12 Hueneme could reduce potential congestion within the Port caused by Project vessels
13 waiting for berth space.

14 With the implementation of the mitigation measures described above, the impact
15 would, for the reasons stated, be reduced to a level below its significance criteria.

1 **CEQA Finding No. AES-3**

2 **Aesthetics**

3 Impact: **AES-3: Alter Views for Recreational Boaters**

4 Class: I

5 Finding(s): c) Specific economic, legal, social, technological, or other considerations,
6 including provision of employment opportunities for highly trained
7 workers, make infeasible the mitigation measures or Project
8 alternatives identified in the final EIR.

9 **Facts Supporting the Finding(s)**

10 Description of the Impact

11 The FSRU would change the visual character of the ocean view for recreational
12 boaters. The change in character of the seascape could represent an adverse impact.
13 Judging the intensity of the impact with respect to recreational boaters is subjective.
14 Some boaters would not find the FSRU to be a significant adverse aesthetic impact
15 because they are accustomed to the large ships traveling nearby in the shipping lanes.
16 However, because recreational boaters would have the opportunity to view the FSRU
17 much closer than observers on land, their views could be substantially degraded.
18 Therefore, the Project would result in a significant long-term aesthetic impact for
19 recreational boaters.

20 Proposed Mitigation

21 No feasible mitigation is available to reduce this impact to below its significance criteria;
22 therefore, this impact would remain significant .

1 **CEQA Finding No. AGR-1**

2 **Agriculture and Soils**

3 Impact: **AGR-1: Temporary Loss of Agricultural Land**

4 Class: II

5 Finding(s): a) Changes or alterations have been required in, or incorporated into, the
6 Project that avoid or substantially lessen the significant environmental
7 effect as identified in the final EIR.

8 **Facts Supporting the Finding(s)**

9 Description of the Impact

10 Construction activities could temporarily cause a loss of agricultural land, crops, or crop
11 production; however, the potential financial effect on farmers would be limited because
12 they would be compensated for both temporary and permanent losses of agricultural
13 land, crops, production and other negative effects, and the affected land would be
14 restored to its original condition following construction. No trees can grow within 15 feet
15 of the pipelines due to maintenance and safety requirements.

16 Proposed Mitigation

17 MM AGR-1d. Minimize Orchard Tree Removal.

18 MM AGR-1d would minimize orchard tree removal and require that small orchard trees
19 be replanted to replace any trees removed in the area between the temporary
20 construction easement and the permanent pipeline ROW.

21 This measure would, for the reasons stated, reduce impacts on agricultural land to a
22 level below its significance criteria.

1 **CEQA Finding No. AGR-2**

2 **Agriculture and Soils**

3 Impact: **AGR-2:** Permanent Conversion of Agricultural Land to Non-Agricultural
4 Use

5 Class: I

6 Finding(s): c) Specific economic, legal, social, technological, or other considerations,
7 including provision of employment opportunities for highly trained
8 workers, make infeasible the mitigation measures or Project
9 alternatives identified in the final EIR.

10 **Facts Supporting the Finding(s)**

11 Description of the Impact

12 Operational activities could cause a loss of agricultural land, crops, or crop production.
13 Construction of permanent facilities could cause a permanent loss of agricultural land,
14 crops, or crop production. Agricultural land that is preserved under the Williamson Act
15 could be permanently converted from agricultural land to non-agricultural land. Prime
16 farmland or farmland of Statewide Importance could be converted to non-agricultural
17 uses.

18 The NRCS has evaluated the proposed routes and determined that there would be no
19 significant impact on agricultural lands under its jurisdiction; however, under the
20 California Environmental Quality Act (CEQA) guidelines, any conversion of Prime
21 Farmland, Unique Farmland, or Farmland of Statewide Importance soils to non-
22 agricultural may represent a significant impact. The conversion of 0.1 acre of land at
23 the Center Road Valve Station is a significant impact that cannot be mitigated. This
24 impact would be a Class I impact.

