4.4 HAZARDS AND HAZARDOUS MATERIALS

This Section describes the environmental setting and impacts related to hazards and hazardous materials, primarily related to accidental releases of fuel, oil, or hydraulic fluids from the sand mining barges and tugs used for the proposed San Francisco Bay and Delta Sand Mining Project (Project). The Project would extend existing operations by Hanson Marine Operations (Hanson) and Jerico Products, Inc./Morris Tug & Barge (Jerico) (the applicants) for another 10 years. For discussion related to issues associated with existing environmental contamination, refer to Section 4.3, Hydrology and Water Quality. Regarding potential human health effects of air emissions, see Section 4.5, Air Quality.

4.4.1 Environmental Setting

Vessel Traffic

Many types of marine vessels call at terminals in the San Francisco Bay Area (Bay Area), including passenger vessels, cargo vessels, tankers, tow/tug vessels, dry cargo barges, and tank barges. Table 4.4-1 presents information on vessel visits to the Bay Area during 2006 (U.S. Army Corps of Engineers [ACOE] 2006). The numbers in Table 4.4.1 represent inbound transits, and numbers for outbound transits are approximately the same. A vessel that visits multiple terminals is counted at each terminal. With the exception of San Francisco Harbor, these numbers do not reflect vessel traffic transits originating in the Bay. Excluding San Francisco Harbor, 40,890 vessels called at terminals in the Bay Area in 2006. Of these, 3,639 vessels transited the Carquinez Strait.

Table 4.4-1. Inbound Vessel Traffic in San Francisco Bay (2006)

<table>
<thead>
<tr>
<th>Location</th>
<th>Type of Vessel</th>
<th>Total Number of Vessels</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Passenger &amp; Cargo</td>
<td>Tanker</td>
</tr>
<tr>
<td>San Francisco Bay Entrance</td>
<td>2,810</td>
<td>804</td>
</tr>
<tr>
<td>San Francisco Harbor</td>
<td>&lt;38,825&gt;1</td>
<td>1</td>
</tr>
<tr>
<td>Redwood City Harbor</td>
<td>40</td>
<td>-</td>
</tr>
<tr>
<td>Oakland Harbor</td>
<td>9,134</td>
<td>5</td>
</tr>
<tr>
<td>Richmond Harbor</td>
<td>133</td>
<td>428</td>
</tr>
<tr>
<td>San Pablo Bay and Mare Island Strait</td>
<td>10,053</td>
<td>465</td>
</tr>
<tr>
<td>Carquinez Strait</td>
<td>465</td>
<td>446</td>
</tr>
<tr>
<td>Total</td>
<td>22,635</td>
<td>2,149</td>
</tr>
</tbody>
</table>

Note: 2006 is the full year prior to the 2007 issuance of the Project Notice of Preparation as described in Section 1.2.5, Definition of Baseline and Future Conditions.

1 38,825 passenger and cargo vessels were counted as vessel traffic generated within the Bay; these are not counted as inbound vessel traffic at the San Francisco Bay entrance.

Source: ACOE 2006
Spill Response Capability

Marine terminals and all vessels calling at marine terminals are required to have spill response plans and a certain level of initial response capability. However, it is not economically feasible or practical for terminal or vessel operators to have their own equipment to respond to more than minor spills. Therefore, operators must rely on pooled or contract capabilities to handle larger spill events.

Major Vessel Incidents Inside and Outside of the Bay

In 1971, a collision of the Oregon Standard and the Arizona Standard occurred in heavy fog under the Golden Gate Bridge, resulting in a spill of approximately 27,600 barrels [bbls] of heavy fuel oil. Spilled oil impacted the outer coast as far north as Point Reyes and to the south near San Gregorio Beach in San Mateo County.

In 1984, the chemical tanker Puerto Rican experienced an explosion in a void space surrounding a cargo tank. The explosion occurred while the vessel was in open waters about 8 miles west of the Golden Gate Bridge. The accident resulted in injury to crew members and the release of over 30,000 bbls of lubricating oil and fuel oil, impacting the Farallon Islands, Point Reyes, and Bodega Bay.

