

## FACTS SUPPORTING THE FINDING(S)

Herring fishing and shipping activities, in particular, would likely conflict because vessels servicing the Shore terminal would pass through active fishing areas, thus interfering with or displacing herring fishing activities. CDFG works with concerned parties to minimize conflicts; however, some fishing areas may be inaccessible to fishermen. Herring fishing currently occurs predominantly within CDFG blocks 488 (Central Bay) and 489 (South Bay). In block 488, the fishing area currently totals nearly 18 linear miles. Fishing in South Bay takes up more than double the amount of area, about 40 linear miles. In all, herring fishing areas occupy about 56 linear miles compared to spawning habitat that occupies about 268 linear miles. In any year, fishing could occur anywhere in the habitat areas.

In block 488, shipping corridors used by vessels servicing the Shore terminal pass through current herring fishing areas around Angel Island, off Alcatraz, and along portions of the Tiburon shore. In block 489, lightering operations at Anchorage 9 could continue to interfere with herring fishing operations. At any one time, a vessel would likely pass through about 10 percent of the fishing area for 13 percent to 24 percent of the time that fishing is occurring, and could result in be significant adverse (Class II) impacts. In the future, impacts on herring fishing activities may vary because the fish change their spawning locations. Future interference with herring fishing activities could result in significant adverse impacts ranging from Class II to Class III.

### Mitigation Measures for FSH-5:

**FSH-5:** Shore Terminals shall notify the herring fishery during the herring season of vessel transits. Shore shall also participate in the Pacific herring commercial fishery annual public scoping and hearing process, part of CDFG's annual review of herring commercial fishing regulations. CDFG has the authority to modify or develop regulations to address space use conflicts between the fishery and Shore's operations.

The use of notification during the 1-3 week herring season would serve as a warning system to herring fisherman of the transiting vessels, which would enable them to better plan their activities in affected areas. This would reduce or avoid interference between transiting vessels and herring fishing activities. Participation in the CDFG review of herring regulations will help keep Shore up-to-date on space use conflict regulations and their potential effects on vessel transits to and from the terminal.

## CEQA FINDING NO. FSH-8

### FISHERIES IMPACTS FROM ACCIDENTAL SPILLS AT SHORE TERMINALS OR ALONG BAY TRANSIT ROUTES

**Impact:** FSH-8: Shrimp, herring and sport fisheries in central and north San Francisco Bay, San Pablo Bay, the Carquinez Strait, Napa River and Honker Bay are at highest risk of spill contamination. Depending on spill location, size and water and weather conditions, areas upstream of the confluence of the Sacramento and San Joaquin rivers may also suffer harm. In addition the Bay marinas, launch ramps and fishing access points may be threatened, contaminated or closed. Significant adverse impacts (Class I and II) to Bay commercial and sport fisheries would result from oil spill accidents originating at the Shore marine terminal or from transiting tankers that service the terminal.

**Class:** I and II

- Finding(s):**
- a) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the Final EIR.
  - b) Such changes or alterations are within the responsibility and jurisdiction of the CDFG (BIO-6d, FSH-8c) and the USFWS (BIO-6d), not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency.
  - c) Specific economic, legal, social, technological or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the final EIR.

### **FACTS SUPPORTING THE FINDING(S)**

A significant adverse impact to fisheries will likely result from an accidental spill of crude oil or product that could occur in the Estuary during the 20 year life of the Proposed Project. The severity of the impacts will depend on the following: size of the spill, composition of the product, characteristics of the spill (instantaneous vs. prolonged discharge, surface vs. subsurface spill, and so forth), environmental conditions and effect of weathering on spill properties and effectiveness of response and clean-up operations.

Oil spill clean-up and response is fairly effective in containing a spill of 50 bbl or less (Class II). Although larger spills have a fairly low chance of occurring, when they occur fisheries would likely be impacted in many different ways: by physical presence of oil on water, fishing restrictions imposed by public agencies to ensure that no tainted seafood reaches consumers, harbor closures to keep oil in or out, spatial conflicts with clean-up operations, long and short-term biological effects on fish and habitat, changes in

seafood markets due to public fears of eating contaminated seafood, fishing interests avoiding areas for fear of contaminating gear and catching tainted fish, fishing area closures forcing fishermen to other areas, thus crowding uncontaminated areas and reducing overall catches and public reluctance to return to an area for sport fishing after a spill.

The DEIR concluded that fisheries in the Estuary that are especially vulnerable to oil spills are:

- Commercial shrimp (Carquinez Strait and eastern San Pablo Bay) and herring (central San Francisco Bay);
- Sport salmon, sturgeon, and bass (San Pablo, San Francisco Bays, the Carquinez Strait and Napa River), western Suisun Bay fisheries, halibut and rockfish (central Bay), smelt (Tiburon, Angel Island and Berkeley Pier), perch (San Pablo and central Bays, Angel Island, Berkeley Pier, Tiburon) and clam beds (Richmond); and
- Herring spawning (southern San Pablo and central Bays, Oakland/Alameda).

In particular, Mare Island Strait and the Napa River are vulnerable to spills and support salmon, sturgeon and bass fishing, in addition to several fishing access facilities. Honker Bay and the Sacramento River have a high vulnerability to 10,000 bbl spills; however the risk of such a spill occurring is low.

The DEIR, Section 3.3.3.2, Biological Resources, provides detail on effects of modeled spills on fish and habitat. To summarize, the section concludes that spills from the Shore terminal and elsewhere in the Bay would have significant adverse impacts (Class I and II) on plankton, the benthos (specifically Dungeness crab and eelgrass), anadromous fishes (salmon and steelhead trout), and fishes that spawn in the Bay, particularly Pacific herring and longfin smelt.

Significant adverse impacts (Class I and II) to commercial and sport fisheries in the Estuary would result from oil spill accidents originating at the Shore marine terminal or from transiting tankers that service the terminal. The extent of impact (Class I or Class II) would depend on the extent of damage and effectiveness of containment and rapid cleanup, and residual impacts. Shrimp, herring and sport fisheries in central and north San Francisco Bay, San Pablo Bay, the Carquinez Strait, Napa River and Honker Bay are at highest risk of spill contamination. Depending on spill location, size and water and weather conditions, areas upstream of the confluence of the Sacramento and San Joaquin rivers may also suffer harm. In addition, the 140 marinas, launch ramps and fishing access points in the region may be threatened, contaminated or closed.

Mitigation Measures for FSH-8:

The following mitigation measures shall be applied by Shore Terminals to minimize the areas precluded to fishing during a spill and subsequent cleanup, and to help offset the losses to fishing interests and businesses dependent on fishing activities.

- FSH-8a:** Implement mitigation measures OS-3 through OS-6 in Operational Safety/Risk of Accidents, and mitigation measures BIO-6b through BIO-6d to lower the probability of an oil spill and increase response capability.
- FSH-8b:** Notifications shall be posted at spill sites and marinas, launch ramps and fishing access points to warn fishing interests of locations of contaminated sites. Notices shall be written in English and Spanish, and be posted in areas most likely to be seen by fishing interests.
- FSH-8c:** Provide financial compensation in accordance with the California Oil Spill Prevention and Response Act.
- FSH-8d:** Contribute to independent public or private organizations, acceptable to the CSLC, who evaluate the effectiveness of mitigation measures (results of the evaluation would be available to public decision-makers to ensure refinement, if necessary, modification of mitigation measures). Evaluation would be done only after an accident and would include monitoring using scientifically accepted protocols. Contributions would be determined by the level of impact and in cooperation with the various organizations, agencies, and the CSLC.

Containment of small spills and protection of resources may reduce impacts to fisheries to less than significant for small spills. For large spills, significant impacts are likely to occur even with containment. Posting of notices provides information to protect the public from contact with contaminated fish, providing compensation helps to pay for the costs of cleanup, and contributing to evaluations of the effectiveness of mitigation measures would help to refine such measures to increase effectiveness for future spill events. Over the short term (less than a year) some fishing interests may not be compensated, and opportunities would be lost while fishing areas are inaccessible. These impacts may be especially acute for anglers who depend on fishing for a major source of food. Over the long term, impacts could result if, for example, areas remain closed due to contamination, or public fears of eating contaminated fish result.

The OS-3 measures would lower the probability of an oil spill by allowing for quick release of mooring lines (OS-3a), monitoring of tension of the mooring lines (OS-3b), allision avoidance (OS-3c), and ensuring through maintenance and inspection that damaged or aging wharf components are in proper operating condition (OS-3d). These measures help to reduce spills and their associated impacts. However, the impacts associated with the consequences of larger spills, greater than 50 bbls, could remain significant. OS-4 implements measures OS-3d, GEO-11a (requirement for a pipeline analysis) and GEO-11b (pipelines must meet MOTEMS for pipeline integrity). These measures help to reduce spills and their associated impacts. However, the impacts associated with the consequences of larger spills, greater than 50 bbls, could remain significant. OS-5 requires that Shore update their Wharf Operations Manual. OS-6 requires Shore to implement OS-3a for quick release mooring devices that would allow

a vessel to depart the wharf quickly would help in the event of a fire; OS-6b requires that Shore develop procedures for dealing with tank vessel fires and tanker explosions; and OS-6c shall ensure that the fire detection/suppression system conforms to the MOTEMS, Section 8.0. Previous discussions of each of these measures are incorporated herein by this reference.

### **CEQA FINDING NO. LU-3**

#### **IMPACTS ON SHORELINE AND WATER-RELATED USES FROM SPILLS AT OR NEAR THE TERMINAL**

Impact: **LU-3: A number of recreational facilities (designated parks, wildlife preserves, open space, etc.) and recreational uses (nature viewing, boating, fishing, surfing, etc.) are within the potential area that could be impacted by the spread of oil. Shoreline and water-related uses would be disrupted by oil on the shoreline and in the water and could result in significant adverse (Class I and II) impacts.**

Class: I and II

- Finding(s):
- a) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the Final EIR.
  - b) Such changes or alterations are within the responsibility and jurisdiction of the CDFG (BIO-6d, FSH-8c) and the USFWS (BIO-6d), and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency.
  - c) Specific economic, legal, social, technological or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the final EIR.

#### **FACTS SUPPORTING THE FINDING(S)**

Impacts from oil releases could degrade the environment and preclude the use of shoreline land and associated recreational activities at the site of the release and the areas affected by the spread of the oil. The degree of impact, however, is influenced by many factors including, but not limited to, spill location, spill size, type of material spilled, prevailing wind and current conditions, the vulnerability and sensitivity of the resource, and response capability.

The greater risk of spills occurs at the Shore terminal, where small spills could occur during normal operations, as well as from leaks at pipe fittings and valves. There is less chance of a spill occurring from a tankering accident; however, such an event generally can result in a much larger and more severe spill.

Crude oil and refined products would be shipped to/from the Shore terminal. Light product spills generally volatilize relatively rapidly, and little remains within 24 to 48 hours after a spill. Heavy crude oil may disappear over a period of several days, with remaining heavy fractions lasting from several weeks to several months floating at or near the surface in the form of mousse, tarballs, or mats.

No recreational facilities or activities are directly associated with the Shore terminal; however, there are a number of recreational facilities (designated parks, wildlife preserves, open space, etc.) and recreational uses (nature viewing, boating, fishing, surfing, etc.) associated with the study area. Shoreline and water-related uses would be disrupted by oil on the shoreline and in the water. For a spill at the Shore wharf, tankering and operations at the marine terminal would be stopped for a period of time depending on the amount of oil present and the amount of cleanup required.