25 Proposed Mitigation

26 No mitigation is available for the conversion of prime farmland to uses other than
27 farming because such farmland, once lost, is irreplaceable; therefore, the impact
28 remains significant.

1 **CEQA Finding No. AGR-3**

2 **Agriculture and Soils**

3 Impact: **AGR-3: Topsoil Loss, Mixing, and/or Compaction**

4 Class: II

5 Finding(s): a) Changes or alterations have been required in, or incorporated into, the
6 Project that avoid or substantially lessen the significant environmental
7 effect as identified in the final EIR.

8 **Facts Supporting the Finding(s)**

9 Description of the Impact

10 Construction activities could result in topsoil and subsoil mixing, soil compaction, and/or
11 introduction of weed/invasive species, thereby reducing agricultural productivity. Where
12 construction occurs in agricultural areas, the concentrated movement of construction
13 equipment could result in mixing topsoil with the relatively infertile subsoil, thereby
14 diluting the productivity of the soil. The use of heavy equipment could also result in
15 rutting, which could lead to mixing of topsoil and subsoil, especially in excessively wet
16 conditions. Inadequate compaction of the trench backfill could result in soil subsidence
17 over the pipeline and thereby alter drainage patterns, while severe over compaction
18 could impede vegetation growth because of restricted movement of air and water into
19 the soil. Approximately 90.8 acres (36.7 ha) of agricultural soils would be disturbed by
20 the construction of the Center Road Pipeline, based on an average 80-foot (24.4 m)
21 ROW for most of the route and a 100-foot ROW (30.5-meter) for the last portion of the
22 pipeline route. Approximately 30.1 acres (12.2 ha) of agricultural soil would be
23 disturbed (based on an average 80-foot [24.4 m] ROW) along the proposed Line 225
24 Pipeline Loop; however, loss of soil productivity is less of a concern for this route
25 because it would traverse urban, residential, commercial, and industrial lands, and none
26 of the undeveloped areas are agricultural

27 Proposed Mitigation

28 MM AGR-3a. Topsoil salvage and replacement.

29 MM AGR-3b. Landowner Compensation for Soil Productivity Losses.

30 MM AGR-3a would ensure that the top soil disturbed by the Project would be
31 segregated and be replaced as topsoil to retain its continued agricultural productivity.

32 If soil productivity losses still were to occur in spite of preventive measures,
33 implementation of MM AGR-3b would ensure that farmers would be adequately
34 compensated for their losses due to loss of soil productivity.

35 Implementation of the mitigation measures described above would, for the reasons
36 stated, reduce this potential impact to a level below its significance criteria.

1 **CEQA Finding No. AGR-4**

2 **Agriculture and Soils**

3 Impact: **AGR-4: Dust Deposition**

4 Class: II

5 Finding(s): a) Changes or alterations have been required in, or incorporated into, the
6 Project that avoid or substantially lessen the significant environmental
7 effect as identified in the final EIR.

8 **Facts Supporting the Finding(s)**

9 Description of the Impact

10 Dust generated during construction could be deposited on adjacent agricultural lands
11 with planted crops, temporarily reducing productivity by reducing a plant's ability to
12 photosynthesize.

13 Proposed Mitigation

14 MM AIR-2b. Construction Fugitive Dust Plan.

15 MM AGR-4a. Dust Suppression Water Quality.

16 MM AIR-2b would minimize the generation of fugitive dust; therefore, the potential
17 adverse effects of the presence of fugitive dust on agricultural fields would be potentially
18 avoided or minimized.

19 Implementation of MM AGR-4a would ensure that water applied in the implementation
20 of the Construction Fugitive Dust Plan to reduce the generation of fugitive dust is
21 potable water that would not adversely affect agricultural production.

22 With the minimization of fugitive dust generation without adversely affecting water
23 quality, the potential effects of dust deposition impacts would, for the reasons stated, be
24 reduced to a level below its significance criteria.