In 1989, the tug Standard IV with an oil barge in tow lost control while approaching its berth at the Richmond Long Wharf. The barge struck the pier, destroying a catwalk and parting the bow lines on the tanker Overseas Juneau. The tanker dropped an anchor, hailed a passing light tug which held the tanker’s bow against the dock while the tanker made preparations to get underway, and transited to anchorage without any further damage. The barge suffered minor damage and the Standard IV none.

On February 20, 1997, the partially laden T/V Overseas Philadelphia broke loose from her mooring lines at the Wickland Selby marine oil terminal and drifted without power into the Carquinez Strait. The terminal sustained severe damage to the fixed loading arms and the concrete wharf, and reportedly 420 gallons (10 bbls) of jet fuel was released into the Strait. Within approximately 8 minutes of the incident, the vessel started her engines and safely anchored about 8 nautical miles from the terminal.

In November 2007, a container ship, the Cosco Busan, struck the Bay Bridge and released almost 1,400 bbls of fuel oil into the water. Oil contamination occurred on the waterfront in the Bay, and several beaches in San Francisco and in Marin County were closed because of oil contamination. On-water and shoreline cleanup activities were
undertaken, and many oiled and closed beaches have since been cleaned up and have re-opened.

As a result of the 2007 Cosco Busan spill, State legislation was passed in September 2008 that is geared to improve oil spill preparedness and to improve response measures. Some of the passed legislation deals with preparedness, while other legislation assigns responsibility for cleanup in the event of a spill.

Bay Area Vessel Traffic Control Systems

A Traffic Separation Scheme has been established by the U.S. Coast Guard (USCG) outside the entrance to the Bay. It includes three directed traffic areas, each with one-way inbound and outbound traffic lanes, defined separation zones, a precautionary area, and a pilot boat cruising area. Within the Bay, the USCG has established seven Regulated Navigation Areas (RNAs). The RNAs organize traffic flow patterns to reduce vessel congestion where maneuvering room is limited. The RNAs are geared to minimize meeting, crossing, and overtaking situations between large vessels in constricted channels and under limited vessel speed. All larger vessels operating in the RNAs are required to follow certain navigation rules that limit vessel speed and require vessel engines to be ready for immediate operation under control conditions. Vessel traffic is monitored by the USCG at the Vessel Traffic Center (VTC) at Yerba Buena Island.

Pilotage in and out of the Bay and adjacent waterways is compulsory for all vessels of foreign registry and U.S. vessels not having a federally licensed pilot onboard. The San Francisco Bar Pilots provide pilotage to ports in the Bay and to ports on all tributaries to the Bay. Pilots board a vessel at the Golden Gate entrance and pilot the vessel to its destination. When the vessel is ready to leave, a pilot reboards the vessel and pilots it to sea or to other destinations within the Bay.

4.4.2 Regulatory Setting

Definitions

The term “hazardous material” is defined in different ways for different regulatory programs. For the purposes of this analysis, the definition of “hazardous material” is that defined by the California Health and Safety Code section 25501: “because of their quantity, concentration, or physical or chemical characteristics, [they] pose a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment.”
“Hazardous waste” is a subset of hazardous materials. For the purposes of this analysis, the definition of hazardous waste is that defined as waste materials that, “because of their quantity, concentration, or physical, chemical, or infectious characteristics, may either cause, or significantly contribute to an increase in mortality or an increase in serious illness, or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.” (Health & Saf. Code, § 25517 and Cal. Code Regs., tit. 22, § 66261.2.)

**Laws and Regulations Governing Marine Vessels and Spills**

Many laws and regulations are currently in place that regulate marine vessels and emergency response/contingency planning. Enforcing or executing these laws and regulations are the responsibilities of various international, Federal, State, and local agencies. The responsible agencies are summarized below.

