

3.7

HAZARDS AND HAZARDOUS MATERIALS

3.7.1 Introduction

This section addresses the potential impacts of hazards and hazardous materials related to the proposed Project and discusses potential impacts from proposed Project-related releases of hazardous materials to the environment. This section also describes impacts on public health and safety posed by the proposed Project. These potential impacts include fires, explosions, and releases of hazardous materials associated with construction and operation of the proposed facilities. The proposed Project would be exposed to significant and unavoidable tsunami-related impacts as a result of possible submarine landslides and numerous active faults in offshore southern California waters, as well as the relatively low elevation of Port berths and backland areas.

Potential health and safety impacts associated with encountering contaminated soil and groundwater during construction are discussed in Section 3.6 (Groundwater and Soils).

3.7.2 Environmental Setting

3.7.2.1 Hazardous Materials

Hazardous materials are the raw materials for a product or process that may be classified as toxic, flammable, corrosive, or reactive. Hazardous materials classifications that may be transported at the Port include:

- Corrosive materials — solids, liquids, or gases that can damage living material or cause fire.
- Explosive materials — any compound that is classified by the National Fire Protection Association (NFPA) as A, B, or C explosives.
- Oxidizing materials — any element or compound that yields oxygen or reacts when subjected to water, heat, or fire conditions.

- 1 • Toxic materials — gases, liquids, or solids that may create a hazard to life or
- 2 health by ingestion, inhalation, or absorption through the skin.
- 3 • Unstable materials — those materials that react from heat, shock, friction, con-
- 4 tamination, etc., and that are capable of violent decomposition or autoreaction,
- 5 but which are not designed primarily as an explosive.
- 6 • Radioactive materials — those materials that undergo spontaneous emission of
- 7 radiation from decaying atomic nuclei.
- 8 • Water-reactive materials — those materials that react violently or dangerously
- 9 upon exposure to water or moisture.

10 Hazardous materials that are transported in containers are stored in individual
 11 containers specifically manufactured for storing and transporting the material. In
 12 addition, shipping companies prepare, package, and label hazardous materials
 13 shipments in accordance with federal requirements (49 CFR 170-179) to facilitate
 14 surface transport of the containers. All hazardous materials in containers are required to
 15 be properly manifested. Hazardous material manifests for inbound containerized
 16 hazardous materials are reviewed and approved by the Port Security and the City’s Fire
 17 Department before they can be unloaded.

18 There are five hazardous liquid bulk facilities within the West Basin area, only two of
 19 which have storage capabilities (Table 3.7-1). There are no liquid bulk facilities located
 20 at Berths 136-147, which comprises the proposed Project’s area.

Table 3.7-1. Liquid Bulk Facilities within the West Basin Area

<i>Facility</i>	<i>Approximate Storage Volume (Barrels)</i>	<i>Number of Tanks</i>
GATX Berths 118-121	523,000	18
BP North America Berths 118-121	None	None
Petrolane Berth 120	None	None
Western Fuel Oil Berths 120-121	None	None
ConocoPhillips Berths 148-151	817,000	26

21 The LAHD estimates that the Port handles a maximum of 10,000 containers per year
 22 that contain hazardous materials (LAHD 2004c). This is the approximate capacity of
 23 two container ships. Based on the annual Portwide container volume of 7.4 million
 24 TEUs for fiscal year 2004, which is equivalent to approximately four million
 25 containers, hazardous materials in containers is estimated to represent approximately
 26 0.25 percent of the total containers handled within the Port.

27 Containers containing hazardous materials are transported from the terminal via truck
 28 and rail. While in the port, these containers will only be handled by authorized
 29 workers. The Transportation Worker Identification Credential (TWIC) program is a
 30 Transportation Security Administration (TSA) and USCG initiative that provides a

1 tamper-resistant biometric credential to maritime workers requiring unescorted access
2 to secure areas of port facilities and vessels regulated under the Maritime
3 Transportation Security Act, or MTSA, and all USCG credentialed merchant
4 mariners. An estimated 750,000 individuals will require TWICs. Enrollment and
5 issuance will take place over an 18-month period. To obtain a TWIC, an individual
6 must provide biographic and biometric information such as fingerprints, sit for a
7 digital photograph and successfully pass a security threat assessment conducted by
8 TSA. The TWIC program will minimize the potential for unauthorized handling of
9 containers that contain hazardous materials.

10 Since 2000, approximately five small hazardous materials spills and one explosion
11 have occurred from containers at the Berths 136-147 facility. Two injuries were
12 reported from accidental releases of hazardous materials. The explosion occurred
13 when a container, received from overseas, was improperly labeled and packed and
14 included an unclaimed vehicle (with gasoline fumes) and butane tanks. The
15 container explosion occurred while being handled; however, no personnel were
16 injured and no damage occurred to surrounding property. No deaths have resulted
17 from releases of hazardous materials at the Port. No injuries associated with
18 accidental releases of hazardous materials have been reported at hazardous liquid
19 bulk storage facilities within the West Basin area (personal communication, John
20 Curry 2004 and Sergeant Ken Hawkes 2007).