1 **CEQA Finding No. AGR-5**

2 **Agriculture and Soils**

3 Impact: **AGR-5: Loss of Tree Rows**

4 Class: II

5 Finding(s): a) Changes or alterations have been required in, or incorporated into, the
6 Project that avoid or substantially lessen the significant environmental
7 effect as identified in the final EIR.

8 **Facts Supporting the Finding(s)**

9 Description of the Impact

10 Loss of tree rows could reduce agricultural productivity. Tree rows provide a windbreak
11 for agricultural fields, decreasing stresses on individual plants and thus allowing them to
12 grow with fewer disturbances. Along the Center Road Pipeline route, approximately
13 8,372 linear feet of tree rows would potentially be disturbed. There are no known tree
14 rows along the Line 225 Pipeline Loop.

15 Proposed Mitigation

16 MM TerrBio-2g. Tree Avoidance and Replacement

17 Implementation of MM TerrBio-2g would require the Applicant to replace tree rows at
18 ratio of 1:1. Replacement trees would be 15-gallon trees approximately 8 to 10 feet in
19 height. The type of tree planted would be approved by the CDFG and/or the landowner.

20 Therefore, the potential impact of the removal of tree rows would be limited to the period
21 of construction and would be reduced to a level below its significance criteria in the
22 long-term as the planting of larger replacement trees would reduce the time to return to
23 baseline conditions.

1 **CEQA Finding No. AGR-6**

2 **Agriculture and Soils**

3 Impact: **AGR-6: Impacts from a Leak or Fire Associated with the Natural Gas**
4 Transmission Line

5 Class: II

6 Finding(s): a) Changes or alterations have been required in, or incorporated into, the
7 Project that avoid or substantially lessen the significant environmental
8 effect as identified in the final EIR.

9 **Facts Supporting the Finding(s)**

10 Description of the Impact

11 If the natural gas transmission line leaked and/or was ignited, the resulting fire could
12 cause the loss of crops or the contamination of the soil in the vicinity of the leak or fire.
13 A leak or rupture in any natural gas transmission line would require immediate response
14 by fire and police departments and SoCalGas. This could disrupt nearby agricultural
15 activities by preventing access to the fields for a number of hours. Plants in the
16 immediate vicinity of the pipe rupture would be lost and other localized crop losses
17 could occur. Although not acutely toxic, soot from the burning of any material in the
18 vicinity of the fire could contaminate nearby crops and would likely require destruction of
19 soot-contaminated plants and/or fruit.

20 Proposed Mitigation

21 MM AGR-6a. Restoration After a Natural Gas Transmission Line Accident.

22 MM PS-3c. Areas Subject to Accelerated Corrosion, Cathodic Protection System.

23 MM PS-4b. Pipeline Integrity Management Program.

24 MM PS-4c. Install Additional Mainline Valves Equipped with Either Remote Valve
25 Controls or Automatic Line Break Controls.

26 Implementation of MM AGR-6a would ensure that the area would be restored to its
27 original baseline condition should a leak or fire cause damage or contamination.

28 MM PS-3c would increase the overall integrity of the onshore pipelines, thereby
29 reducing the potential for accidents. The purpose of Federal Office of Pipeline Safety
30 pipeline safety advisories is to communicate issues based on experience in order to
31 improve safety.

32 MM PS-4b would increase public awareness by requiring implementation of the Pipeline
33 Integrity Management Program prior to pipeline operations instead of afterwards.

- 1 MM PS-4c would limit the affected area from a potential pipeline accident by allowing
- 2 SoCalGas to automatically control the influx of gas into sections of the pipeline system.
- 3 A team of engineers from the CSLC and CPUC evaluated project-specific pipeline valve
- 4 spacing and design and determined that they were appropriate to limit the potential
- 5 release duration and the quantity of natural gas that might be released from a ruptured
- 6 pipeline segment by reducing the distance between the mainline valves.

- 7 Impacts of this type would be temporary and the effects could be mitigated over the
- 8 long-term, for the reasons stated, to a level below its significance criteria.