The capability to immediately respond and deploy appropriate containment booms would also influence the extent of affected shoreline. Because it is impossible to predict with any certainty the potential consequences of spills, impacts are considered to be adverse and significant (Class I or II), because severe spills could have residual impacts that could affect shoreline and/or recreational uses. Any residual impacts remaining after first response efforts would be considered to be significant adverse impacts (Class I).

Mitigation Measures for LU-3:

**LU-3:** Mitigation measures for spills at the Shore terminal would be the responsibility of Shore Terminal operations. Specific measures are those presented in Operational Safety/Risk of Upset; Water Quality; Biological Resources; and Commercial and Sport Fisheries.

Those measures presented in other sections provide improved oil spill capabilities, oil spill containment measures and protection of resources. With implementation of those measures the risk to shoreline and recreational resources can be reduced to less than significant for small spills. Previous discussions of each of these measures are incorporated herein by this reference.

## CEQA FINDING NO. LU-4

### LAND USE/RECREATIONAL IMPACTS OF OIL SPILLS FROM VESSELS IN TRANSIT

**Impact:** LU-4: Spills that beach along sensitive land use areas or heavily used areas including recreational areas would limit or preclude such uses and result in significant adverse (Class I or II) impacts, depending on the various characteristics of a spill and its residual effects.

**Class:** I and II

- Finding(s):**
- a) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the Final EIR.
  - c) Specific economic, legal, social, technological or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the final EIR.

### FACTS SUPPORTING THE FINDING(S)

Depending on spill size and location, a spill within the Bay and the Carquinez Strait shipping lanes could affect tankering and other boating in the vicinity of the spill and its area of spread. In either case, depending on wind and current conditions and size of the spill, shoreline and land and water-recreation uses could be affected. Oil spill modeling conducted for the Unocal terminal (Chambers Group 1994) showed the potential extent of oil spread based on various scenarios of spill size, wind, tide, and current conditions. Given the right conditions, virtually all shoreline areas are vulnerable. Shoreline uses affected by a spill include marinas and park and recreation uses, as well as other marine terminals and port and harbor operations. Examples include passenger and cargo vessels, commercial fishing vessels, and others that may have to slow, reroute, or halt operations during cleanup and containment. Nearshore uses may also be affected because they may be temporarily closed during cleanup operations for public safety purposes. Land access to coastal areas may also be affected by cleanup operations.

Compared to the Bay, existing land uses and recreational areas along the outer coast are more diverse, ranging from heavily used areas to areas that are undeveloped and fairly inaccessible, especially along the northern coast. Spills that beach along heavily used areas and recreational points would limit or preclude such uses and result in significant adverse (Class I or II) impacts, depending on the various characteristics of a spill and its residual effects. Oil that spreads to beaches, sand dunes, tidepools,

shoreline reserves, harbors, marinas, and other recreational boating and fishing facilities would limit access to these areas where there is oil, containment equipment, or cleanup activities. Spills that reach the more remote portions of the shoreline may not necessarily decrease the availability of recreational uses because use may be minimal, but would result in other impacts to biological resources and water quality as discussed in other sections of the EIR. Portions of coastline would also be visually affected by spills as discussed in Visual Resources.

Over the life of the proposed new lease, as more areas of the coastline are developed or made accessible to the public, the likelihood that an established land use or recreational amenity may be affected by a spill would also increase.

Because it is impossible to predict with any certainty the potential consequences of spills, impacts are considered to be adverse and significant (Class I or II), because severe spills could have residual impacts that could effect shoreline and/or recreational uses. Any residual impacts remaining after first response efforts would be considered to be significant adverse impacts (Class I).

Mitigation Measures for LU-4:

**LU-4:** Mitigation measures for accidents in the shipping lanes would not be Shore Terminals responsibility, but would fall to the vessel operator/owner. Shore Terminals shall implement measures OS-8a and OS-8b in Operational Safety/Risk of Upset.

Response capability for containment and cleanup of land areas oiled is not the responsibility of Shore Terminals for spills in the shipping lanes. Nevertheless, as a participant in any analysis to examine upgrades to the VTS (OS-8a), Shore can help to improve transit issues and response capabilities in general, which help to reduce the consequences of spills within the Bay. For a spill near the Shore terminal, Shore is more suited to provide immediate response (OS-8b) to a spill using its own equipment and resources, rather than waiting for mobilization and arrival of the vessel's response organization. The marine terminal staff is fully trained to take immediate actions in response to spills. Such action will result in a quicker application of oil spill equipment to any spill and improve control and recovery of such spill.

**CEQA FINDING NO. AQ-5**

**EMISSIONS ASSOCIATED WITH CONTINUED OPERATIONS WITH INCREASED FUTURE THROUGHPUT**

Impact: **AQ-5: Tanker pumping, transit, and/or tug combustion emissions could allow for an increase in throughput at the marine terminal. Thus, future operational emissions (both indirect and direct) have the potential to exceed daily and yearly significance thresholds**

**(existing permit limits) and result in a significant adverse (Class II) impact.**

Class: II

- Finding(s):
- a) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the Final EIR.
  - b) Such changes or alterations are within the responsibility and jurisdiction of the BAAQMD and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency.

### **FACTS SUPPORTING THE FINDING(S)**

Over the term of the 20-year lease, market conditions could drive the need to increase throughput through the marine terminal to a maximum of 325 annual vessel calls. No modifications to the wharf are proposed as the wharf is capable of handling the increased number of vessels. The 325 maximum vessel calls would be based on an associated increase in upland tankage storage, which would be limited to an additional 2 million barrels (including the 300,000 bbls of tankage currently under construction) over existing capacity due to limited available land. Future tank additions at the upland facility would create the potential for increased emissions indirectly associated with increased wharf activity. Construction and operation of increased upland facilities would be subject to local (city of Martinez) CEQA review and BAAQMD permitting.

To address potential emissions increases associated with increases in wharf throughput, the maximum throughput was calculated that would allow the facility to operate before exceeding the significance criteria. A similar methodology was used in the *Wickland Oil Martinez Marine Terminal Expansion DEIR* (Thomas Reid Associates 1994, Appendix C). Based on the quantity of product transferred (total product in/out) at the marine terminal in 2000 and 2001, between 2.2 and 3.4 tons NO<sub>x</sub> are emitted per each million barrels transferred. Assuming an average of 2.8 tons NO<sub>x</sub> per million barrels transferred, to maintain non-permitted emissions below the significance criteria of 15 tons/year, the increase in throughput would need to remain below 5.3 million barrels per year (Refer to DEIR Appendix D-2 for detailed calculations). However, limiting tanker pumping, transit, and/or tug combustion emissions could allow for an increase in throughput at the marine terminal. Thus, future operational emissions (both indirect and direct) have the potential to exceed daily and yearly significance thresholds and result in a potentially significant adverse (Class II) impact.

#### Mitigation Measures for AQ-5:

**AQ-5:** Mitigation should be focused on the use of best available control technology (BACT) available at the time of any expansion of the upland facility. Increased operations would require additional permitting through the BAAQMD, which

would set limitations on allowable emissions levels and require offsets as necessary.

Use of BACT incorporating improved technology, the preparation of environmental documentation by the city of Martinez, and compliance with BAAQMD limitations would reduce the potential for the exceedance of pollutant limitations to allow Shore Terminus to increase throughput through the marine terminal to a maximum of 325 annual vessel calls.

## **CEQA FINDING NO. VR-2**

### **VISUAL EFFECTS FROM ACCIDENTAL RELEASES OF OIL AT OR NEAR THE TERMINAL**

**Impact:** VR-2: The visual impacts of a spill could last for a long period of time, depending on the level of physical impact and cleanup ability, and are considered to be adverse and significant (Class I or II).

**Class:** I and II

- Finding(s):**
- a) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the Final EIR.
  - b) Such changes or alterations are within the responsibility and jurisdiction of the CDFG (BIO-6d, FSH-8c) and the USFWS (BIO-6d), and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency.
  - c) Specific economic, legal, social, technological or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the final EIR.

### **FACTS SUPPORTING THE FINDING(S)**

The EIR analysis considers the occurrence of accidental spills separate from routine operations. In general, the potential impacts resulting from such an occurrence would tend to degrade the visual quality of the water and shoreline. The degree of impact is influenced by factors, including, but not limited to, location, spill size, type of material spilled, prevailing wind and current conditions, the vulnerability and sensitivity of the shoreline, and effectiveness of early containment and cleanup efforts.

The greatest risk of a spill is from small accidents at the terminal during normal operations. While there is less risk of spill during tankering, the size of a spill that could result is much greater. The following discusses the visual impacts expected to occur in the event of a spill.

Generally, small leaks and spills (50 bbls) would be easily contained with contingency measures employed at the terminal (Class II impacts). However, the Shore wharf is located in an area of rapidly moving current. Thus, if a spill is not detected immediately, or if a moderate- or large-size spill at or near the terminal occurred at a rate unable to be quickly contained due to the rapid current, then the spill could spread over a large area. Oil spill modeling (Chambers Group 1994, Wickland 1998) shows that spills originating in the vicinity of the marine terminal have the potential to affect a good portion of the area from West Pittsburg (near the mouth of the Delta) to the west shore of San Pablo Bay.

Visually, oiling conditions could range from light oiling, which appears as a surface sheen, to heavy oiling, including floating lumps of tar. Light product spills generally volatilize relatively rapidly, and little remains within 24 to 48 hours after a spill. Heavy crude oil may disappear over a period of several days, with remaining heavy fractions lasting from several weeks to several months floating at or near the surface in the form of mousse, tarballs, or mats. Therefore, the presence of oil on the water would change the color and, in heavier oiling, textural appearance of the water surface. Oil on shoreline surfaces or nearshore marsh areas would cover these surfaces with a brownish-blackish, gooey substance.

Such oiling would result in a negative impression of the viewshed. The public, becoming aware of a spill, may react negatively to its visual effects. Sensitivity heightens and awareness of the negative change in the environment increases with time. Without rapid containment by immediate booming and cleanup, the visual effects of even a small spill of 50 bbls can leave residual impacts, and they can be significant (Class I).

In the immediate area of the Shore terminal are Bulls Head Marsh and Pacheco Creek. As per the OSPR Area Contingency Plan, protection of this area is a high priority. The Plan proposes a protection strategy that includes booming. This is discussed in more detail in Biological Resources.

The impact of a spill (whether Bulls Head Marsh, Pacheco Creek, or other sensitive areas) could last for a long period of time, depending on the level of physical impact and cleanup ability. In events where light oiling would disperse rapidly, significant adverse (Class II) impacts are expected. In events where medium to heavy oiling occurs over a widespread area, and where first response cleanup efforts are not effective, leaving residual effects of oiling, significant adverse (Class I) impacts would be expected. The physical effort involved in cleanup itself, including the equipment used, would contribute to a negative impression of the environment and the visual impact. It is impossible to predict with any certainty the potential consequences of spills; therefore, visual impacts can be considered to be adverse and significant (Class I or II), depending on the effectiveness of first response containment and cleanup.

Mitigation Measures for VR-2:

**VR-2:** Mitigation measures for oil spill impacts include those measures for contingency planning and response as presented in Operational Safety/Risk of Upset and Biological Resources.