21 The California Office of Emergency Services (OES) maintains the Response
22 Information Management System (RIMS) database that includes detailed information
23 on all reported hazardous material spills in California. All spills that occur within the
24 Port, both hazardous and non-hazardous, are reported to the OES and entered into the
25 RIMS database. This database includes spills that may not result in a risk to the
26 public, but could be considered to be an environmental hazard. Information in the
27 RIMS database were evaluated for the period 1997 to 2004 to evaluate the types and
28 number of spills that have occurred at the Ports of Los Angeles and Long Beach that
29 would be associated with container terminals. Table 3.7-2 presents a summary of
30 accidental spills from container terminals that have occurred in the port complex.

31 During the period 1997-2004 there were 40 “hazardous material” spills directly
32 associated with container terminals in the Ports of Los Angeles and Long Beach. This
33 equates to approximately five spills per year for the entire port complex. During this
34 period, the total throughput of the container terminals was 76,874,841 TEU. Therefore,
35 the probability of a spill at a container terminal can be estimated at 5.2×10^{-7} per TEU
36 (40 spills divided by 76,874,841 TEU). This spill probability conservatively represents
37 the baseline hazardous material spill probability since it includes materials that would not
38 be considered a risk to public safety (e.g., perfume spills), but would still be considered
39 an environmental hazard. It should be noted that during this period there were no
40 reported impacts to the public (injuries, fatalities and evacuations), with potential
41 consequences limited to port workers (two worker injuries that were treated at the scene
42 and 20 workers evaluated as a precaution).

Table 3.7-2. Container-Related Spills at POLA/POLB 1997-2004

<i>Spill Control Number</i>	<i>Substance</i>	<i>Spill Size</i>	<i>Port</i>	<i>Injuries</i>	<i>Fatalities</i>	<i>Evacuations</i>
97-0684	Unknown dry substance	Unknown	POLB	2	0	0
97-1644	Phenetidine	Unknown	POLB	0	0	0
97-2220	Perfume	Unknown	POLB	0	0	0
97-2360	Ethanolamine	10 gallons	POLA	0	0	0
97-2782	Arsenic Trioxide	0.5 pounds	POLB	0	0	0
97-3158	Flammable liquid	Unknown	POLB	0	0	0
97-4369	Toluene Disocyaete	1 quart	POLA	0	0	0
98-4030	Nitric Acid	Unknown	POLB	0	0	0
98-4243	Isopropanol	55 gallons	POLB	0	0	0
99-3076	Alkyl Benzine	2 gallons	POLB	0	0	0
99-4630	Hypochlorite Solution	Unknown	POLB	0	0	0
00-1186	Xylenol	5 gallons	POLB	0	0	0
00-1232	Petroleum Distillates	1 gallon	POLB	0	0	0
00-2078	Chromium 6 Oxide	5 pounds	POLA	0	0	0
01-1433	Dodecylbenzene Sulfonic Acid Detergent	330 gallons	POLB	0	0	0
01-3682	Hydroperoxide	15 gallons	POLA	0	0	0
01-3943	Isopropanol	5 gallons	POLA	0	0	0
01-5462	Organic Peroxide	1 gallon	POLA	0	0	0
01-6533	Lead Acid Batteries	5 gallons	POLA	0	0	0
01-6902	Motor oil	3 gallons	POLB	0	0	0
02-0219	Calcium Hypochlorite	2 ounces	POLB	0	0	0
02-0822	Unknown material	Unknown	POLA	0	0	0
02-2033	Aerosol Cans	Unknown	POLA	0	0	0
02-3248	Perfume and Sulfamic Acid	Unknown	POLB	0	0	0
03-0278	Hexachlorocyclopentadiene	2 gallons	POLA	0	0	20
03-1653	Hydro Phosphorous Acid	1 gallon	POLA	0	0	0
03-0568	Organo Phosphorus Pesticide	3 gallons	POLA	0	0	0
03-0563	Organo Phosphorus Pesticide	1 gallon	POLA	0	0	0
03-0133	Sulfuric acid	Unknown	POLA	0	0	0
03-2554	Unknown Corrosive	1 gallon	POLB	0	0	0
03-3307	Unknown Oil	Unknown	POLB	0	0	0
03-4110	Unknown Oil	Unknown	POLA	0	0	0
04-1458	Alkyl benzyne	2,475 gallons	POLB	0	0	0
04-1431	Alkylene Carbonate	1 gallon	POLA	0	0	0
04-0085	Calcium Hypochlorite	Unknown	POLA	0	0	0
04-2525	Cutting Oil	Unknown	POLB	0	0	0
04-1135	Flammable Material	Unknown	POLB	0	0	0
04-2810	Hydrazine Hydrate, 34% solution	1 gallon	POLA	0	0	0
04-5008	Methane Sulfonic Acid	Unknown	POLA	0	0	0
04-1409	Unknown flammable	1 gallon	POLB	0	0	0
Total				2	0	20