1 **CEQA Finding No. AIR-1**

2 **Air Quality**

3 Impact: **AIR-1: Net Emission Increases of Criteria Pollutants from Construction**
4 **Activities in Designated Nonattainment Areas**

5 Class: I

6 Finding(s): a) Changes or alterations have been required in, or incorporated into, the
7 Project that avoid or substantially lessen the significant environmental
8 effect as identified in the final EIR.

9 c) Specific economic, legal, social, technological, or other considerations,
10 including provision of employment opportunities for highly trained
11 workers, make infeasible the mitigation measures or Project
12 alternatives identified in the final EIR.

13 **Facts Supporting the Finding(s)**

14 Description of the Impact

15 The dispersion modeling analysis indicates the maximum ambient CO and NO₂ impacts
16 caused by emissions from onshore construction activities would be less than applicable
17 National Ambient Air Quality Standards and State Air Quality Standards. However,
18 Project construction activities in Ventura and Los Angeles Counties would generate
19 emissions that exceed quantitative thresholds for ozone precursors, NO_x and ROC, and
20 CO.

21 Proposed Mitigation

22 MM AIR-1d. Gasoline-Fueled Equipment.

23 MM AIR-1e. USEPA Tier 3 Nonroad Engine Standards.

24 MM AIR-1f. Construction Emissions Reduction Plan.

25 MM AIR-1g. Construction Equipment Documentation.

26 MM AIR-1d would require the exclusive use of gasoline fueled equipment that meets
27 specific exhaust emissions standards. This mitigation measure would reduce CO and
28 NO_x emissions by precluding the use of gasoline-fueled construction equipment that
29 does not meet these standards. Air quality analysis predicts that the reduced
30 construction emissions due to this mitigation measure, in combination with other
31 mitigation measures, would not cause CO or NO₂ ambient air quality standards to be
32 exceeded.

33 MM Air-1e would require that all diesel equipment with a rating between 100 and 750
34 horsepower be equipped with engines that comply with USEPA Tier 3 nonroad engine
35 standards. This mitigation measure would reduce air pollutant emissions by precluding

1 the use of applicable construction equipment that does not meet these standards. Air
2 quality analyses predict that the reduced construction emissions due to this mitigation
3 measure, in combination with other mitigation measures, would not cause exceedences
4 of CO or NO₂ ambient air quality standards.

5 MM AIR-1f specifies the preparation of a plan to catalog the emissions reductions
6 elements, including Applicant measures and mitigation measures that the Applicant
7 must incorporate into construction contracts. The plan would also include additional
8 specific measures that represent best management practices for construction activities,
9 which are expected to result in reductions in air pollutant emissions.

10 MM AIR-1g requires the Applicant to provide appropriate documentation to confirm the
11 implementation of Applicant emission reduction measures and mitigation measures.
12 This mitigation does not provide for additional emission reductions, but provides for a
13 mechanism for confirming the emission reductions quantified under Applicant measures
14 and other mitigation measures are achieved.

15 Since Project-related mitigation would not reduce the daily level of NO_x, ROCs, and CO
16 emissions from construction activities to less than the applicable Ventura County Air
17 Pollution Control District and South Coast Air Quality Management District significance
18 thresholds, this impact would remain Class I.

1 **CEQA Finding No. AIR-2**

2 **Air Quality**

3 Impact: **AIR-2: Violations of Ambient Air Quality Standards Caused by Particulate**
4 Emissions from Onshore Construction Activities

5 Class: I

6 Finding(s): a) Changes or alterations have been required in, or incorporated into, the
7 Project that avoid or substantially lessen the significant environmental
8 effect as identified in the final EIR.

9 c) Specific economic, legal, social, technological, or other considerations,
10 including provision of employment opportunities for highly trained
11 workers, make infeasible the mitigation measures or Project
12 alternatives identified in the final EIR.

13 **Facts Supporting the Finding(s)**

14 Description of the Impact

15 Onshore Project construction activities would generate PM₁₀ and PM_{2.5} emissions that
16 could cause or contribute to existing or projected violations of National Ambient Air
17 Quality Standards and/or State Ambient Air Quality Standards.