Those measures presented in other sections provide improved oil spill capabilities, oil spill containment measures and protection of resources. Previous discussions of each of these measures are incorporated herein by this reference. With implementation of those measures the risk to the visual environment can be reduced to less than significant for small spills.

**CEQA FINDING NO. VR-3**

**VISUAL EFFECTS OF OIL SPILLS FROM VESSELS IN TRANSIT**

**Impact:** **VR-3: Spills would change the color and texture of water and shoreline conditions. The level of public sensitivity and expectations of viewers would result in a negative impression of the viewshed and result in significant adverse (Class I or II) impacts, depending on the various characteristics of a spill and its residual effects.**

**Class:** I and II

- Finding(s):**
- a) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the Final EIR.
  - c) Specific economic, legal, social, technological or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the final EIR.

**FACTS SUPPORTING THE FINDING(S)**

Vessels transiting the shipping lanes also pose a risk of spills from accidents. A moderate to large spill has the potential to spread within a large area, with floating oil and oil contacting sensitive shoreline resources given the right wind and current conditions, and the size and origin of the spill. For example, oil spill modeling from the Unocal EIR (Chambers Group 1994) showed that if a large spill (100,000 bbls) were to occur in the shipping lanes near Alcatraz Island, oil could spread and beach at almost all shoreline points within the Central Bay and San Pablo Bay areas, as well as affect portions of the South Bay and the Carquinez Strait (Bay Scenarios No. 9 and No. 10,

100,000-bbl crude oil spills from Unocal document). While spills would be significant, responsibility for spills for those vessels enroute to the Shore wharf would be the responsibility of the ship's operators/owners and not Shore Terminals LLC, as Shore does not own any vessels.

Spills along the outer coast could result in significant adverse (Class I or II) impacts, where spills would be visible in the nearshore zone or at the shoreline. Spills would change the color and texture of water and shoreline conditions. The level of public sensitivity and expectations of views along the outer coast are more varied than within the Bay. Along many portions of the outer coast, public usage is low. In such areas, the public perception and expectations of viewers would not change as much as those areas where the public frequents. In high use areas, such as coastal park and beach areas, ecological preserve areas, communities and harbors, and other areas where a higher number of viewers would be present, visual sensitivity would be high where cleanup efforts and residual effects were occurring.

It is impossible to predict with any certainty the potential consequences of spills; therefore, visual impacts can be considered to be adverse and significant (Class I or II), depending on the effectiveness of first response containment and cleanup.

#### Mitigation Measures for VR-3:

**VR-3:** Mitigation measures for accidents in the shipping lanes would not be Shore Terminals responsibility, but would fall to the vessel operator/owner. Shore Terminals shall implement measures OS-8a and OS-8b in Operational Safety/Risk of Upset.

Response capability for containment and cleanup is not the responsibility of Shore Terminals for spills in the shipping lanes. Nevertheless, as a participant in any analysis to examine upgrades to the VTS (OS-8a), Shore can help to improve transit issues and response capabilities in general which help to reduce the consequences of spills within the Bay. For a spill near the Shore terminal, Shore is more suited to provide immediate response (OS-8b) to a spill using its own equipment and resources, rather than waiting for mobilization and arrival of the vessel's response organization. The marine terminal staff is fully trained to take immediate actions in response to spills. Such action will result in a quicker application of oil spill equipment to any spill and improve control and recovery of such spill.

## **CEQA FINDING NO. GEO-2**

### **IMPACTS ON WHARF FROM GROUNDSHAKING**

**Impact: GEO-2: The impact of berth dredging, natural scour or accumulation of soil in steep slopes near or adjacent to wharf piles should be considered in soil-structure interaction. In addition, liquefaction and**

**lateral spreading resulting from any moderate earthquake may create a significant adverse impact (Class II).**

Class: II

Finding(s): a) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the Final EIR.

### **FACTS SUPPORTING THE FINDING(S)**

The wharf and trestle are located within a seismically active area with several faults capable of inducing strong ground shaking. Such shaking would result in associated shaking of the structures, including interaction between the soil and structural foundations.

The bathymetry in the wharf and trestle vicinity is relatively flat, and lateral spreading of soils at or near the ground surface caused by ground shaking is unlikely. The impact of berth dredging, natural scour or accumulation of soil in steep slopes near or adjacent to wharf piles should be considered in soil-structure interaction. In addition, liquefaction and lateral spreading resulting from any moderate earthquake may create a significant adverse impact (Class II).

#### Mitigation Measures for GEO-2:

**GEO-2a:** In the event that such scour has been noted, then Shore shall conduct additional analysis to evaluate the potential for lateral spreading. Loss of lateral support and laterally induced additional loads should be incorporated into the overall analysis and/or design. This analysis should be conducted concurrently with a site specific liquefaction analysis (see Impact GEO-3).

**GEO-2b:** Seismic evaluation of the structures and their foundations should be included in the structural analysis and geotechnical investigation in compliance with Section 6 of the approved MOTEMS. The results and recommendations of the evaluation shall be coordinated with the mooring analysis recommendations and implementation of corrections (see GEO-10).

These studies would determine whether lateral spreading caused by groundshaking would cause any loss of lateral support on the structure. The seismic evaluation would identify any additional corrections that may be needed to ensure structural integrity during credible events affecting the terminal.

## CEQA FINDING NO. GEO-3

### LIQUEFACTION AND SEISMICALLY INDUCED SETTLEMENT

Impact: **GEO-3: The site has not had an industry standard liquefaction evaluation performed. As such, the potential for impacts from seismically induced settlement are unknown and this is considered a significant adverse (Class II) impact.**

Class: II

Finding(s): a) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the Final EIR.

### FACTS SUPPORTING THE FINDING(S)

Liquefaction is a phenomenon whereby insufficiently dense saturated granular soil temporarily loses strength and bearing capacity during seismic shaking. If the granular soil is unconfined and on a slope, it tends to spread or flow as mentioned above. Liquefaction usually results in volume reduction that is manifested in ground settlement. Loose, clean sand at relatively shallow depths (low overburden or confining pressures) is most susceptible to liquefaction. Most of the sand from this site appears to be older Pleistocene age sand that is medium dense to dense, based on limited data. As stated in the existing conditions section, the Woodward Lungdren sampling tools and protocols used during the exploration program are outdated and did not include the standard penetration test (SPT), an industry standard for evaluating liquefaction potential. If sand liquefies it could result in volume changes that in turn could result in soil settlement and downdrag on the piles. Because the site does not have an industry standard liquefaction evaluation, the potential for impacts on the structural integrity of the wharf from seismically induced settlement would be considered significant adverse (Class II) impacts.

#### Mitigation Measures for GEO-3:

**GEO-3:** Shore shall comply with the approved MOTEMS. As such, a site specific liquefaction evaluation shall be required to be completed within 6 months after start of the lease. The results and recommendations of the evaluation shall be coordinated with the mooring analysis recommendations and implementation of corrections (see GEO-10).

The liquefaction evaluation would identify if liquefaction is a problem and would identify engineering corrections that would address potential damage to the wharf. Protection of the wharf would then help to prevent damage to pipelines and resultant oil leaks, as well as damage from vessel and wharf interaction.

## CEQA FINDING NO. GEO-4

### POTENTIAL FOR TSUNAMI IMPACTS

Impact: **GEO-4: Shore operators may not have adequate warning time to allow a vessel to depart from the wharf to avoid damage to the vessel and/or the wharf from a tsunami. Impacts are considered significant adverse (Class II) impacts.**

Class: II

Finding(s): a) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the Final EIR.

### FACTS SUPPORTING THE FINDING(S)

The maximum expected wave return height near the Shore marine terminal for the 100-year tsunami event would be about 3.3 feet and up to 4.0 feet for the 500-year event. Potential damage to the wharf and/or vessel from these events could occur and impacts are considered significant adverse (Class II) impacts. As tsunamis can be generated either by a distant or near source, the Shore operators may or may not have adequate warning time for which to allow the vessel to depart from the wharf to avoid damage.

#### Mitigation Measures for GEO-4:

**GEO-4a:** As soon as possible, after notification of a tsunami, Shore operators shall release the vessel from its mooring and the vessel shall move away from the wharf.

**GEO-4b:** Shore shall comply with Section 5 of the approved MOTEMS mooring analysis (see GEO-10).

The mitigation measures would reduce, to the maximum extent feasible, the potential for damage that could occur to a vessel and/or the wharf during a tsunami. By moving away from the wharf as soon as possible after notification of a tsunami, damage to both the wharf and vessel may be prevented or minimized. The requirement for a mooring analysis, per MOTEMS, will also help to identify and correct deficiencies in the Shore terminal's current mooring capabilities and enable a quicker response to notification of a tsunami.

## CEQA FINDING NO. GEO-8

### TRESTLE STRUCTURAL ADEQUACY – BATTER PILE TO BENT CAP CONNECTIONS

Impact: **GEO-8: During an earthquake damage could occur in the batter pile to bent cap connections and could damage the trestle. This would result in a significant adverse impact (Class II).**

Class: II

Finding(s): a) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the Final EIR.

### FACTS SUPPORTING THE FINDING(S)

The majority of the trestle bents are two-dimensional structures designed to resist only vertical and transverse forces. During an earthquake, high forces develop in the two 1-1/2 inch bolts at the batter pile to bent cap connections. It appears probable that these connections do not have the capacity to transfer the calculated forces and significant adverse impacts (Class II) could result.

#### Mitigation Measures for GEO-8:

**GEO-8:** Within one year of the new lease, Shore shall reevaluate the loads on the bents, check the batter pile bolt connections, and adopt corrective mitigation measures.

A reevaluation of the batter pile bolt connections and implementation of corrective measures, acceptable to the CSLC, will minimize earthquake damage to the trestle by improving its structural integrity.

## CEQA FINDING NO. GEO-9

### TRESTLE STRUCTURAL ADEQUACY – ANCHOR BENTS

Impact: **GEO-9: The anchor bent batter pile to bent cap bolts are not capable of transmitting the predicted transverse seismic loads that could result in a loss of support for the petroleum pipelines and a spill could occur. This would result in a significant adverse impact (Class II).**

Class: II

Finding(s): a) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the Final EIR.

## FACTS SUPPORTING THE FINDING(S)

The second type of trestle bents are anchor bents, of which there are twelve. The anchor bent batter pile to bent cap bolts are not capable of transmitting the predicted transverse seismic loads. One 1-inch bolt transmits the full tension load from two batter piles into the 12-inch by 12-inch bent cap. The ultimate bolt capacity is less than 10 kips, while the demand, based on maximum pile tension, is roughly 40 kips. The loads indicate that these connections will fail during an earthquake resulting in a significant adverse impact (Class II). The bolted connection in the anchor pile bents could result in loss of support for the petroleum lines and potentially generate an oil spill. Some of these pipelines contain petroleum products at all times (they are not "stripped" following fuel handling), and structural failure of the trestle could result in an oil spill of up to 1,500 barrels (Gerwick 2001).

### Mitigation Measures for GEO-9:

**GEO-9:** Shore shall reevaluate the loads in the anchor bents and batter pile connections within one year of the new lease. The anchor bents' inadequacy should be addressed and corrective measures implemented within 2 years.

The required evaluation would assure that the anchor bent batter pile to bent cap bolts can transmit the predicted seismic loads such that there would be no support loss of the petroleum pipelines. This would reduce the risk of an oil spill due to broken pipelines from a seismic event.