3.7.2.2 Public Emergency Services

Emergency response/fire protection for the Port is provided by the Los Angeles City Fire Department (LAFD); security is provided by the Port Police office. Two large fireboats and three small fireboats are strategically placed within the Harbor. There are also fire stations equipped with fire trucks located within the Port and nearby in the communities of Wilmington and San Pedro. Public services are discussed in detail in Section 3.12.

3.7.2.3 POLA Risk Management Plan

The Risk Management Plan (RMP), an element of the Port Master Plan (PMP), was adopted in 1983, per California Coastal Commission (CCC) requirements. The purpose of the RMP is to provide siting criteria relative to vulnerable resources and the handling and storage of potentially hazardous cargo such as crude oil, petroleum products, and chemicals. The RMP provides guidance for future development of the Port to minimize or eliminate the hazards to vulnerable resources from accidental releases. Proposed Project consistency with this Plan would be limited, as the plan pertains primarily to marine terminals that accept crude oil, petroleum products, and chemicals, rather than container terminals.

3.7.2.4 Homeland Security

3.7.2.4.1 Terrorism Risk

Prior to the events of September 11th, 2001, the prospect of a terrorist attack on a U.S. port facility or a commercial vessel in a U.S. port would have been considered highly speculative under CEQA and dropped from further analysis. The climate of the world today has added an additional unknown factor for consideration; i.e., terrorism. There are no data available to indicate how likely or unlikely a terrorist attack aimed at the POLA or the proposed Project would be, and therefore the probability component of the analysis described above cannot be evaluated accurately without a considerable amount of uncertainty. Nonetheless, this fact does not invalidate the analysis contained herein. A terrorist action could be the cause of events described in this section such as hazardous materials release and/or explosion. The potential impact of those events would remain as described herein.

3.7.2.4.2 Application of Risk Principles

Terrorism risk can be generally defined by the combined factors of threat, vulnerability and consequence. In this context, terrorism risk represents the expected consequences of terrorist actions taking into account the likelihood that these actions will be attempted, and the likelihood that they will be successful. Of the three elements of risk, the threat of a terrorist action cannot be directly affected by activities within the port. The vulnerability of the port and of individual cargo terminals can be reduced by implementing security measures. The expected consequences of a terrorist action can be also affected by certain measures such as emergency response preparations.

1 **3.7.2.4.3 Terrorism Risk associated with Port Cargo Facilities**

2 The cargo facilities within the Port are the locations where cargo moving through the
3 international supply chain is transferred between vessels and land transportation
4 (either over the road tractor-trailers or railroad). Because this function is critical to
5 the international supply chain, and therefore critical to the U.S. economy, it is
6 possible that these facilities could be targeted for terrorist actions. These terminals
7 are generally not seen as iconic themselves. During operational periods people on
8 these terminals are generally limited to terminal staff members, longshore workers,
9 and truck drivers. There is no public access to these terminals.

10 Port facilities could be subject to terrorist actions from the land or the water. There
11 could be attempts to disrupt cargo operations through various types of actions.

12 **3.7.2.4.4 Terrorism Risk associated with Commercial Vessels**

13 Commercial vessels within the Port could be subject to terrorist action while at berth
14 or during transit. These vessels could be subject to several types of actions, including
15 an attack from the land, from the surface of the water, or from beneath the surface of
16 the water. During their transit within the port, these large vessels are highly
17 restricted in their maneuverability.

18 There have been very few examples of terrorist actions attempted against large
19 commercial vessels since September 11, 2001. On October 6th, 2002, a terrorist attack
20 was attempted against the French-flagged crude oil tanker *Limburg*. At the time the
21 *Limburg* was carrying 397,000 barrels of crude oil from Iran to Malaysia. The ship was
22 attacked off the coast of Yemen by a small boat laden with explosives. The *Limburg*
23 caught fire and approximately 90,000 barrels of crude oil leaked into the Gulf of Aden.
24 The *Limburg* did not sink. She was salvaged, repaired and returned to service under the
25 new name *Maritime Jewel*.

26 Unlike vessels carrying hazardous or highly flammable materials, such as bulk liquid
27 carriers, an attack on a container ship would likely be economic in nature and
28 designed to disrupt port operations. Container ships are not attractive targets in terms
29 of loss of life or producing large fires and explosions. However, a catastrophic attack
30 on a vessel within Port waters could block key channels and disrupt commerce, thus
31 resulting in potential economic losses.