*International Maritime Organization*

The agency governing the movement of goods at sea is the International Maritime Organization (IMO). The IMO has established a series of international protocols. Individual countries must approve and adopt these protocols before they become effective. In 1990, the U.S. Environmental Protection Agency (U.S. EPA) passed the Oil Pollution Act (OPA 90) and California passed the Lempert-Keene-Seastrand Oil Spill Prevention and Response Act (California Senate Bill [SB] 2040) to meet IMO requirements. Traffic Separation Schemes must be approved by the IMO, and they have been approved for entrances to the Bay and Santa Barbara Channel.

The IMO adopted an amendment to the International Convention for Safety of Life at Sea (SOLAS) with provisions entitled “Special Measures to Enhance Maritime Safety,” which became effective in 1996. These provisions allow for operational testing during port State examinations to ensure that masters and crews for both U.S. and international vessels are familiar with essential shipboard procedures relating to ship safety. The USCG Marine Safety Office conducts these port State examinations as part of their vessel inspection program.

*Federal Agencies*

There are a number of Federal laws and agencies that regulate marine vessels. These laws address, among other things, design and construction standards, operational standards, and spill prevention and cleanup. Regulations for implementing these laws are
contained primarily in Title 33 (Navigation and Navigable Waters), Title 40 (Protection of Environment), and Title 46 (Shipping) of the Code of Federal Regulations (CFR).

OPA 90, identified above, was enacted to expand prevention and preparedness activities, improve response capabilities, ensure that shippers and oil companies pay the costs of spills that occur, and establish an expanded research and development program. All facilities and vessels that have the potential to release oil into navigable waters are required by OPA 90 to have up-to-date oil spill response plans and to have submitted them to the appropriate Federal agency for review and approval. Of particular importance in OPA 90 is the requirement for vessels to demonstrate that they have sufficient response equipment under contract to respond to and clean up a worst-case spill. Other key laws addressing oil pollution include:

- Federal Water Pollution Control Act of 1972;
- Clean Water Act of 1977 (CWA);
- Water Quality Act of 1987;
- Act of 1980 to Prevent Pollution from Ships;
- Resource Conservation and Recovery Act (RCRA) of 1978;
- Hazardous and Solid Waste Act of 1984; and
- Refuse Act of 1899.

Responsibilities for implementing and enforcing the Federal regulations addressing vessels and pollution control fall to a number of agencies, as described below.

**United States Coast Guard.** The USCG, through Title 33 (Navigation and Navigable Waters) and Title 46 (Shipping) of the CFR, is the Federal agency responsible for vessel inspection, marine terminal operations safety, coordination of Federal responses to marine emergencies, enforcement of marine pollution statutes, marine safety (navigation aids, etc.), and operation of the National Response Center (NRC) for spill response. It is the lead agency for offshore spill response. The USCG implemented a revised vessel-boarding program in 1994 designed to identify and eliminate substandard ships from U.S. waters. The program pursues this goal by systematically targeting the relative risk of vessels and increasing the boarding frequency on high-risk (potentially substandard) vessels. Each vessel’s relative risk is determined through the use of a matrix that factors in the vessel’s flag, owner, operator, classification society, vessel particulars, and violation history. Vessels are assigned a boarding priority from I to IV, with priority I vessels being the potentially highest risk.
The Coast Guard and Marine Transportation Act of 2004 amended the OPA 90 to require owners and operators of all non-tank vessels (vessels not designed to carry oil as cargo) to prepare and submit a plan for responding to a worst case oil spill from their vessels. A non-tank vessel under the Act is defined as a self-propelled vessel of 400 tons or greater that operates on the U.S. navigable waters carrying oil of any kind for its main propulsion. Any vessel meeting the criteria was to submit a non-tank vessel response plan (NTVRP) to the USCG by August 8, 2005.