## CEQA FINDING NO. GEO-10

### BERTHING/MOORING LOAD CAPACITY

**Impact:** **GEO-10: The last mooring analysis used data from sites nearby that may not reflect actual wharf conditions. There could be potentially significant direct and indirect impacts (Class II) associated with berthing and mooring capacity under actual currents, tides, and winds, with the potential for oil releases.**

**Class:** II

**Finding(s):** a) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the Final EIR.

## FACTS SUPPORTING THE FINDING(S)

GKO Messenger & Associates (1994) indicates that there are significant berthing and mooring limitations for large vessels to limit the load to the existing dolphins. These

limitations restrict the load on the dolphins to the pile allowable capacities. Based on these limitations, berthing and mooring forces are less onerous than the seismic loading conditions. However, the report performed was a structural appraisal and not a detailed mooring analysis. As no mooring analysis as detailed in the MOTEMS has been performed for the Shore marine terminal, and since there could be potential direct and indirect impacts associated with berthing and mooring stresses on the facility, with potential for oil releases if an accident were to occur, impacts are potentially significant adverse impacts (Class II).

#### Mitigation Measures for GEO-10:

**GEO-10a:** Shore shall collect 12 months of data on currents, tide levels, and wind speed/direction at the wharf.

**GEO-10b:** If data analysis shows that currents, tides and wind speeds are significantly different (as assessed by CSLC) from that assumed in the previous analysis, Shore shall conduct a new mooring analysis consistent with the approved MOTEMS Section 5 requirements within 12 months.

**GEO-10c:** Within 12 months of the start of the new lease, Shore shall conduct a passing vessel study for vessels navigating within 500 feet of the wharf, as per MOTEMS requirements.

The mitigation measures would provide a mooring analysis with current data appropriate to the Shore facility. The last mooring analysis used data from sites nearby that may not reflect actual wharf conditions. The passing vessels study will also provide specific data important to Shore's mooring procedures. The mooring analysis would determine if the existing mooring system on the wharf is in compliance with the MOTEMS requirements, and would identify any needed corrections. With implementation of the corrections, the potential for damage to both the wharf and vessels would be reduced, thus also lessening the potential for accidents that could result in spills/leaks of oil.

## **CEQA FINDING NO. GEO-11**

### **PIPELINE STRESSES AND POTENTIAL FOR LEAKS**

**Impact:** **GEO-11: Pipeline stresses on the 30-inch pipeline in relation to movement of the loading platform and trestle, and on the pipeline expansion loop support interface along the trestle are unknown. The potential may exist for damage to the pipeline and oil leakages that would result in a significant adverse impact (Class II).**

Class: II

Finding(s): a) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the Final EIR.

### FACTS SUPPORTING THE FINDING(S)

Gerwick (2001) identified concerns with regard to the 30-inch pipeline and differential movement of the loading platform and the trestle. If it is assumed that the maximum displacement demand for each structure occurs in the opposite direction at the same time, then the pipeline will be overstressed. In addition, about halfway between the loading wharf and the land, the pipelines go through an expansion loop. The behavior of the pipeline/support interface has not been evaluated (Gerwick 2001), and thus, the pipeline seismic stresses at this interface are unknown. A significant adverse impact (Class II) results, as pipelines could be stressed to the point where damage and leaks could result.

#### Mitigation Measures for GEO-11:

**GEO-11a:** Within 6 months of the start of the lease, Shore shall conduct a pipeline analysis on the 30-inch pipeline and the pipeline loop.

**GEO-11b:** Shore shall ensure that pipelines for oil transfer meet MOTEMS and CSLC regulations in CCR Title 2, Division 3, Chapter 1, Article 5.5, Sections 2564 through 2570 for ensuring pipeline integrity.

The pipeline analysis would determine the need for engineering modifications to the 30-inch pipeline and the pipeline loop. Ensuring pipeline integrity reduces the potential for leaks or spills of oil.

### CEQA FINDING NO. EJ-1

#### ENVIRONMENTAL JUSTICE

Impact: **EJ-1: Overall water quality, biological, and commercial and sport fisheries impacts would affect resources used by the entire Bay community, whether or not they are minority or low-income, and would therefore not have a disproportionate impact on a minority of low-income population. Environmental justice impacts are considered less than significant (Class III) for all except sport fisheries which is Class II.**

Class: II

Finding(s): a) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the Final EIR.

## FACTS SUPPORTING THE FINDING(S)

Overall water quality, biological, and commercial and sport fisheries impacts would affect resources used by the entire Bay community, whether or not they are minority or low-income, and would therefore not have a disproportionate impact on a minority of low-income population. Environmental justice impacts are considered less than significant (Class III) for all except sport fisheries, which is a Class II impact.

Based upon the analysis conducted for the EIR, significant adverse impacts resulting from the routine operation of the Shore terminal includes, Operational Safety/Risk of Upset, Water Quality, Biological Resources, Commercial and Sport Fisheries, and Visual Impacts. A discussion of whether these impacts would have a disproportionate effect on a minority or low-income population is provided below.

### Operational Safety/Risk of Upset

Findings from Operation Safety/Risk of Upset concluded that if a fire or explosion were to occur at the Shore terminal, it would not pose a significant hazard to the public because there are no areas of public assemblage within 1,500 feet of the wharf area. However, the continued operation of the Shore Terminal would result in adverse and significant impacts relating to potential oil spills. The potential disproportionate effect of those impacts on minority or low-income populations is addressed under each resource category below.

### Water Quality

As detailed in Water Quality, the continued operation of the Shore terminal would result in potentially significant adverse impacts to water quality (Class I) that cannot be mitigated. One significant adverse impact relates to the routine discharge of ballast water that contains harmful microorganisms that could impair several of the project area's beneficial uses, including commercial and sport fishing, estuarine habitat, fish migration, preservation of rare and endangered species, water contact recreation, non-contact water recreation, fish spawning, and wildlife habitat.

A second significant adverse water quality impact relates to the use of marine anti-fouling paints to reduce nuisance algal and marine growth on ships. These anti-fouling paints are biocides that contain copper, sodium, zinc, and tributyltin (TBT) as the active ingredients. All of these are meant to be toxic to marine life that would settle or attach to the hull of ships. Because of the high toxicity of organotins to marine organisms, the

use of these substances on vessels associated with the Shore terminal is considered to be a significant adverse impact to water quality that cannot be mitigated to less than significant (Class I).

A third possible significant adverse water quality impact would occur in the event of a large oil spill (greater than 50 bbl) at the Shore terminal or transiting tankers that visit the terminal with the duration of potential impacts to water quality dependent on the quantity and type of oil spilled.

Overall water quality impacts would affect resources used by the regional community, whether or not they are minority or low-income, and would therefore not have a disproportionate impact on a minority of low-income population. Environmental justice impacts related to water quality impacts are considered less than significant (Class III).

### Biological Resources

As with water quality impacts, Proposed Project impacts on biological resources would result in significant adverse impacts associated with the discharge of ballast water, and the potential for large oil spills to occur at the facility. As described in Section 3.3.3 of the EIR, Biological Resources, the discharge of segregated ballast water or hull fouling could introduce exotic species to the aquatic ecosystem of the San Francisco Estuary. Continued introduction of exotic species would have a significant adverse impact on planktonic and benthic communities (Class I), fishes (Class I), water-associated birds, marine mammals, and listed species through direct competition, destabilization of the food web, accumulation of toxins in the tissues of the voraciously filter-feeding Asian clam, or the introduction of disease organisms or toxic algae.

Biological resources that would be significantly affected by a large oil spill at the Shore terminal include plankton communities in Suisun Bay, natural rocky shores in Central Bay, intertidal mudflats, Dungeness crab, eelgrass, Pacific herring, striped bass, American shad, white sturgeon, tidal marshes, waterfowl, shorebirds, harbor seals, double-crested cormorants, long-billed curlew, common loon, Barrow's goldeneye, and all listed species. As a result, impacts to biological resources would have adverse effects on commercial and sport fishing and recreation resources. Overall biological impacts would affect resources used by the regional community, whether or not they are minority, Hispanic origin, or low-income. Therefore, project impacts to biological resources would not result in a disproportionate impact to a minority or low-income community and the impact is considered less than significant (Class III).

### Land Use and Recreation

As described in Land Use and Recreation, impacts from an accidental oil release at the Shore terminal or from transiting tankers that visit the terminal could degrade the environment and preclude the use of shoreline land and associated recreational activities at the site of release and the areas affected by the spread of the oil. Because it is impossible to predict with any certainty the potential consequences of spills, impacts were considered adverse and significant, with severe spills having residual impacts that could affect shoreline and/or recreational uses. However, project impacts would effect

recreational resources used by the entire community, whether or not they are minority, Hispanic origin, or low-income. Therefore, no disproportionate impact would occur, and the impact is considered less than significant (Class III).

### Visual Impacts

As described in Visual Resources, impacts from an accidental oil release at or near the Shore terminal could degrade the surface of the water and shoreline. As above, because it is impossible to predict with any certainty the potential consequences of spills, impacts were considered adverse and significant with severe spills having residual impacts that could affect the visual environment. Study area census block 3200.01-3 was determined to have a disproportionate population of Hispanic origin in relation to the Community of Comparison. The Shore terminal is a heavy industrial facility with the nearest residential area located approximately 1.5 miles to the southwest; thus, no residences would see a spill from their homes. As determined by oil spill modeling (Appendix B), a moderate size spill would have the potential to spread through a wide area of the Carquinez Strait/Suisun Bay, potentially affecting all shoreline areas. Thus, spill impacts would effect the entire community, whether or not they are minority, Hispanic origin, or low-income. Therefore, no disproportionate impact would occur, and the impact is considered less than significant (Class III).

### Commercial and Sport Fisheries

Findings in Commercial and Sport Fisheries, indicate that the continued operations at the Shore terminal could result in significant adverse impacts to fish and habitat, shrimp fisheries, herring fisheries and sport fisheries as a result of an oil spill at the terminal or from transiting tankers that visit the terminal. Overall impacts to fisheries would affect resources used by the regional community, whether or not they are minority, Hispanic origin, or low-income. With regard to local sport fisheries, a 0.5-mile buffer around the terminal includes less than 5 percent of the sport boat fishing area in block CDFG 308 and no shoreline fishing occurs within 0.5 mile of the wharf. Therefore, due to the limited sport fishing near the Shore terminal, impacts to study area Census Block Group 3200.01-3 would not be considered disproportionate, even though the block group has a greater Hispanic origin population, and impacts are considered less than significant (Class III).

However, should the spill affect areas beyond the .5 mile buffer, the potential exists for fisheries resources and fishing locations used by populations within Census Block Group 3200.01-3 for subsistence fishing to be adversely affected as described in Biological Resources. Preclusion of affected populations from fishing areas over an extended period of time could result in a disproportionate impact, particularly if such populations do not have the ability to go to uncontaminated areas nearby and depend on fishing as a food source (Class II).

Mitigation Measures for EJ-1:

**EJ-1:** Should an oil spill from Shore Terminals extend beyond .5 mile from the terminal and preclude sport fishing activities for more than two days, Shore Terminals shall contribute either funds or food stuffs to a local food bank in an amount sufficient, as determined in conjunction with the CSLC, to replace food sources that would have been supplied by fishing activities within the affected areas.