32 **3.7.2.4.5 Terrorism Risk associated with Containerized Cargo**

33 Intermodal cargo containers could be used to transport a harmful device into the port
34 intended to cause harm to the port. This could include a weapon of mass destruction,
35 or a conventional explosive. The likelihood of such an attack would be based on the
36 desire to cause harm to the port, with potential increases in project-related throughput
37 having no measurable effect on the probability of an attack.

38 Containerized cargo represents a substantial segment of maritime commerce and is
39 the focus of much of the attention regarding seaport security. Containers are used to

1 transport a wide variety of goods. A large container ship can carry more than 3,000
2 containers, of which several hundred might be offloaded at a given port.

3 An intermodal container is similar to a semi truck trailer without an attached chassis
4 or wheels. Standard container sizes are 8 x 8 x 20 feet or 8 x 8 x 40 feet. Once
5 offloaded from ships, they are transferred to rail cars, or tractor-trailers. Over-the-
6 road weight regulations generally limit the cargo load of a 40-foot container to
7 approximately 45,000 pounds.

8 Additionally, the use of cargo containers to smuggle weapons of mass destruction
9 through the port intended to harm another location such as a highly populated and/or
10 economically important region is another possible use of a container by a terrorist
11 organization. However, the likelihood of such an event would not be impacted by
12 project-related throughput increases, but would be based on the terrorist's desired
13 outcome. Cargo containers represent only one of many potential methods to smuggle
14 weapons of mass destruction, and with current security initiatives may be less
15 desirable than other established smuggling routes (e.g., land-based ports of entry,
16 cross border tunnels, illegal vessel transportation, etc.).

17 **3.7.2.5 Security Measures at the Port of Los Angeles**

18 Numerous security measures have been implemented in the Port in the wake of the
19 terrorist attacks of September 11, 2001. Federal, state, and local agencies, as well as
20 private industry, have implemented and coordinated many security operations and
21 physical security enhancements. The result is a layered approach to Port security that
22 includes the security program of the LAHD and the Berths 136-147 terminal.

23 **3.7.2.5.1 Security Regulations**

24 The Maritime Transportation Security Act (MTSA) of 2003 resulted in maritime
25 security regulations in Title 33 CFR Parts 101-106. These regulations apply to cargo
26 terminals within POLA including the Berths 136-147 terminal. Title 33 Part 105
27 requires that cargo terminals meet minimum security standards for physical security,
28 access control, cargo handling security, and interaction with berthed vessels. These
29 regulations require that terminal operators submit a Facility Security Plan (FSP) to the
30 Coast Guard Captain of the Port for review and approval prior to conducting cargo
31 operations. The requirements for submission of the security plans became effective on
32 December 31, 2003. Operational compliance was required by July 1, 2004.

33 The International Ship and Port Facility Security (ISPS) Code was adopted by the
34 International Maritime Organization (IMO) in 2003. This code requires both ships
35 and ports to conduct vulnerability assessments and to develop security plans with the
36 purpose of: preventing and suppressing terrorism against ships; improving security
37 aboard ships and ashore; and reducing risk to passengers, crew, and port personnel on
38 board ships and in port areas, for vessels and cargo. The ISPS Code applies to all
39 cargo vessels 300 gross tons or larger and ports servicing those regulated vessels and
40 is very similar to the MTSA regulations.

1 The USCG is responsible for enforcement of the MTSA and ISPS Code regulations
2 discussed above. Due to the parallel nature of the MTSA and ISPS requirements,
3 compliance with the MTSA is tantamount to compliance with the ISPS. If either the
4 terminal or a vessel berthed at the terminal is found to be not in compliance with
5 these security regulations, the USCG may not permit cargo operations, and the
6 terminal and/or vessel operators may be subject to fines. In accordance with its
7 responsibilities for land-based security under Title 33 CFR Part 105, the USCG may
8 impose additional control measures related to security.

9 In July 2005 the POLA Tariff was modified to require that all POLA terminals
10 subject to MTSA regulations to fully comply with these regulations, and to provide
11 POLA with a copy of their approved FSP.