**United States Environmental Protection Agency.** The U.S. EPA is responsible for the National Contingency Plan and acts as the lead agency in response to an onshore spill. The U.S. EPA also serves as co-chair of the Regional Response Team, which is a team of agencies established to provide assistance and guidance to the on-scene coordinator (OSC) during the response to a spill. The U.S. EPA also regulates disposal of recovered oil and is responsible for developing regulations for Spill Prevention, Control, and Countermeasures (SPCC) Plans. SPCC Plans are required for non-transportation-related onshore and offshore facilities that have the potential to spill oil into waters of the United States or adjoining shorelines.

As of December 19, 2008, the U.S. EPA requires all commercial vessels of 79 feet or more in length to secure a Vessel General Permit (VGP) for oil and other pollutant discharges incidental to normal operation, under the CWA’s National Pollution Discharge Elimination System (NPDES). The VGP is a set of requirements including Best Management Practices (BMPs) that addresses 28 types of vessel discharges for the purpose of minimizing their impact on surrounding waters. Compliance with the VGP includes requirements for material storage, environmental controls, routine vessel inspections, corrective actions, and recordkeeping.

**National Oceanic and Atmospheric Administration (NOAA).** NOAA provides scientific support for response and contingency planning, including assessment of the hazards that may be involved. The movement and dispersion of oil and hazardous substances is evaluated through trajectory modeling, and information on the sensitivity of coastal environments to oil and hazardous substances is reported. NOAA provides expertise on living marine sources and their habitats, including endangered species, marine mammals, and National Marine Sanctuary ecosystems. It also provides information on meteorological, hydrological, and oceanographic conditions for marine, coastal, and inland waters, and tide and circulation data for coastal waters.
U.S. Army Corps of Engineers. The ACOE is responsible for reviewing all aspects of a project and/or spill response activities that could affect navigation. The ACOE has specialized equipment and personnel for maintaining navigation channels, removing navigation obstructions, and accomplishing structural repairs.

State Agencies

California Department of Fish and Game (CDFG). The Office of Oil Spill Prevention and Response (OSPR) was created within the CDFG to adopt and implement regulations and guidelines for spill prevention, response planning, and response capability. Final regulations regarding oil spill contingency plans for vessels and marine facilities were issued in November 1993, and last updated in October 2002. These regulations are similar to, but more comprehensive than, the Federal regulations. The regulations require that tank vessels, barges, and marine facilities develop and submit their comprehensive oil spill response plans to OSPR for review and approval. OSPR’s regulations require that marine vessels be able to demonstrate that they have the necessary response capability on hand or under contract to respond to specified spill sizes, including a worst-case spill. SB 2040 established financial responsibility requirements and required that Applications for Certificate of Financial Responsibility be submitted to OSPR. California’s requirement for financial responsibility exceeds the Federal requirements.

Specifically, OSPR requires that all self-propelled, non-tank vessels of 300 tons gross weight or greater have a California Nontank Vessel Contingency Plan (CANTVCP) prepared and submitted in accordance with the provisions set forth in Title 14 of the California Code of Regulations (CCR). Non-self-propelled non-tank vessels that do not carry any oil are exempt. The provisions specify that the owner/operator of a covered non-tank vessel have contracted resources to respond to the reasonable worst case spill within a specific time frame. A reasonable worst case spill is defined as a spill equal to the total volume of the largest fuel tank on the non-tank vessel. Fleet contingency plans are permissible for an owner/operator who has a number of non-tank vessels operating the same or substantially the same routes in marine waters.

San Francisco Bay Conservation and Development Commission (BCDC). BCDC is responsible for carrying out the provisions of the San Francisco Bay Plan, which includes Navigational Safety and Oil Spill Prevention findings and policies that recognize the importance of navigational safety to the region’s water related industries, that marine accidents can result in spills of hazardous materials that can adversely affect Bay resources, and the importance of oil spill response plans and appropriate and accessible spill response equipment as parts of effective oil spill response strategies.
Policies call for the removal of physical obstacles to navigation to the extent feasible, compliance on the part of marine facilities projects with OSPR, USCG, and other organization oil spill contingency plan requirements, and the encouragement of major facility owners, ACOE, and NOAA to conduct up-to-date shipping channel surveys.