By contributing funds or food to a local food bank, Shore would be providing its fair contribution to the welfare of the affected community. This fair share would serve to compensate for the loss of food sources that would result from preclusion of subsistence fishing activities from the defined area as a result of an oil spill event.

## ACRONYMS

AAS	Allison Avoidance System
BAAQMD	Bay Area Air Quality Management District
BACT	Best Available Control Technology
BMP	Best Management Practice
CCC	California Coastal Commission
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CMISA	California Marine Invasive Species Act
Corps	U.S. Army Corps of Engineers
CSLC	California State Lands Commission
DMMO	Dredged Material Management Office
EIR	Environmental Impact Report
IMO	International Maritime Organization
MARPOL	International Convention for the Prevention of Pollution from Ships
MOTEMS	Marine Oil Terminal Engineering and Maintenance Standards
MSRC	Marine Spill Response Corporation
MTBE	Methyl Tertiary Butyl Ether
NRC	National Response Center
OCS	Outer Continental Shelf
OPA 90	Oil Pollution Act of 1990
OSPR	Office of Spill Prevention and Response
PRC	Public Resources Code
RWQCB	Regional Water Quality Control Board
SWPPP	Storm Water Pollution Prevention Plans
TBT	Tributyltin
USCG	U.S. Coast Guard
VTS	Vessel Traffic Safety

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## **EXHIBIT D – SHORE TERMINALS MITIGATION MONITORING, COMPLIANCE AND REPORTING PROGRAM**

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As the Lead Agency under the CEQA, the CSLC is required to adopt a program for reporting or monitoring regarding the implementation of mitigation measures for this project, if it is approved, to ensure that the adopted mitigation measures are implemented as defined in this EIR. This Lead Agency responsibility originates in Public Resources Code Section 21081.6(a) (Findings), and CEQA Guidelines Sections 15091(d) (Findings) and 15097 (Mitigation Monitoring or Reporting).

### **MONITORING AUTHORITY**

The purpose of a Mitigation Monitoring, Compliance, and Reporting Program (MMCRP) is to ensure that measures adopted to mitigate or avoid significant impacts are implemented. A MMCRP can be a working guide to facilitate not only the implementation of mitigation measures by the project proponent, but also the monitoring, compliance and reporting activities of the CSLC and any monitors it may designate.

The CSLC may delegate duties and responsibilities for monitoring to other environmental monitors or consultants as deemed necessary, and some monitoring responsibilities may be assumed by responsible agencies, such as OSPR. The number of monitors assigned to the project will depend on the number of concurrent mitigation measure requirements. The CSLC or its designee(s), however, will ensure that each person delegated any duties or responsibilities is qualified to perform such duties.

The CSLC or its designee will also ensure that any deviation from the procedures identified under the monitoring program is approved by the CSLC. Any deviation and its correction shall be reported immediately to the CSLC or its designee by the environmental monitor assigned to the project.

### **ENFORCEMENT RESPONSIBILITY**

The CSLC is responsible for enforcing the procedures adopted for monitoring through the environmental monitor assigned to the project. Any assigned environmental monitor shall note problems with monitoring, notify appropriate agencies or individuals about any problems in accordance with designated protocols, and report the problems to the CSLC or its designee.

## MITIGATION COMPLIANCE RESPONSIBILITY

Shore Terminals, LLC is responsible for successfully implementing all the mitigation measures in the MMRP, and for assuring that these requirements are met whether by Shore staff or vessel operators. Standards for successful mitigation also are implicit in many mitigation measures that include requirements such as obtaining permits or avoiding a specific impact entirely. Other mitigation measures include detailed documentation of success criteria. Additional mitigation success thresholds could be established by applicable agencies with jurisdiction through any later permit processes and through the review and approval of specific plans for the implementation of mitigation measures, such as future improvement to Shore upland facilities that indirectly affect operation of the marine terminal.

## GENERAL MONITORING PROCEDURES

**Environmental Monitors.** The CSLC and the environmental monitor(s) are responsible for overseeing mitigation monitoring, and for ensuring that all procedures specified in the monitoring program are followed and meet specified deadlines.

**General Reporting Procedures.** Site visits and specified monitoring procedures performed by other individuals will be reported to the environmental monitor assigned to the project. A monitoring record form will be submitted to the environmental monitor by the individual conducting the visit or procedure so that details of the visit can be recorded and progress tracked by the environmental monitor. A checklist will be developed and maintained by the environmental monitor to track all procedures required for each mitigation measure and to ensure that specified deadlines are met. The environmental monitor will note any problems that may occur and take appropriate action to rectify the problems.

**Public Access to Records.** The public is allowed access to records and reports used to track the monitoring program. Monitoring records and reports will be made available for public inspection by the CSLC or its designee, on request.

## MITIGATION MONITORING TABLE

The following sections present the mitigation monitoring tables for the project. Each table lists the following information, by column:

Impact (impact number, title, and impact class).

Mitigation Measure (title only; full text of the measure is presented in Section 3.0).

Monitoring/reporting action (the action to be taken by the monitor or Lead Agency).

Effectiveness criteria (how the agency can know if the measure is effective).

Responsible agency.

Timing (before, during, or after construction; during operation, etc.).

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**Table D-1  
Operational Safety/Risk of Upset**

Impact	Mitigation Measure	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
<p><b>OS-3:</b> Shore's response capability for containment of spills during transfer operations would be adverse and significant for spills greater than 50 bbls, and range from spills that can be contained during first response efforts with rapid cleanup (Class II), to those complex spills that result in a significant impact (Class I) with residual effects after mitigation.</p>	<p>OS-3a: Provide quick release devices that would allow a vessel to leave the wharf as quickly as possible in the event of an emergency (fire or accident that could lead to a spill) that could impact the wharf or the vessel.</p>	<p>CSLC monitor to observe devices after installation.</p>	<p>Reduces potential for damages and spills. In the event of an emergency, the wharf will be able to quickly release a vessel to prevent spread of oil.</p>	<p>CSLC</p>	<p>Within 12 months of lease implementation.</p>
	<p>OS-3b: Install tension monitoring devices on the wharf that would avoid excess strain on mooring lines and avoid damage that could result in spills.</p>	<p>CSLC monitor to observe devices after installation.</p>	<p>Reduces potential for damages and spills.</p>	<p>CSLC</p>	<p>Within 12 months of lease implementation.</p>
	<p>OS-3c: Install Allision Avoidance System (AAS) at the terminal to prevent damage to the pier and/or vessel during docking operations. Prior to implementing this measure, Shore shall consult with the San Francisco Bay Bar Pilots, the U.S. Coast Guard, and the staff of the CSLC and provide information that would allow the CSLC to determine, on the basis of such consultations and information regarding the nature, extent and adequacy of the existing berthing system, the most appropriate application and timing of an AAS at Shore terminal.</p>	<p>CSLC monitor to observe devices after installation.</p>	<p>Reduces potential for damages and spills.</p>	<p>CSLC</p>	<p>Within 12 months of lease implementation.</p>
<p><b>OS-4:</b> Spills from the terminal during non-transfer periods would be associated with pipelines and are considered a significant (Class II) impact if spills are less than 50 bbls, or significant (Class I) impacts for spills greater than 50 bbls.</p>	<p>OS-3d: Develop a comprehensive preventative maintenance program for the wharf that includes periodic inspection of all components related to transfer operations. The program shall be subject to CSLC review and approval.</p>	<p>Shore shall submit program for review and approval to CSLC.</p>	<p>Reduces potential for damages and spills.</p>	<p>CSLC</p>	<p>Within 12 months of lease implementation.</p>
<p><b>OS-5:</b> Shore Terminals Wharf Operations Manual requires minor revisions to become current.</p>	<p>OS-4: Implement measure OS-3d. (See also GEO-11.)</p>	<p>See OS-3d.</p>	<p>See OS-3d.</p>	<p>See OS-3d.</p>	<p>See OS-3d.</p>
<p><b>OS-5:</b> Shore Terminals Wharf Operations Manual requires minor revisions to become current.</p>	<p>OS-5: Shore Terminals shall update and bring the Wharf Operations Manual current. Revise the manual by providing current names of responsible persons at the terminal and the names of the current response contractors. Submit the Manual to the CSLC for review and approval within 6 months of lease implementation.</p>	<p>Shore to update Wharf Operations Manual to current. Submit for USCG and CSLC review.</p>	<p>Assures that correct and current information is contained in the manual</p>	<p>CSLC and USCG</p>	<p>Submit for review and approval within 6 months of lease implementation.</p>

**Table D-1 (Continued)  
Operational Safety/Risk of Upset**

Impact	Mitigation Measure	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
<p><b>OS-6:</b> Public areas are beyond the hazard footprint boundary, thus fires and explosions would not cause a public safety risk. However, the wharf Operations Manual does not address fire emergency procedures and the wharf does not meet detection/suppression system requirements.</p>	<p>OS-6a: Shore shall implement mitigation measure OS-3a to provide for quick release devices that would allow a vessel to depart the wharf quickly would help in the event of a fire.</p> <p>OS-6b: Shore Terminals shall develop a set of procedures for dealing with tank vessel fires and explosions for tankers berthed at the Shore terminal. The procedures should include the steps to follow in the event of a tank vessel fire and describe how Shore and the vessel will coordinate activities. The procedures shall also identify other capabilities that can be procured if necessary in the event of a major incident.</p> <p>OS-6c: Shore Terminals shall ensure that the fire detection/suppression system conforms to the proposed MOTEMS, Section 8.0.</p>	<p>See OS-3a.</p> <p>Shore shall prepare and submit procedures to CSLC for review and approval.</p>	<p>See OS-3a.</p> <p>Provides planning and procedures for emergency response.</p>	<p>See OS-3a.</p> <p>CSLC</p>	<p>See OS-3a.</p> <p>Submit to CSLC within 6 months of lease implementation.</p>
<p><b>OS-8:</b> Spills from accidents in the Bay could result in impacts to water quality or biological resources that could be significant adverse (Class I) impacts for those that can be contained during first response efforts; or significant adverse (Class I) impacts that would have residual impacts. While Shore does not have legal responsibility for tankers, it does have responsibility to participate in improving general response capabilities.</p>	<p>OS-8a: As a lease condition, Shore shall agree to participate in an analysis to determine the adequacy of the existing VTS in the Bay Area, if such a study is conducted by a federal, state, or local agency during the life of the lease. Agencies such as the San Francisco Bay Harbor Safety Committee often conduct studies of safety issues within the Bay Area. As vessel traffic increases in and around the Bay Area and as technology improves, it may be necessary and feasible to upgrade and expand the VTS in and around the Bay Area. Shore shall designate a representative(s) to participate in this analysis toward the upgrade or expansion of the VTS per terms, including financial to be agreed upon with the other study participants.</p> <p>OS-8b: As a lease condition, Shore shall agree to respond to the spill as if it were its own, without assuming liability, until such time as the vessel's response organization can take over management of the response actions in a coordinated manner.</p>	<p>This shall be implemented as a lease condition. Shore shall demonstrate to CSLC their participation in program strategies to protect sensitive resources.</p>	<p>Reduces potential damage to resources.</p>	<p>CSLC</p>	<p>Life of lease.</p>
		<p>This shall be implemented as a lease condition. CSLC monitor to observe emergency actions.</p>	<p>Reduces potential damage to resources.</p>	<p>CSLC</p>	<p>Life of lease.</p>