12 **3.7.2.5.2 Terminal Security Measures**

13 The Berths 136-147 terminal is subject to USCG maritime security regulations
14 discussed in section 3.7.2.5.1. In compliance with these regulations, the Berths 136-
15 147 terminal submitted a Facility Security Assessment (FSA) and FSP to the Coast
16 Guard Captain of the Port for review and approval. The Berths 136-147 FSP was
17 approved by the USCG in 2004 and includes the following:

- 18 • Designating a Facility Security Officer (FSO) with a general knowledge of cur-
19 rent security threats and patterns, risk assessment methodology, and with the re-
20 sponsibility for implementing and periodically updating the FSP and
21 Assessment and performing an annual audit for the life of the project;
- 22 • Conducting a FSA to identify site vulnerabilities, possible security threats, con-
23 sequences of an attack, and facility protective measures;
- 24 • Developing a FSP based on the FSA with procedures for responding to transpor-
25 tation security incidents; notifying and coordinating with local, state, and federal
26 authorities, preventing unauthorized access; implementing measures and equip-
27 ment to prevent or deter dangerous substances and devices; and conducting
28 training and evacuation;
- 29 • Implementing scalable security measures to provide increasing levels of security
30 at increasing Maritime Security (MARSEC) levels for facility access control, re-
31 stricted areas, cargo handling, vessel stores and bunkers, and monitoring;
- 32 • Conducting security exercises at least once each calendar year and drills at least
33 every 3 months; and
- 34 • Mandatory reporting of all security breaches and incidents.

35 Security training is conducted for the Terminal operator's FSO and associated
36 security personnel the Terminal operator's employees. This consists of awareness
37 training and basic security guard training; there are annual refresher courses. Labor
38 is trained by the Pacific Maritime Association.

3.7.2.5.3 Vessel Security Measures

All cargo vessels 300 gross tons or larger that are flagged by IMO signatory nations adhere to the ISPS Code standards discussed in Section 3.7.2.5.1. These requirements include:

- Ships must develop security plans that address monitoring and controlling access; monitoring the activities of people, cargo, and stores; and ensuring the security and availability of communications;
- Ships must have a Ship Security Officer (SSO);
- Ships must be provided with a ship security alert system. These systems transmit ship-to-shore security alerts to a competent authority designated by the Flag State Administration, which may communicate the company name, identify the ship, establish its location, and indicate that the ship's security is under threat or has been compromised. For the west coast, this signal is received by the Coast Guard's Pacific Area Command Center in Alameda, California.
- International port facilities that ships visit must have a security plan, including focused security for areas having direct contact with ships; and
- Ships may have certain equipment onboard to help maintain or enhance the physical security of the ship.
- Monitor and control access;
- Monitor the activities of people and cargo;
- Ensure the security and availability of communications; and
- Complete a Declaration of Security signed by the FSO and SSO, which ensures that areas of security overlapping between the ship and facility are adequately addressed.
- Vessels flagged by nations which are not IMO signatory are subject to special USCG vessel security boarding prior to entering port.

3.7.2.5.4 Security Credentialing

The Transportation Worker Identification Credential (TWIC) program is a TSA and USCG initiative that will include issuance of a tamper-resistant biometric credential to maritime workers requiring unescorted access to secure areas of port facilities and vessels regulated under the MTSA. The TWIC program will minimize the potential for unauthorized handling of containers that contain hazardous materials and provide additional shoreside security at the terminal. In order to obtain a TWIC, an individual must successfully pass a security threat assessment conducted by TSA. This assessment will include a criminal history check and a citizenship or immigration status check of all applicants. POLA is currently involved in initial implementation of the TWIC program including a series of field tests at selected POLA terminals.

1 **3.7.2.5.5 Cargo Security Measures**

2 U.S. Customs and Border Protection (CBP) is the federal agency with responsibility
3 for the security of cargo being shipped into the United States. CBP is the lead
4 agency for screening and scanning cargo that is shipped through the Port. Neither the
5 Berths 136-147 terminal nor the LAHD have responsibilities related to security
6 scanning or screening of cargo entering the port. However, the Port Police may
7 inspect cargo if there is probable cause on a case-by-case basis.

8 CBP conducts several initiatives related to security of the supply chain. Through the
9 Container Security Initiative (CSI) program, CBP inspectors pre-screen U.S.-bound
10 marine containers at foreign ports prior to loading aboard vessels bound for U.S.
11 ports. The Customs Trade Partnership Against Terrorism offers importers expedited
12 processing of their cargo if they comply with CBP measures for securing their entire
13 supply chain. Details of CBP cargo security programs can be found at the CBP
14 internet website <http://cbp.gov/>.

15 **3.7.2.5.6 POLA Security Initiatives**

16 The LAHD (POLA) is not subject to the international or federal security regulations
17 discussed in Section 3.7.2.5.1. However, all container terminal tenants at the POLA
18 are subject to these regulations. POLA has a number of security initiatives
19 underway. These initiatives include significant expansion of the Los Angeles Port
20 Police that will result in additional police vehicles on the streets and police boats on
21 the water. The initiatives in this area include:

- 22 • Expanding Port Police enhancement of its communications capabilities
- 23 • Establishing a 24-hour two-vessel presence.
- 24 • Establishing a vehicle and cargo inspection team.
- 25 • Establishing a Port Police substation in Wilmington.
- 26 • Enhancing recruiting and retention of Port Police personnel.
- 27 • Expanding Port Police communications capabilities to include addition of dedi-
28 cated tactical frequencies.
- 29 • Enhancing security at Port owned facilities.