**Hazardous Materials and Hazardous Waste Transportation and Clean-up**

**Federal**

The U.S. Department of Transportation (DOT) has developed regulations pertaining to the transport of hazardous materials and hazardous wastes by all modes of transportation. The DOT regulations specify packaging requirements for different types of materials. The U.S. EPA has also promulgated regulations for the transport of hazardous wastes. These more stringent requirements include tracking shipments with manifests to ensure that wastes are delivered to their intended destinations. Applicable Federal regulations are contained primarily in Titles 40 and 49 of the CFR.

**State**

The California Environmental Protection Agency (CalEPA) establishes regulations governing the use of hazardous materials in the State. The Office of Emergency Services (OES) coordinates State and local agencies and resources for educating, planning, and warning citizens of hazardous materials, hazardous materials emergencies, including organized response efforts in case of emergencies. The California Highway Patrol (CHP) and the California Department of Transportation (Caltrans) are the State enforcement agencies for hazardous materials transportation regulations. Transporters of hazardous materials and waste are responsible for complying with all applicable packaging, labeling, and shipping regulations.

**Department of Toxic Substances Control.** Within CalEPA, the Department of Toxic Substances Control (DTSC) has primary regulatory responsibility for hazardous waste management and cleanup. Requirements place “cradle-to-grave” responsibility for hazardous waste disposal on hazardous waste generators. Generators must ensure that their wastes are disposed of properly. Enforcement of regulations is delegated to local jurisdictions that enter into agreements with DTSC for the generation, transport, and disposal of hazardous materials under the authority of the Hazardous Waste Control Law. State regulations applicable to hazardous materials are contained in Title 22 of the CCR. Title 26 of the CCR is a compilation of those sections or titles of the CCR that are applicable to hazardous materials management.
4.4 Hazards and Hazardous Materials

Hazardous Materials Management Plans

State and Federal laws require detailed planning to ensure that hazardous materials are properly handled, used, stored, and disposed of, and, in the event that such materials are accidentally released, to prevent or to mitigate injury to health or the environment. California’s Hazardous Materials Release Response Plans and Inventory Law (Health & Saf. Code, Div. 20, Ch. 6.95), sometimes called the “Business Plan Act,” aims to minimize the potential for accidents involving hazardous materials and to facilitate an appropriate response to hazardous materials emergencies. The law requires businesses that use hazardous materials to provide inventories of those materials to designated emergency response agencies, to illustrate on a diagram where the materials are stored on-site, to prepare an emergency response plan, and to train employees to use the materials safely.

Worker Safety

Occupational safety standards exist in Federal and State laws to minimize worker safety risks from both physical and chemical hazards in the workplace. The California Division of Occupational Safety and Health (better known as Cal/OSHA) is responsible for developing and enforcing workplace safety standards and assuring worker safety in the handling and use of hazardous materials. Among other requirements, Cal/OSHA obligates many businesses to prepare Injury and Illness Prevention Plans and Chemical Hygiene Plans. The Hazard Communication Standard requires that workers be informed of the hazards associated with the materials they handle. For example, manufacturers are to appropriately label containers, Material Safety Data Sheets are to be available in the workplace, and employers are to properly train workers.