**Table D-2  
Water Quality**

Impact	Mitigation Measure	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
<p><b>WQ-2:</b> Discharge of ballast water that contains harmful microorganisms could impair several of the project area's beneficial uses, including commercial and sport fishing, estuarine habitat, fish migration, preservation of rare and endangered species, water contact recreation, non-contact water recreation, fish spawning, and wildlife habitat.</p>	<p><b>WQ-2:</b> Shore shall ensure that any vessel using its terminal comply with the California Marine Invasive Species Control Act (Public Resources Code Sections 71200 through 71271). Vessels must exchange their ballast water in mid-ocean waters before entering the waters of the state or they must retain all ballast water on board the vessel (Public Resources Code Section 71204.2). Shore will advise agents representing vessels that have called at the Shore Marine Terminal as of the date of adoption of the cited Mitigation Monitoring Program, and agents representing vessels that would be likely to call at the Shore Marine Terminal in the future about the California Marine Invasive Species Control Act. Shore will ensure that a Questionnaire containing the following questions is provided to the Vessel Operator, and inform the Vessel Operator that the Questionnaire should be completed on behalf of the vessel, by its Master or authorized representative, and provided to the CSLC's Marine Facilities Division, either electronically or by facsimile, prior to the vessel's entry into San Francisco Bay or in the alternative, at least 24 hours prior to the vessel's arrival at the Shore Marine Terminal. The Questionnaire shall solicit the following information: 1. Does the vessel intend to discharge ballast water in San Francisco Bay, the Carquinez Strait or any other location(s) in a Delta waterway on its transit to the Shore Marine Terminal? 2. Does the vessel intend to discharge ballast water at the Shore Marine Terminal? 3. Which of the following means specified in the California Marine Invasive Species Act (CMISA) has the vessel operator used or intend to use on the current voyage to manage the vessel's ballast water: a mid-ocean exchange (as defined in Section 71200(g)); retain all ballast on board; or discharge the ballast water at the same location (as defined in Section 71204.2(c)(2)) where ballast originated, provided ballast water was not mixed with ballast water taken on in an area other than mid-ocean waters?</p>	<p>Shore shall complete a ballast water reporting form for each vessel using the terminal and fax it to the Ballast Water Program within 24 hours. This reporting form shall state the ballast water source and where the vessel discharged ballast water. Shore Terminals and CSLC staff shall meet annually every March throughout the lease term, discuss the effectiveness of this mitigation measure, and make adjustments to the implementation of this measure.</p>	<p>Shore Terminals shall adhere to the current "Ballast Water Management for Control of Nonindigenous Species" as a part of Public Resources Code Section 71200 until January 1, 2010 or any date extension thereof. This measure will provide a tracking mechanism and shall remain in effect until such time that more stringent requirements are developed.</p>	<p>CSLC</p>	<p>Life of lease</p>

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**Table D-2 (Continued)  
Water Quality**

Impact	Mitigation Measure	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
<p><b>WQ-3:</b> Spills of sanitary wastewater, bilge water and non-segregated ballast water could have the potential to degrade water quality.</p>	<p><b>WQ-3:</b> Shore shall prepare a SWPPP for the marine terminal. The SWPPP shall include Best Management practices (BMPs) specifically to prevent leaks and spills during transfer of liquids between vessels and trucks on the wharf.</p>	<p>Shore shall prepare a SWPPP for CSLC review and approval, and update as necessary.</p>	<p>Aggressive implementation of BMPs to reduce the input of chemicals to the Bay from operations on the wharf would reduce the Shore's input of these chemicals.</p>	<p>CSLC</p>	<p>Prepare SWPPP within 6 months of lease implementation. Maintain annually for life of lease.</p>
<p><b>WQ-5:</b> Marine anti-fouling paints are highly toxic containing copper, sodium, zinc, and tributyltin (TBT) and their use on vessels associated with the Shore terminal is considered significant.</p>	<p><b>WQ-5:</b> Shore will advise agents representing vessels that have called at the Shore Marine Terminal as of the date of adoption of the cited Mitigation Monitoring Program, and agents representing vessels that would be likely to call at the Shore Marine Terminal in the future about the requirements of the 2008 IMO prohibition of TBT applications to vessel hulls. Following the effective date of the IMO prohibition, Shore will ensure that the Master or authorized representative of vessels intending to call at the Shore Marine Terminal certify that their vessel is in compliance and provide a copy of such certification to the CSLC's Marine Facilities Division, either electronically or by facsimile, prior to the vessel's entry into San Francisco Bay or in the alternative, at least 24 hours prior to the vessel's arrival at the Shore Marine Terminal.</p>	<p>Shore shall require vessels to document that they have no new TBT applications (per IMO mandate). Documentation shall be kept at Shore, available for CSLC inspection.</p>	<p>Until all TBT is phased out by 2008, vessels with old applications of TBT on their hulls will visit Shore. Shore cannot feasibly require vessels to remove TBT from their hulls (until the IMO mandate is effective). Therefore, until all TBT is gone from vessels using the Shore marine terminal, impacts of organotins will remain.</p>	<p>CSLC</p>	<p>Life of lease.</p>
<p><b>WQ-6:</b> Routine vessel maintenance would have the potential to degrade water quality due to chronic spills during transfers of lubricating oils.</p>	<p><b>WQ-6:</b> Implement WQ-3 for preparation of a SWPPP.</p>	<p>See WQ-3.</p>	<p>See WQ-3.</p>	<p>See WQ-3.</p>	<p>See WQ-3.</p>

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**Table D-2 (Continued)  
Water Quality**

Impact	Mitigation Measure	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
<p><b>WQ-7:</b> Stormwater runoff from the Shore terminal may contribute pollutants to the Bay in concentrations that may adversely affect some benthic species within the local area.</p>	<p><b>WQ-7:</b> Implement WQ-3, plus additional BMPs to reduce the input of chemicals to the Bay from the marine terminal, including (at a minimum) (1) conducting all vehicle maintenance on land not over water or marshland, (2) berming all areas on the pier where maintenance activities are being conducted and cleaning up all spilled contaminants before berms are removed, (3) washing the surface of the pier to the extent practical and directing washwater into sumps, (4) maintenance of sumps, and (5) posting signs to educate all workers to the importance of keeping contaminants from entering the Bay.</p>	<p>These BMPs shall be detailed in a SWPPP that Shore shall prepared specifically for the marine terminal and submit to CSLC for approval.</p>	<p>Aggressive implementation of BMPs to reduce the input of chemicals to the Bay from operations on the wharf would reduce Shore's input of these chemicals.</p>	<p>CSLC</p>	<p>Prepare SWPPP within 12 months of lease implementation. Maintain SWPPP, update as necessary for life of lease.</p>
<p><b>WQ-9:</b> Potential impacts on water quality can result from leaks or spills and result in significant, adverse impacts.</p>	<p><b>WQ-9:</b> Implement OS-3a through OS-3d (Operational Safety/Risk of Upset).</p>	<p>See OS-3a through OS-3d.</p>	<p>See OS-3a through OS-3d.</p>	<p>See OS-3a through OS-3d.</p>	<p>See OS-3a through OS-3d.</p>
<p><b>WQ-10:</b> A significant impact to water quality could result from leaks or an accidental spill of crude oil or oil product from a vessel spill along tanker routes either in San Francisco Bay or outer coast waters.</p>	<p><b>WQ-10:</b> Shore Terminals shall implement mitigation measures OS-8a and OS-8b of the Operational Safety/Risk of Upset Section addressing potential participation in VTS upgrade evaluations, and Shore response actions for spills at or near the terminal.</p>	<p>See OS-8a and OS-8b.</p>	<p>See OS-8a and OS-8b.</p>	<p>See OS-8a and OS-8b.</p>	<p>See OS-8a and OS-8b.</p>

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**Table D-3  
Biological Resources**

Impact	Mitigation Measure	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
<p><b>BIO-3:</b> Loss of juvenile Dungeness crabs and young Chinook salmon would be significant if dredging occurs when juveniles are migrating through the area.</p>	<p><b>BIO-3a:</b> Shore shall schedule dredging to avoid the month of September when juvenile Dungeness crabs are most abundant in the project area. In the event that, due to circumstances beyond lessee's control, dredging must occur in September (Dungeness Crab) or in months other than July and August (Chinook Salmon smolts) to maintain a depth for safe navigation and operation of the terminal, lessee shall consult with the Department of Fish and Game (DFG) regarding the potential effects of such dredging on juvenile Dungeness Crabs and Chinook salmon smolts. Such consultation may occur directly with DFG personnel in Region 3 or with DFG personnel during the consideration of lessee's application to the Dredged Material Management Office (DMMO). If the DFG concurs with dredging as proposed by the lessee, documentation of which shall be provided to Lessor, it shall be conclusively presumed that juvenile Dungeness Crabs and Chinook salmon smolts will not be significantly affected and dredging may proceed as provided herein and in conformance with mitigation and monitoring measures set forth in Exhibit D to this Lease.</p>	<p>Shore shall coordinate with the CSLC and U.S. Army Corps of Engineers (Corps) who are the dredging permit holders on the scheduling of dredging operations.</p>	<p>Reduces potential impacts to juvenile Dungeness crabs.</p>	<p>CSLC</p>	<p>Prior to dredging.</p>
<p><b>BIO-4:</b> Invasive organisms/introduction of non-indigenous species in segregated ballast water released in the Bay could have significant impacts to plankton, benthos, fishes, and birds.</p>	<p><b>BIO-3b:</b> Shore shall schedule dredging in July and August when winter and spring-run Chinook salmon smolt activity is lowest.</p>	<p>Shore shall coordinate with the CSLC and the Corps, who are the dredging permit holders on the scheduling of dredging operations.</p>	<p>Reduces potential impacts to Chinook salmon smolt.</p>	<p>CSLC</p>	<p>Prior to dredging.</p>
<p><b>BIO-4:</b> Implement WQ-2, in Water Quality, requires that Shore comply with the California Marine Invasive Species Act and the Ballast Water Management for Control of Non-indigenous Species Act.</p>		<p>See WQ-2.</p>	<p>See WQ-2.</p>	<p>See WQ-2.</p>	