30 In the area of homeland security, the Port will continue to embrace technology, while
31 focusing its efforts on those areas of particular interest to the Port. Current POLA
32 homeland security initiatives include:

- 33 • Upgrading security at the World Cruise Center.
- 34 • Expanding the Port’s waterside camera system.
- 35 • Establish restricted areas for non-commercial vehicles and vessels.
- 36 • Installing additional shore-side cameras at critical locations.

- Working with TSA to implement the TWIC program.
- Promoting increased scanning at overseas ports.
- Updating long range security plans for the Port.
- Developing a security awareness training program.
- Enhancing outreach to constituents.

3.7.3 Applicable Regulations

3.7.3.1 List of Regulations

Regulations applicable to the proposed Project are designed to regulate hazardous materials and hazardous wastes. These regulations also are designed to limit the risk of upset during the use, transport, handling, storage, and disposal of hazardous materials. The proposed Project will be subject to numerous federal, state, and local laws and regulations including, but not limited to, those described below.

3.7.3.1.1 Resource Conservation and Recovery Act of 1976 (42 U.S.C. Section 6901-6987)

The goal of RCRA, a federal statute passed in 1976, is the protection of human health and the environment, the reduction of waste, the conservation of energy and natural resources, and the elimination of the generation of hazardous waste as expeditiously as possible. The Hazardous and Solid Waste Amendments of 1984 significantly expanded the scope of RCRA by adding new corrective action requirements, land disposal restrictions, and technical requirements. The corresponding regulations in 40 CFR 260-299 provide the general framework for managing hazardous waste, including requirements for entities that generate, store, transport, treat, and dispose of hazardous waste.

3.7.3.1.2 DOT Hazardous Materials Regulations (Title 49 CFR Parts 100-185)

The DOT Hazardous Materials Regulations cover all aspects of hazardous materials packaging, handling and transportation. Parts 172 (Emergency Response), 173 (Packaging Requirements), 174 (Rail Transportation), 176 (Vessel Transportation), 177 (Highway Transportation), 178 (Packaging Specifications) and 180 (Packaging Maintenance) would all apply to the proposed Project activities.

3.7.3.1.3 The Hazardous Materials Transportation Act (HMTA), 49 CFR 171, Subchapter C

The DOT, FHWA, and the Federal Railroad Administration regulate transportation of hazardous materials at the federal level. The HMTA requires that carriers report accidental releases of hazardous materials to DOT at the earliest practical moment.

1 Other incidents that must be reported include deaths, injuries requiring
2 hospitalization, and property damage exceeding \$50,000.

3 **3.7.3.1.4 United States Coast Guard (USCG) Title 33**

4 The USCG, through Title 33 (Navigation and Navigable Waters) and Title 46
5 (Shipping) of the CFR, is the federal agency responsible for vessel inspection, marine
6 terminal operations safety, coordination of federal responses to marine emergencies,
7 enforcement of marine pollution statutes, marine safety (navigation aids, etc.), and
8 operation of the National Response Center for spill response, and is the lead agency for
9 offshore spill response. The USCG implemented a revised vessel boarding program in
10 1994 designed to identify and eliminate substandard ships from U.S. waters. The
11 program pursues this goal by systematically targeting the relative risk of vessels and
12 increasing the boarding frequency on high risk (potentially substandard) vessels. Each
13 vessel's relative risk is determined through the use of a matrix that factors the vessel's
14 flag, owner, operator, classification society, vessel particulars, and violation history.
15 Vessels are assigned a boarding priority from I to IV, with priority I vessels being the
16 potentially highest risk. The USCG is also responsible for reviewing marine terminal
17 Operations Manuals and issuing Letters of Adequacy upon approval.

18 **3.7.3.1.5 Hazardous Waste Control Law (California Health and Safety Code,
19 Chapter 6.5)**

20 This statute is the basic hazardous waste law for California. The Hazardous Waste
21 Control implements the federal RCRA cradle-to-grave waste management system in
22 California. California hazardous waste regulations can be found in Title 22,
23 Division 4.5, Environmental Health Standards for the Management of Hazardous
24 Wastes. The program is administered by the DTSC.

25 **3.7.3.1.6 Emergency Planning and Community Right-To-Know Act
26 (42 U.S.C. 11001 et seq.)**

27 Also known as Title III of the Superfund Amendments and Reauthorization Act
28 (SARA), Emergency Planning and Community Right-To-Know Act (EPCRA) was
29 enacted by Congress as the national legislation on community safety. This law was
30 designated to help local communities protect public health, safety, and the
31 environment from chemical hazards. To implement EPCRA, Congress required each
32 state to appoint a State Emergency Response Commission (SERC). The SERCs were
33 required to divide their states into Emergency Planning Districts and to name a Local
34 Emergency Planning Committee (LEPC) for each district. EPCRA provides
35 requirements for emergency release notification, chemical inventory reporting, and
36 toxic release inventories for facilities that handle chemicals.