4.4.3 Significance Criteria

A potentially significant hazards and hazardous materials impact exists if:

- Current or future operations are not consistent with Federal, State, or local regulations;

- Any facility or operation, existing or proposed, does not conform to its contingency plans or other hazard or risk-related plans that are in effect;

- The potential exists for fires, explosions, releases of flammable or toxic materials, or any other accidents that could cause injury or death to members of the public; or

- Existing and proposed emergency response capabilities are not adequate to mitigate emergency conditions the project has the potential to cause.
4.4 Hazards and Hazardous Materials

4.4.4 Impact Analysis and Mitigation

Potential Project-related hazards include accidental releases of fuel, oil, or hydraulic fluids from the sand mining barges and tugs. The Applicants are required by law to follow all applicable hazards and hazardous materials regulations and applicable plans for the use, transportation, and disposal of hazardous materials. Table 4.4-3, located at the end of Section 4.4.4, summarizes impacts for the hazards and hazardous materials issue area.

**Impact HAZ-1: Potential for accidental leak or spill of hazardous materials**

The proposed Project includes the routine use of hazardous materials that could create a significant hazard to the public or environment if accidentally spilled or released (Potentially Significant, Class II).

The same sand mining barges and tugboats currently used by the Applicants would be used to conduct sand mining operations under the proposed Project. Hazardous materials associated with operations of barges with dredging equipment and tug boats include fuel, lubricants, coolants, and other materials. These materials are considered hazardous, and a significant impact may occur if they are accidentally released to the environment, as may occur due to equipment malfunction or an accident.

Hanson and Jerico have provided written inventories of hazardous materials carried on the sand mining barges and tugs. These are summarized in Table 4.4-2. Quantities are estimates provided by Hanson and Jerico, and may vary at any given time.

In accordance with Title 14 of the CCR, Foss Maritime Company (Foss), which, under contract to Hanson, operates the vessels used in Hanson’s sandmining operations, and Jerico, are each required to have a current CANTVCP because they operate at least one non-self-propelled non-tank vessel that carries oil. Foss has a current CANTVCP and Letter of Approval from the OSPR (control # 08-05-0619) that applies to the vessels American River (DS-10) and Sand Merchant (TS&G 230) used by Hanson. By complying with the regulation, Foss is effectively mitigating the risk of accidental releases of hydraulic fluids, solvents, oils, and residual fluids present on its sand mining barges, because they have demonstrated adequate measures to prevent spills and adequate preparation to address any spill that may occur.
4.4 Hazards and Hazardous Materials

Table 4.4-2. Potentially Hazardous Materials on Board Sand Mining Barges and Tugs

<table>
<thead>
<tr>
<th>Material</th>
<th>Hanson barges</th>
<th>Hanson tugs</th>
<th>Jerico tugs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diesel Fuel</td>
<td>3,150 gal</td>
<td>4,356 gal</td>
<td>9,000 gal</td>
</tr>
<tr>
<td>Lubrication Oils</td>
<td>147 gal</td>
<td>187 gal</td>
<td>200 gal</td>
</tr>
<tr>
<td>Hydraulic Oils</td>
<td>298 gal</td>
<td>57 gal</td>
<td>200 gal</td>
</tr>
<tr>
<td>WD-40 Lubricant</td>
<td>none reported</td>
<td>none reported</td>
<td>16 oz</td>
</tr>
<tr>
<td>Degreaser spray</td>
<td>none reported</td>
<td>none reported</td>
<td>16 oz</td>
</tr>
<tr>
<td>Engine coolant</td>
<td>none reported</td>
<td>10 gal</td>
<td>none reported</td>
</tr>
<tr>
<td>Fuel additive</td>
<td>6 gal</td>
<td>2 gal</td>
<td>none reported</td>
</tr>
<tr>
<td>Acrylic polysiloxde marine coating and primer</td>
<td>12 gal</td>
<td>2 gal</td>
<td>none reported</td>
</tr>
<tr>
<td>Epoxy primers, paints and coating</td>
<td>6 gal</td>
<td>none reported</td>
<td>20 gal</td>
</tr>
<tr>
<td>Spray paints and primers</td>
<td>none reported</td>
<td>none reported</td>
<td>12 oz</td>
</tr>
<tr>
<td>Coal tar paint</td>
<td>none reported</td>
<td>none reported</td>
<td>5 gal</td>
</tr>
<tr>
<td>Red grease heavy duty lubricant</td>
<td>none reported</td>
<td>none reported</td>
<td>10 lbs</td>
</tr>
<tr>
<td>Acetylene gas</td>
<td>300 cu ft</td>
<td>150 cu ft</td>
<td>100 lbs</td>
</tr>
<tr>
<td>Oxygen gas</td>
<td>none reported</td>
<td>none reported</td>
<td>100 lbs</td>
</tr>
<tr>
<td>Detergents and Soaps</td>
<td>3 gal</td>
<td>1 gal</td>
<td>48 oz</td>
</tr>
</tbody>
</table>