**Table D-3 (Continued)  
Biological Resources**

Impact	Mitigation Measure	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
<p><b>BIO-6:</b> Oil spills could have significant adverse impacts on biological resources.</p>	<p>BIO-6a: Implement all the mitigation measures included in OS-3 through OS-6 in Operational Safety/Risk of Accidents to either lower the probability of an oil spill or increase response capability.</p>	<p>See OS-3 through OS-6.</p>	<p>See OS-3 through OS-6.</p>	<p>See OS-3 through OS-6.</p>	<p>See OS-3 through OS-6.</p>
<p>The resources at the most immediate risk of oiling from a spill at the Shore marine terminal are Suisun Shoal, Hastings Slough/Point, Edith/Seal Island, Bulls Head Marsh/Pacheco Creek, Martinez Marsh, and Benicia Marsh. Depending on conditions at the time of the spill, these areas could be contacted within 3 hours of a spill at the Shore marine terminal.</p>	<p>BIO-6b: Shore shall demonstrate to the satisfaction of the CSLC that Shore Terminals can successfully implement its Oil Spill Response Plan and can deploy within 3 hours all the boom necessary to simultaneously protect all the sensitive resources at risk of contact with oil from a spill at Shore terminal.</p> <p>BIO-6c: Shore shall identify a source of sonic hazing devices to scare birds away from Suisun Shoal and demonstrate to the CSLC that these devices can be deployed within 3 hours of a spill at terminal.</p> <p>BIO-6d: Procedures should be developed for clean up of any sensitive biological areas contacted by oil. In many oil spills, clean up has done at least as much damage as the spill itself. Decisions about clean up of sensitive areas should be made in consultation with biologists from CDFG and USFWS.</p>	<p>CSLC monitor to observe that Shore has the boom deployment capability.</p> <p>CSLC monitor to observe that Shore has sonic hazing devices.</p> <p>Shore shall develop and present plan for clean up to CSLC, CDFG and USFWS.</p>	<p>Reduces spread of spill and damages to resources.</p> <p>Reduces potential damages to birds.</p> <p>Reduces potential damage from oil spills. For large spills, significant impacts may remain.</p>	<p>CSLC</p> <p>CSLC, CDFG, and USFWS</p>	<p>Within 12 months of lease implementation.</p> <p>Within 12 months of lease implementation.</p>
<p><b>BIO-7:</b> A significant impact to biological resources could result from spills of crude oil or product from a vessel in transit along tanker routes either in San Francisco Bay or outer coast waters.</p>	<p>BIO-6e: If damage occurs, the last resort is restoration and compensation. Any loss of resources shall be documented as soon as possible after a large spill. The sampling methods and design should be determined beforehand, and the plan should include provisions for getting resources onsite as soon as possible so that post-spill studies can begin immediately.</p>	<p>Shore shall provide sampling methods and a design protocol plan to CSLC for review and approval.</p> <p>Shore shall provide documentation of damage as soon as possible after a large spill to CSLC, CDFG and USFWS.</p>	<p>This will ensure that the loss of resources is documented as soon as possible after a large spill event.</p>	<p>CSLC</p>	<p>Sampling methods and protocol within 12 months of lease implementation and update every 2 years. Documentation of damage as soon as possible after a spill.</p>
<p><b>BIO-7:</b> Implement OS-8a and OS-8b of the Operational Safety/Risk of Upset section addressing potential participation in VTS upgrade evaluations, and Shore response actions for spills at or near the terminal.</p>		<p>See OS-8a and OS-8b.</p>	<p>See OS-8a and OS-8b.</p>	<p>See OS-8a and OS-8b.</p>	<p>See OS-8a and OS-8b.</p>

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**Table D-4  
Commercial Fisheries**

Impact	Mitigation Measure	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
<p><b>FSH-2:</b> Invasive species discharged from ballast water could impair water quality (Impact WQ-2) and biological resources (Impact BIO-4) would also impair commercial and sports fishing activities in the Bay and outer coast.</p>	<p>FSH-2: Implement WQ-2 for ballast water management.</p>	<p>See WQ-2.</p>	<p>See WQ-2.</p>	<p>See WQ-2.</p>	<p>See WQ-2.</p>
<p><b>FSH-3:</b> Shore contributes incrementally to water quality contamination and thus fish contamination, which could result in a loss of fishing opportunities because anglers prefer to stay away from contaminated fishing areas.</p>	<p>FSH-3: Implement WQ-3 and WQ-7 for preparation of a SWPPP and additional BMP's.</p>	<p>See WQ-3 and WQ-7.</p>	<p>See WQ-3 and WQ-7.</p>	<p>See WQ-3 and WQ-7.</p>	<p>See WQ-3 and WQ-7.</p>
<p><b>FSH-4:</b> Space use conflicts between transiting vessels serving the Shore marine terminal could occur if commercial shrimp trawlers operate 12 hours or more per day during the fishing season.</p>	<p>FSH-4: Shore Terminals shall notify the shrimp trawlers operating in Carquinez Strait of increases in vessel transits associated with terminal operations. In addition, Shore shall inform incoming vessel operators of shrimp trawling activities near the terminal.</p>	<p>Shore shall demonstrate to CSLC their activities by providing copies of notices.</p>	<p>Reduces Shore-bound vessels potential for conflict.</p>	<p>CSLC</p>	<p>Annual reporting for life of lease.</p>
<p><b>FSH-5:</b> Space use conflicts between transiting vessels serving the Shore marine terminal and commercial herring operators could occur resulting in interference or displacement of herring fishing activities.</p>	<p>FSH-5: Shore Terminals shall notify the herring fishery during the herring season of vessel transits. Shore shall also participate in the Pacific herring commercial fishery annual public scoping and hearing process, part of CDFG's annual review of herring commercial fishing regulations. CDFG has the authority to modify or develop regulations to address space use conflicts between the fishery and Shore's operations.</p>	<p>Shore shall demonstrate to CSLC their activities by providing copies of notices.</p>	<p>Reduces the potential damage to the Pacific herring commercial fishery.</p>	<p>CSLC and CDFG</p>	<p>Annual reporting for life of lease.</p>

**Table D-4 (Continued)  
Commercial Fisheries**

Impact	Mitigation Measure	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
<p><b>FSH-8:</b> Significant impacts to commercial and sport fisheries in the Bay Estuary would result from oil spill accidents at Shore terminals or from transiting tankers that service the terminal.</p>	<p>FSH-8a: Implement mitigation measures OS-3 through OS-6 in Operational Safety/Risk of Accidents, and mitigation measures BIO-6b through BIO-6d to lower the probability of oil spills and increase response capability.</p> <p>FSH-8b: Post notifications at spill sites and marinas, launch ramps and fishing access points to warn fishing interests of the locations of contaminated sites. Notices shall be written in English and Spanish and be posted in areas most likely to be seen by fishing interests.</p> <p>FSH-8c: Provide financial compensation in accordance with the California Oil Spill Prevention and Response Act.</p> <p>FSH-8d: Contribute to independent public or private organizations acceptable to the CSLC, who evaluate the effectiveness of mitigation measures (results of the evaluation would be available to public decision-makers to ensure refinement, if necessary, modification of mitigation measures). Evaluation would be done only after an accident and would include monitoring using scientifically accepted protocols.</p>	<p>See OS-3 through OS-6; BIO-6b through BIO-6d.</p> <p>CSLC monitor to observe notice postings.</p> <p>As per OSPR, to be commensurate with Shore's contribution of impacts.</p> <p>Shore shall demonstrate to CSLC their participation in relevant programs. Contributions would be determined by the level of impact and cooperation with the various organizations, agencies, and the CSLC.</p>	<p>See OS-3 through OS-6; BIO-6b through BIO-6d.</p> <p>Provides notification to local anglers of potential areas of contamination.</p> <p>Helps to fund programs for restoration or compensation.</p> <p>Helps to develop more effective mitigation measures.</p>	<p>See OS-3 through OS-6; BIO-6b through BIO-6d.</p> <p>CSLC</p> <p>OSPR</p> <p>CSLC</p>	<p>See OS-3 through OS-6; BIO-6b through BIO-6d.</p> <p>Life of lease.</p> <p>Life of lease.</p> <p>After a spill event, as warranted.</p> <p>Life of lease.</p>

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**Table D-5  
Land Use**

Impact	Mitigation Measure	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
LU-3: Shoreline and water-related uses would be disrupted by oil on the shoreline and in the water and result in significant adverse impacts.	LU-3: Mitigation measures for spills at the Shore terminal would be the responsibility of Shore Terminals operations. Measures applies are those which are presented in other sections (Operational Safety/Risk of Upset; Water Quality; Biological Resources; and Commercial and Sport Fisheries).	Shore shall implement measures presented in Operational Safety/Risk of Upset; Water Quality; Biological Resources; and Commercial and Sport Fisheries.	Any residual impacts remaining after first response efforts would be considered to be significant impacts.	As per referenced measures.	As per referenced measures.
LU-4: Oil spills from vessels in transit through the Bay and outer coast could impact shoreline and water-related uses.	LU-4: Shore Terminals shall implement measures OS-8a and OS-8b in Operational Safety/Risk of Upset. Other mitigation measures for accidents in the shipping lanes would not be Shore Terminals responsibility, but would fall to the vessel operator/owner.	See OS-8a and OS-8b.	See OS-8a and OS-8b.	See OS-8a and OS-8b.	See OS-8a and OS-8b.

**Table D-6  
Air Quality**

Impact	Mitigation Measure	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
AQ-5: Tanker pumping, transit, and/or tug combustion emissions could allow for an increase in throughput at the marine terminal. Thus, future operational emissions (both indirect and direct) have the potential to exceed daily and yearly significance thresholds (existing permit limits).	AQ-5: Mitigation should be focused on the use of best available control technology (BACT) available at the time of any expansion of the upland facility. Increased operations would require additional permitting through the BAAQMD, which would set limitations on allowable emissions levels and require offsets as necessary.	Shore shall apply to abide by BAAQMD requirements for revisions to the existing permit or for new permitting.	Through the use of improved technology and BAAQMD requirements, the impact would be reduced to less than significant.	BAAQMD	At the time of increases in upland tankage capacity.

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**Table D-7  
Visual Resources**

Impact	Mitigation Measure	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
<p>VR-2: Spills would change the color and texture of water and shoreline conditions. The visual impacts of a spill could last for a long period of time, depending on the level of physical impact and cleanup ability.</p>	<p>VR-2: Mitigation measures for oil spill impacts include those measures for contingency planning and response, as presented in Operational Safety/Risk of Upset and Biological Resources.</p>	<p>Shore shall implement measures presented in Operational Safety/Risk of Upset; Water Quality; Biological Resources; and Commercial and Sport Fisheries.</p>	<p>The measures provide for enhanced response capability and protection and would help to contain and cleanup small spills. Impacts may remain significant depending on the effectiveness of first response containment and clean-up.</p>	<p>As per referenced measures.</p>	<p>As per referenced measures.</p>
<p>VR-3: Spills would change the color and texture of water and shoreline conditions. The level of public sensitivity and expectations of viewers would result in a negative impression of the viewshed and result in significant impacts, depending on the various characteristics of a spill and its residual effects.</p>	<p>VR-3: Shore Terminals shall implement measures OS-8a and OS-8b in Operational Safety/Risk of Upset. Other mitigation measures for accidents in the shipping lanes would not be Shore Terminals responsibility, but would fall to the vessel operator/owner.</p>	<p>See OS-8a and OS-8b.</p>	<p>See OS-8a and OS-8b.</p>	<p>See OS-8a and OS-8b.</p>	<p>See OS-8a and OS-8b.</p>