1 **3.7.3.1.7 Hazardous Material Release Response Plans and Inventory Law**
2 **(California Health and Safety Code, Chapter 6.95)**

3 This state right-to-know law requires businesses to develop a Hazardous Material
4 Management Plan or a “business plan” for hazardous materials emergencies if they
5 handle more than 500 pounds, 55 gallons, or 200 cubic feet of hazardous materials. In
6 addition, the business plan includes an inventory of all hazardous materials stored or
7 handled at the facility above these thresholds. This law is designed to reduce the
8 occurrence and severity of hazardous materials releases. The Hazardous Materials
9 Management Plan or business plan must be submitted to the Certified Unified Program
10 Agency (CUPA), which is, in this case, the Los Angeles City Fire Department (LAFD).
11 The state has integrated the federal EPCRA reporting requirements into this law; and,
12 once a facility is in compliance with the local administering agency requirements,
13 submittals to other agencies are not required.

14 **3.7.3.1.8 Los Angeles Municipal Code (Fire Protection – Chapter 5, Section**
15 **57, Divisions 4 and 5)**

16 These portions of the municipal fire code regulate the construction of buildings and
17 other structures used to store flammable hazardous materials, and the storage of these
18 same materials. These sections ensure that the business is properly equipped and
19 operates in a safe manner and in accordance with all applicable laws and regulations.
20 These permits are issued by the LAFD.

21 **3.7.3.1.9 Los Angeles Municipal Code (Public Property – Chapter 6, Article 4)**

22 This portion of the municipal code regulates the discharge of materials into the
23 sanitary sewer and storm drains. It requires the construction of spill-containment
24 structures to prevent the entry of forbidden materials, such as hazardous materials,
25 into sanitary sewers and storm drains.

26 **3.7.3.2 Other Requirements**

27 California regulates the management of hazardous wastes through Health and Safety
28 Code Section 25100 et seq., and through the California CCR, Title 22, and Division
29 4.5, Environmental Health Standards for the Management of Hazardous Wastes, as
30 well as CCR Title 26, Toxics.

31 The Safety Element of the City of Los Angeles General Plan addresses the issue of
32 protection of its people from unreasonable risks associated with natural disasters
33 (e.g., fires, floods, and earthquakes). The Safety Element provides a contextual
34 framework for understanding the relationship between hazard mitigation, response to
35 a natural disaster, and initial recovery from a natural disaster.

36 The transport of hazardous materials in containers on the street and highway system
37 is regulated by Caltrans procedures and the Standardized Emergency Management
38 System prescribed under Section 8607 of the California Government Code.

1 Compliance with other federal, state, and local laws and regulations (e.g., driver
2 training and licensing and Caltrans packaging requirements) govern transport of
3 cargo on the street and highway system and during rail transport. The shippers
4 package the hazardous materials in the containers and provide labeling in compliance
5 with Caltrans requirements.

6 Numerous facilities handle, store, or transport hazardous materials in the Port.
7 Activities that involve hazardous liquid bulk cargoes (e.g., fuels) at the Port are
8 governed by the Port of Los Angeles Risk Management Plan (RMP) (LAHD 1983).
9 This plan provides for a methodology for assessing and considering risk during the
10 siting process for facilities that handle substantial amounts of dangerous cargo, such
11 as liquid bulk facilities.

12 Hazardous materials inside cargo containers fall under the primary jurisdiction of the
13 federal Department of Homeland Security and USCG (33 CFR 126) while the
14 containers are at sea, in Port waters, and at waterfront facilities. Under the
15 jurisdiction of the Department of Homeland Security, the USCG maintains an Office
16 of Operating and Environmental Standards Division, which develops national
17 regulations and policies on marine environmental protection. This division
18 coordinates with appropriate federal, state, and international organizations to
19 minimize conflicting environmental requirements. The USCG also maintains a
20 Hazardous Materials Standards Division (HMSD), which develops standards and
21 industry guidance to promote the safety of life and protection of property and the
22 environment during marine transportation of hazardous materials. This includes
23 transportation of bulk liquid chemicals and liquefied gases, hazardous bulk solids,
24 and packaged hazardous cargoes, as well as hazardous materials used as ship's stores
25 and hazardous materials used for shipboard fumigation of cargo.

26 Vessel Traffic Service (VTS) is a Public/Private partnership vessel traffic service for the
27 Ports of Los Angeles and Long Beach. VTS is jointly operated and managed by the
28 Marine Exchange of Southern California (a nonprofit corporation) and the Coast Guard
29 COTP. VTS is a cooperative effort of the State of California, USCG, Marine Exchange
30 of Southern California, Ports of Los Angeles and Long Beach, and is under the authority
31 of California Government Code, Section 8670.21, Harbors and Navigation Code,
32 Sections 445-449.5 and the Port tariffs of Los Angeles and Long Beach.