18 Implementation of the Construction Emissions Reduction Plan and other mitigation
19 measures would lead to the use of equipment engines and control equipment that would
20 emit less diesel particulate matter (PM₁₀ and PM_{2.5}).

21 Measures required under the Construction Fugitive Dust Plan would serve to limit, to the
22 extent feasible, the generation of fugitive dust caused by construction activities.
23 Emission reductions for fugitive PM₁₀ and PM_{2.5} associated with this mitigation measure
24 have already been incorporated into current emission estimates.

25 In addition to emission reduction measures, the Applicant would be required to monitor
26 ambient concentrations of PM₁₀ and PM_{2.5} during construction activities and take
27 appropriate actions to avoid violations of ambient air quality standards.

28 Proposed Mitigation

29 MM AIR-2b. Construction Fugitive Dust Plan.

30 MM AIR-1e. USEPA Tier 3 Nonroad Engine Standards.

31 MM AIR-1f. Construction Emissions Reduction Plan.

32 MM AIR-1g. Construction Equipment Documentation.

1 MM AIR-2b specifies the preparation of a plan to elaborate the fugitive dust control
2 measures that the Applicant must incorporate into construction contracts. The plan
3 would include Applicant proposed measures as well as specific measures required by
4 local rules and regulations that represent best management practices for construction
5 activities. The emission reductions from fugitive control measures are expected reduce
6 PM₁₀ and PM_{2.5} emissions. In addition to emission reduction measures, the Applicant
7 would be required to monitor ambient concentrations of PM₁₀ and PM_{2.5} during
8 construction activities and take appropriate actions to avoid violations of ambient air
9 quality standards. However, air quality analysis predicts that emissions from
10 construction activities would have the potential to contribute to exceedences of PM₁₀
11 and PM_{2.5} ambient air quality standards.

12 MM Air-1e would require that all diesel equipment with a rating between 100 and 750
13 horsepower be equipped with engines that comply with USEPA Tier 3 nonroad engine
14 standards. This mitigation measure would reduce air pollutant emissions by precluding
15 the use of applicable construction equipment that does not meet these standards.
16 However, air quality analysis predicts that emissions from construction activities would
17 have the potential to contribute to exceedences of PM₁₀ and PM_{2.5} ambient air quality
18 standards.

19 MM AIR-1f specifies the preparation of a plan to catalog the emissions reductions
20 elements, including Applicant measures and mitigation measures that the Applicant
21 must incorporate into construction contracts. The plan would also include additional
22 specific measures that represent best management practices for construction activities
23 that are expected to result in reductions in air pollutant emissions. However, air quality
24 analysis predicts that emissions from construction activities would have the potential to
25 contribute to exceedences of PM₁₀ and PM_{2.5} ambient air quality standards.

26 MM AIR-1g requires the Applicant to provide appropriate documentation to confirm the
27 implementation of Applicant emission reduction measures and mitigation measures.
28 This mitigation does not provide for additional emission reductions, but provides for a
29 mechanism for confirming the emission reductions quantified under Applicant measures
30 and other mitigation measures.

31 Despite these mitigation measures, the potential for onshore construction activities
32 (primarily in the form of fugitive dust emissions) to cause an exceedance of applicable
33 ambient air quality standards would exist; therefore, the potential impact remains Class
34 I.

1 **CEQA Finding No. AIR-3**

2 **Air Quality**

3 Impact: **AIR-3:** Violations of Ambient Air Quality Standards, Exposure of the Public
4 to Substantial Pollutant Concentrations, and/or Creation of Objectionable
5 Odors Caused by an Accidental LNG Spill or Pipeline Rupture

6 Class: I

7 Finding(s): a) Changes or alterations have been required in, or incorporated into, the
8 Project that avoid or substantially lessen the significant environmental
9 effect as identified in the final EIR.

10 c) Specific economic, legal, social, technological, or other considerations,
11 including provision of employment opportunities for highly trained
12 workers, make infeasible the mitigation measures or Project
13 alternatives identified in the final EIR.