**Table D-8  
Geotechnical Resources/Structural Stability**

Impact	Mitigation Measure	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
<p><b>GEO-2:</b> The impact of berth dredging, natural scour or accumulation of soil in steep slopes near or adjacent to wharf piles should be considered in soil-structure interaction. In addition, liquefaction and lateral spreading resulting from any moderate earthquake may create a significant adverse impact.</p>	<p><b>GEO-2a:</b> In the event that such scour has been noted, then Shore shall conduct additional analysis to evaluate the potential for lateral spreading. Loss of lateral support and laterally induced additional loads should be incorporated into the overall analysis and/or design. This analysis should be conducted concurrently with a site specific liquefaction analysis (see Impact GEO-3).</p> <p><b>GEO-2b:</b> Seismic evaluation of the structures and their foundations should be included in the structural analysis and geotechnical investigation in compliance with Section 6 of the proposed MOTEMS. The results and recommendations of the evaluation shall be coordinated with the mooring analysis recommendations and implementation of corrections (see GEO-10).</p>	<p>CSLC monitor to review and approve analysis recommendations and corrections.</p>	<p>Reduces potential for lateral spreading.</p>	<p>CSLC</p>	<p>Within 12 months of lease implementation.</p>
<p><b>GEO-3:</b> The site has not had an industry standard liquefaction evaluation performed. As such, the potential for impacts from seismically induced settlement are unknown but potentially significant.</p>	<p><b>GEO-3:</b> Shore shall comply with the proposed MOTEMS. As such, a site specific liquefaction evaluation shall be required to be completed within 6 months after start of the lease. The results and recommendations of the evaluation shall be coordinated with the mooring analysis recommendations and implementation of corrections (see GEO-10).</p>	<p>CSLC monitor to review and approve recommendations and corrections.</p>	<p>Reduces potential damage to structure from liquefaction.</p>	<p>CSLC</p>	<p>Within 6 months of lease implementation.</p>

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**Table D-8 (Continued)  
Geotechnical Resources/Structural Stability**

Impact	Mitigation Measure	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
<p><b>GEO-4:</b> Shore operators may not have adequate warning time to allow a vessel to depart from the wharf to avoid damage to the vessel and/or the wharf from a tsunami.</p>	<p><b>GEO-4a:</b> As soon as possible, after notification of a tsunami, shore operators shall release the vessel from its mooring and the vessel shall move away from the wharf.</p> <p><b>GEO-4b:</b> Shore shall comply with Section 5 of the proposed MOTEMS mooring analysis (see GEO-10).</p>	<p>Shore shall report to CSLC after a tsunami event.</p>	<p>Reduces damage to wharf and vessels from tsunami events.</p>	<p>CSLC</p>	<p>After a tsunami event.</p>
<p><b>GEO-8:</b> During an earthquake damage could occur in the batter pile to bent cap connections and could damage the trestle.</p>	<p><b>GEO-8:</b> Shore shall re-evaluate the loads on the bents, check the batter pile bolted connections, and adopt corrective measures.</p>	<p>Shore shall submit evaluation to CSLC for review, and schedule and implement any required corrections.</p>	<p>Reduces potential for damage due to poor batter pile bolted connections.</p>	<p>CSLC</p>	<p>Within 12 months of lease implementation.</p>
<p><b>GEO-9:</b> The anchor bent batter pile to bent cap bolts are not capable of transmitting the predicted transverse seismic loads and could fail during an earthquake resulting in a significant adverse impact. The bolted connection in the anchor pile bents could result in loss of support for the petroleum lines and potentially initiate an oil spill.</p>	<p><b>GEO-9:</b> The loads in the anchor bents should be re-evaluated and batter pile connections checked within 1 year. The anchor bents' inadequacy should be addressed and corrective measures implemented within 2 years.</p>	<p>Inspection by CSLC monitor to approve corrections.</p>	<p>Reduces potential for damage and oil spills.</p>	<p>CSLC</p>	<p>Timing as stated in measure.</p>

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**Table D-8 (Continued)  
Geotechnical Resources/Structural Stability**

Impact	Mitigation Measure	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
<p><b>GEO-10:</b> The last mooring analysis used data from sites nearby that may not reflect actual wharf conditions. There could be impacts associated with berthing and mooring capacity under actual currents, tides and winds, with the potential for oil releases.</p>	<p><b>GEO-10a:</b> Shore shall collect 12 months of data on currents, tide levels, and wind speed/direction at the wharf.</p> <p><b>GEO-10b:</b> If data analysis shows that currents, tides and wind speeds are significantly different (as assessed by CSLC) from that assumed in the previous analysis, Shore shall conduct a new mooring analysis consistent with the proposed MOTEMS Section 5 requirements.</p> <p><b>GEO-10c:</b> Shore shall conduct a passing vessel study for vessels navigating within 500 feet of the wharf, as per MOTEMS requirements.</p>	<p>Shore shall submit data to CSLC.</p> <p>Shore shall submit mooring analysis report to CSLC. Determine with CSLC schedule for any required corrections.</p> <p>Shore shall submit report to CSLC. Determine with CSLC schedule for any required corrections.</p>	<p>Provides knowledge of the conditions proximate to the terminal.</p> <p>Reduces potential for damage to wharf and vessels.</p>	<p>CSLC</p> <p>CSLC</p>	<p>Within 12 months of lease implementation.</p> <p>Within 12 months of lease implementation.</p>
<p><b>GEO-11:</b> Pipeline stresses on the 30-inch pipeline in relation to movement of the loading platform and trestle, and on the pipeline expansion loop support interface along the trestle are unknown. The potential may exist for damage to the pipeline and oil leaks.</p>	<p><b>GEO-11a:</b> Shore shall conduct a pipeline analysis on the 30-inch pipeline and the pipeline loop.</p> <p><b>GEO-11b:</b> Shore shall ensure that all pipelines for oil transfer meet MOTEMS and CSLC regulations in CCR Title 2, Division 3, Chapter 1, Article 5.5, Sections 2564 through 2570 for ensuring pipeline integrity.</p>	<p>Shore shall submit pipeline analysis to CSLC for review, and schedule and implement any required corrections.</p> <p>CSLC to provide oversight by periodic inspections.</p>	<p>Reduces potential for damage to pipeline or trestle.</p> <p>Assures pipeline integrity.</p>	<p>CSLC</p> <p>CSLC</p>	<p>Within 6 months of lease implementation.</p> <p>Life of lease.</p>

**Table D-9  
Environmental Justice**

Impact	Mitigation Measure	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
<p><b>EJ-1:</b> Overall water quality, biological, and commercial and sport fisheries impacts would affect resources used by the entire Bay community, whether or not they are minority or low-income, and would therefore not have a disproportionate impact on a minority of low-income population, except for sport fisheries.</p>	<p>Should an oil spill from Shore Terminals extend beyond .5 mile from the terminal and preclude sport fishing activities for more than two days, Shore Terminals shall contribute either funds or food stuffs to a local food bank in an amount sufficient, as determined in conjunction with the CSLC, to replace food sources that would have been supplied by fishing activities within the affected areas.</p>	<p>Shore shall contribute funds or food stuffs to be determined in conjunction with the CSLC as per the mitigation measure.</p>	<p>Reduces impacts by replacing food sources.</p>	<p>CSLC</p>	<p>After an oil spill.</p>

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## EXHIBIT E – SHORE TERMINALS STATEMENT OF OVERRIDING CONSIDERATIONS

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The CSLC adopts this Statement of Overriding Considerations with respect to the impacts identified in the final EIR that cannot be reduced, with application of all feasible mitigation, to a level of insignificance for routine operations and accidental oil spills. Impacts of routine operations include ballast water discharge and use of marine anti-fouling paints that effects water quality, marine biota, and fisheries. Accidental oil spills greater than 50 bbl from hydrocarbon transfers at the Terminal, hydrocarbon releases from tankers or barges in route to the Terminal, and their effects on water quality, biological resources, fisheries, visual resources, and land use/recreational resources are within this category.

The CSLC hereby finds that the provision of a lease to Shore Terminals LLC (Shore Terminals) to continue its marine terminal operations will have numerous benefits to the State of California (State) and the region served by the Terminal.

The following material is excerpted from "Integrated Energy Policy Report" (2003. Publication # 100-03-019F/ pages 16-18) adopted by the California Energy Commission (CEC):

California has two distinct refining centers, one in Northern and one in Southern California. In the S.F. Bay Area, the marine petroleum infrastructure, concentrated in the northeastern parts of the Bay -- Richmond, San Pablo Bay and the Carquinez Strait, handles nearly 40 percent of the State's total refinery production capacity of two million barrels per day. Since no pipelines connect these two key refining centers, reliance on coast barges to move petroleum products between them demands more of existing marine infrastructure requirements.

Tankers, carrying an average volume of 275,000 barrels per vessel, are an important source of petroleum product supply to California as is Shore's contribution. For the period 1999 to 2002, throughput for the Shore marine terminal, governed by the upland storage capacity, ranged from 15 million to 26 million barrels per year (bpy).

Since 1996, consumer demand has grown faster than the California petroleum refining capacity, which has grown an average 1.5 percent per year. Northern California refineries and terminals provide roughly 55 million barrels of storage capacity, Southern California, roughly 61 million barrels. An estimated 1.4 million barrels of capacity expansion are in various stages of planning and construction in California, all of which have been undertaken through existing permits. Preserving existing facilities that currently meet all environmental requirements is paramount. Even with these new projects the state's petroleum product infrastructure may be inadequate, and future constructions of additional storage could require extensive environmental assessment and time.

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Shore Terminals is an independent, privately owned transshipper of crude oil and petroleum products, which has operated its Martinez Marine Terminal since 1974 and currently employs fifteen (15) people. Shore Terminals operates the marine terminal and storage facilities in an industrial area of the city of Martinez and, in 2004, paid \$555,482 in property taxes to Contra Costa County. Shore Terminals owns none of the product that is transshipped through this facility, but warehouses for customers to store and transport petroleum to and from the site. Shore Terminals leases storage to various companies who use vessels and pipelines to deliver and ship out crude oil and products. The primary service area for this facility is the San Francisco Bay-Sacramento region.

The Shore Martinez Terminal serves adjacent refineries and forms part of the logistical chain associated with refinery inbound and outbound shipments. This activity would not change during the proposed lease period. Inbound marine shipments of crude are expected to continue because the development of new inland crude sources within California, such as Bakersfield, to replace marine shipments is not expected. Refinery storage needs for refined products are also expected to continue. Accordingly, Shore Terminals projects that crude and refined products will continue to be stored and handled at the terminal in approximately the same quantities and ratios as they are now.

If the lease for the Marine Terminal were not granted, other area marine terminals would be required to provide access to the region's energy infrastructure to tankers that are currently served by Shore Terminals in order to continue to meet future growing regional refining demands. It is possible that such action could tax the capacity of the other terminals, causing congestion at the terminals and/or increases in pumping rates, which in turn would increase the risk of significant leaks/spills. In addition, with no marine terminal, the Shore upland facility would continue to operate to store hydrocarbons, but only via pipelines. If this were to occur, the upland facility would be underutilized, which would exacerbate the insufficiency of the petroleum storage capacity of the region, contrary to the needs recognized by the CEC.

If, due to the loss of the marine terminal, it became uneconomical to operate the upland facility, direct and indirect consequences could result locally and regionally if no other operator would be willing or able to replace the functions of Shore's operations. The shortage of tankage capacity could result in regional hydrocarbon shortages and higher gasoline prices.

The CSLC further finds that all mitigation measures identified in the final EIR have been imposed to avoid or lessen impacts to the maximum extent feasible and, furthermore, finds that the No Project Alternative and the other alternatives: Increased Use of Existing Pipelines for Continued Operation of Upland Facility Alternative, and Modification to Existing Pipelines for Continued Operation of Upland Facility Alternative, are infeasible because they: 1) only partially offset significant impacts; 2) potentially transfer environmental impacts to other marine terminal locations in the region; 3) do not provide beneficial impacts; 4) do not meet the objectives of the Project; or 5) have

adverse, potentially significant social and economic consequences locally and regionally.

Based on the above discussion, the CSLC finds that the benefits of the Proposed Project outweigh the unavoidable adverse environmental effects, and considers such effects acceptable.