1 Largest tank or container reported by operator.
2 No information was provided for Jerico’s barge.

Jeric’s J5200 hopper barge has a reported length of 200 feet and is assumed to be greater than 300 gross tons. Assuming that the J5200 carries oil, it qualifies under Title 14 as a covered non-tank vessel. Jerico has not yet obtained an approved CANTVCP for the J5200, but is in the process of preparing one. Jerico is therefore out of compliance with Title 14, and unprepared for a leak or spill. This is considered a significant impact (Class II).

Under the CWA, U.S. EPA requires all commercial vessels of 79 feet or more in length to secure a VGP that includes BMPs and corrective actions for control and containment of hazardous materials used during normal operations. Hanson and Jerico have VGPs in place that include BMPs for Discharges from Towing Vessels and Barges; implementation of these BMPs would ensure that routine operations do not have the potential for a significant discharge of hazardous materials to the Bay and Delta.

Mitigation Measure (MM) for Impact HAZ-1: Potential for accidental leak or spill of hazardous materials

MM HAZ-1. Provide a California Non-tank Vessel Contingency Plan (CANTVCP) to the CSLC. Jerico shall, within three (3) months of certification of this Environmental Impact Report, provide to the CSLC a CANTVCP, reviewed and approved by the California Department of Fish and Game Office of Oil Spill.
Prevention and Response, demonstrating that adequate measures are in place to prevent and respond to accidental releases of hydraulic fluids, solvents, oils, and residual fluids.

4 Rationale for Mitigation

The CANTVCP requirement is designed to mitigate the risk of accidental spills and control discharge of hazardous materials under normal operating conditions. Complying with this regulatory requirement and implementation of BMPs specified in the CANTVCP and VGP would ensure that oils and other hazardous materials are properly managed and will minimize the potential for accidental releases to occur, reducing impacts to a less than significant level.

Table 4.4-3. Summary of Hazards and Hazardous Materials Impacts and Mitigation Measures

<table>
<thead>
<tr>
<th>Impact</th>
<th>Mitigation Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>HAZ-1: Potential for accidental leak or spill of hazardous materials.</td>
<td>HAZ-1. Provide a California Non-tank Vessel Contingency Plan (CANTVCP) to the CSLC.</td>
</tr>
</tbody>
</table>

4.4.5 Impacts of Alternatives

Under the No Project Alternative, there would be no potential for a hazard to the public or the environment related to a hazardous materials release. The Long-term Management Strategy Conformance Alternative would have the same potential for an impact as the proposed Project. With the Reduced Project Alternative, the potential for accidental spill or release of hazardous materials would be reduced, and with the Clamshell Mining Alternative, this potential may increase, due to the increased length of time required to conduct the mining operation.

4.4.6 Cumulative Projects Impact Analysis

Activities associated with the proposed Project could result in potentially significant impacts related to the improper use or spill of hazardous materials. These impacts could be cumulatively considerable when combined with impacts of the cumulative projects identified in Table 3-3 in Section 3.0, Alternatives and Cumulative Projects. However, implementation of MM HAZ-1 reduces proposed Project hazards and hazardous materials impacts to less than significant levels, thereby reducing the cumulative contribution of the proposed Project. As a result, the proposed Project would not result in a cumulatively considerable impact related to hazards or hazardous materials and cumulative impacts would be less than significant.