14 **Facts Supporting the Finding(s)**

15 Description of the Impact

16 An LNG spill from the FSRU or a pipeline rupture would result in a natural gas release
17 and/or a fire that could cause temporary increases in ambient air concentrations of
18 criteria pollutants in excess of air quality standards, expose sensitive receptors and the
19 general public to substantial concentrations of toxic air contaminants, and/or create
20 objectionable odors.

21 Proposed Mitigation

22 MM PS-3c. Areas Subject to Accelerated Corrosion, Cathodic Protection System.

23 MM PS-4c. Install Additional Mainline Valves Equipped with Either Remote Valve
24 Controls or Automatic Line Break Controls.

25 MM PS-4d. Treat Shore Crossing as Pipeline HCA.

26 MM PS-4e. Safety Marker Indicating the Presence of Buried Natural Gas Pipeline at
27 Ormond Beach.

28 MM PS-4f. Emergency Response.

29 MM PS-5a. Treat Manufactured Home Residential Community as a High Consequence
30 Area.

31 MM PS-3c would increase the overall integrity of the offshore and onshore pipelines,
32 thereby reducing the potential for accidents. The purpose of Federal Office of Pipeline
33 Safety pipeline safety advisories is to communicate issues based on experience in order
34 to improve safety.

1 MM PS-4c would limit the affected area from a potential pipeline accident by allowing
2 SoCalGas to automatically control the influx of gas into sections of the pipeline system.
3 A team of engineers from the CSLC and CPUC evaluated project-specific pipeline valve
4 spacing and design and determined that they were appropriate to limit the potential
5 release duration and the quantity of natural gas that might be released from a ruptured
6 pipeline segment by reducing the distance between the mainline valves.

7 MM PS-4d would provide for implementation of the pipeline integrity management
8 program at beach recreation areas where people could be located in the vicinity of the
9 pipelines. MM PS-4e would improve the safety of the system by enabling members of
10 the public to report gas leaks. MM PS-4f would improve the timeliness and
11 effectiveness of emergency response measures and facilitate evacuation of beach
12 users in the unlikely event of a potential pipeline accident.

13 MM PS-5a would implement additional pipeline safety measures above the level of
14 standards (based on population densities) applicable under law, rule and regulation, for
15 areas along the pipeline route with a predominance of semi-permanent housing. The
16 measure would also increase public awareness by requiring implementation of the
17 Pipeline Integrity Management Program, which requires continuing public education and
18 a public awareness program.

19 However, this impact would exceed air quality significance criteria after application of all
20 feasible mitigation measures and would, therefore, remain Class I.

1 CEQA Finding No. AIR-4**2 Air Quality**

3 Impact: **AIR-4: Emissions of Ozone Precursors from the FSRU**

4 Class: II

5 Finding(s): a) Changes or alterations have been required in, or incorporated into, the
6 Project that avoid or substantially lessen the significant environmental
7 effect as identified in the final EIR.

8 Facts Supporting the Finding(s)9 Description of the Impact

10 Emissions of NO_x and ROC generated from FSRU equipment and the LNG carrier
11 during offloading of LNG could contribute to ambient ozone impacts in the areas
12 downwind of the Project.

13 Proposed Mitigation

14 MM AIR-4b. Ultra-low NO_x SCV Burners.

15 MM Air-4b. requires the Applicant to use burners in the SCVs that are certified for a
16 maximum NO_x emission concentration (4-hour average) of 15 ppm at 3% oxygen.
17 Conventional SCV burners emit 40 ppm NO_x. Use of the 15 ppm burners will reduce
18 emissions attributable to the SCV to 34.6 tons per year. This would result in a reduction
19 of annual NO_x emissions from the FSRU (including emissions attributable to powering of
20 the LNG transfer pumps) to 61.3 tons per year.

21 Based on the USEPA's and the CARB's estimates, the proposed Emissions Reduction
22 Program would provide for NO_x emission reductions greater than the estimated annual
23 NO_x emissions from FSRU equipment (66.1 tons per year) and the LNG carrier during
24 offloading of LNG (9.4 tons per year). These NO_x emission reductions would likely be
25 as effective in mitigating ambient ozone concentrations in onshore air basins as would
26 corresponding NO_x emission reductions occurring at the FSRU and offloading LNG
27 carriers. Thus, AM AIR-4a would reduce emissions of ozone precursors from the FSRU
28 to below the significance criteria.

29 Since the publication of the FinalEIR, the Applicant has provided additional information
30 to the USEPA documenting that no further emission control technology can be
31 implemented to further reduce emissions through the application of selective catalytic
32 reduction technology to the submerged combustion vaporizers (SCVs) on the FSRU.
33 However, through a redesign of the SCV technology, the Applicant has identified a
34 modification to the SCV burners and committed to implement new MM AIR-4b, which
35 would further reduce emissions of NO_x (as well as other air pollutants) by specifying
36 more stringent performance standards for the SCVs. This reduction in NO_x emissions

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1 from the FSRU would reduce the amount of emissions reductions required to mitigate
2 Impact AIR-4 and increase the emissions reductions available to mitigate Impact AIR-5.

3 The mitigation measure described above would, for the reasons stated, reduce the
4 impact to a level less than significant.

5 The CSLC has reviewed the addition of MM AIR-4b in light of the provisions of the State
6 CEQA Guidelines concerning recirculation and has determined that the redesign of the
7 SCV technology does not involve any new adverse environmental effects that were not
8 previously discussed in the Final EIR, and, in fact, reduce the levels of potentially
9 significant impacts identified in the Final EIR. The criteria listed specifically in section
10 15088.5(a)(1-4) of the State CEQA Guidelines are not met; therefore, the CSLC
11 believes recirculation is unwarranted.

1 **CEQA Finding No. AIR-5**

2 **Air Quality**

3 Impact: **AIR-5: Emissions of Ozone Precursors from Project Vessels Operating in**
4 **California Coastal Waters.**

5 Class: I

6 Finding(s): a) Changes or alterations have been required in, or incorporated into, the
7 Project that avoid or substantially lessen the significant environmental
8 effect as identified in the final EIR.

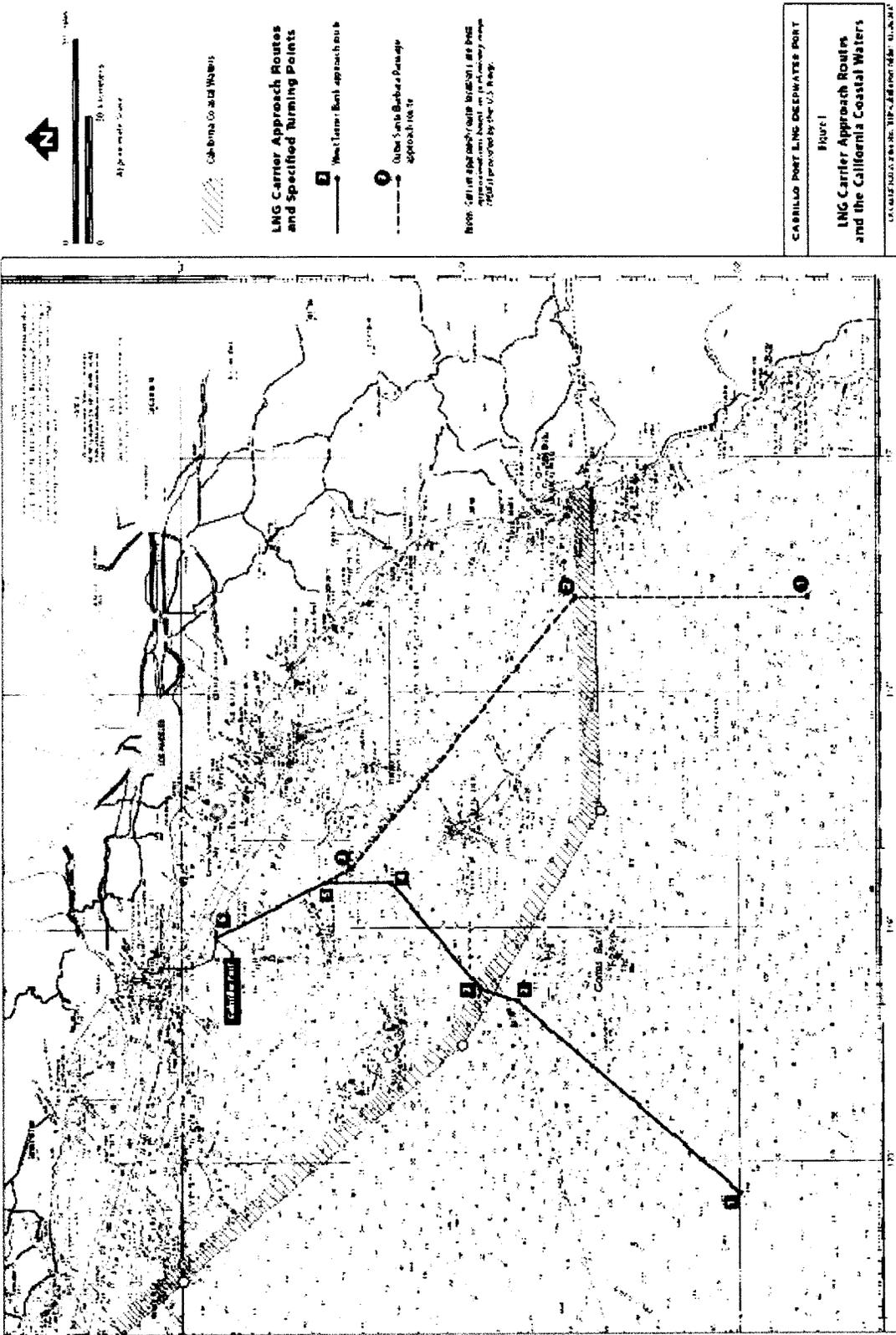
9 c) Specific economic, legal, social, technological, or other considerations,
10 including provision of employment opportunities for highly trained
11 workers, make infeasible the mitigation measures or Project
12 alternatives identified in the final EIR.

13 **Facts Supporting the Finding(s)**

14 Description of the Impact

15 Emissions of ozone precursors, NO_x and ROC, generated from LNG carriers, tugboats,
16 and the crew/supply boat operating in California Coastal Waters could contribute to
17 ambient ozone impacts in areas located downwind of the Project (see Figure 1). The
18 definition of California Coastal Waters was developed by the California Air Resources
19 Board (CARB) to define the area where meteorological conditions could cause air
20 pollutant emissions from offshore sources (i.e., vessels, platforms) to migrate to
21 onshore areas. The boundary of California Coastal Waters is defined by a series of
22 coordinates located in the Pacific Ocean (17 Cal. Code Regs., § 70500). Depending
23 on the location, California Coastal Waters can extend between approximately 25 to 100
24 miles off shore from the California coastline. The point where LNG carriers would cross
25 the boundary of California Coastal Waters is approximately 90 miles (80 nautical miles)
26 offshore of the coastline of Ventura County and Los Angeles County.

27 LNG carriers would burn natural gas in California Waters. Excluding the emissions
28 generated for the operation of LNG transfer pumps during offloading of the LNG carrier,
29 annual ozone precursor emissions from project vessels within California Coastal Waters
30 would be 84.7 tons of NO_x per year and 28.3 tons of ROC per year. Of these totals,
31 emissions of NO_x and ROC in Ventura County waters, defined as 3 nautical miles off
32 the Ventura County coastline, would be 0.28 and 0.12 tons per year, respectively, and
33 would be caused solely by service vessels and tugs. LNG carriers would operate on the
34 high seas and in Federal waters and would come no closer than 12.01 nautical miles
35 from shore, the location of the FSRU.



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