33 Terminal cargo operations involving hazardous materials are governed by the LAFD
34 in accordance with regulations of state and federal departments of transportation
35 (49 CFR 176). Regulated hazardous materials in the Port may include maritime-use
36 compounds such as chlorinated solvents, petroleum products, compressed gases,
37 paints, cleaners, and pesticides.

3.7.4 Impacts and Mitigation Measures

3.7.4.1 Methodology

Risk Probability and Criticality

CEQA guidelines require identifying any adverse change in any of the physical conditions within the area affected by the proposed Project, including the probability of spills or releases. For incidents that may impact environmental and public safety, a risk matrix is used to evaluate the expected frequencies of scenarios versus the severity of potential consequences to determine the level of significance (see Table 3.7-3). The potential for significant safety impacts increases proportionally to the frequency of occurrence and potential consequences of an event. Frequency is typically classified into six categories (frequent, periodical, occasional, possible, improbable, and extraordinary) based on a predefined expected level of occurrence. The severity of consequence is also classified into five categories (negligible, minor, major, severe, and disastrous) based on the potential environmental and safety impact on the public. Table 3.7-4 specifies values in each category of consequence and frequency classification typically used in the industry. Incidents that fall in the shaded area of the risk matrix would be classified as significant. The risk matrix approach follows the Los Angeles County Fire Department (LACFD) risk management guidelines that were originally developed for the California Risk Management and Prevention Program (RMPP) and also include the criticality classifications presented in Table 3.7-4. The RMPP used the combination of accident frequency and consequences to define the significance of a potential accident in terms of impacts to public safety (i.e., potential injuries and/or fatalities). Santa Barbara County (1995) added additional criteria to address the significance of oil spills and environmental hazards, which for the proposed Project would include fuel spills from container ships. The potential significance of impacts to public safety and the environment are evaluated using the risk matrix approach. The extent of environmental damage is evaluated in the relevant issue areas (e.g., biological resources, water quality, etc.).

The risk criticality matrix shown in Table 3.7-4 combines accidental probability with the severity of consequences to identify the risk criticality. Four categories of risk have been defined by the LACFD as:

1. Critical. Mitigate within 6 months with administrative or engineering controls (to reduce the Risk Code to 3 or less).
2. Undesirable. Mitigate within 1 year with administrative or engineering controls (to reduce the Risk Code to 3 or less).
3. Acceptable. Verify need for engineering controls, or that administrative controls are in place for hazard.
4. Acceptable. No mitigating action required for the identified hazard.

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Table 3.7-3. Risk Matrix

		Probability					
		Extraordinary- >1,000,000 years	Improbable >10,000 <1,000,000 years	Possible >100 <10,000 years	Occasional >10 and <100 years	Periodic >1 and <10 years	Frequent (>1/year)
Consequences	Catastrophic (> 100 severe injuries or >357,142 bbl)	4	3	2	1	1	1
	Severe (up to 100 severe injuries or 2,380– 357,142 bbls)	4	3	3	2	2	2
	Moderate (up to 10 severe injuries or 238– 2,380 bbl)	4	4	3	3	3	3
	Slight (a few minor injuries or 10-238 bbl)	4	4	4	4	4	4
	Negligible (no minor injuries or <10 bbls)	4	4	4	4	4	4
	<p><i>Note:</i> Incidents that fall in the dark shaded area of the risk matrix would be classified as significant in the absence of mitigation, while the lighter shaded areas would be significant in the absence of engineering and/or administrative controls. Un-shaded areas would be considered less than significant. bbl = barrel which is 42 gallons.</p> <p><i>Sources:</i> LACFD 1991, Santa Barbara County 1995; Aspen Environmental Group 1996.</p>						

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The risk criticality matrix presented in Table 3.7-4 was originally developed for use in evaluating the probability and significance of a release of acutely hazardous materials (AHM) under the requirements of Section 25532(g) of the Health and Safety Code, and has been modified over the years to include other environmental and public safety hazards.

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Risk of Upset Due to Terrorism

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Analysis of risk of upset is based primarily on potential frequencies of occurrence for various events and upset conditions as established by historical data. The climate of the world today has added an additional unknown factor for consideration; i.e., terrorism. There are no data available to indicate how likely or unlikely a terrorist attack aimed at the POLA or the proposed Project would be, and therefore the probability component of the analysis described above cannot be evaluated accurately without a considerable amount of uncertainty. Nonetheless, this fact does

Table 3.7-4. Criticality and Frequency Classifications

CRITICALITY CLASSIFICATION		
<i>Classification</i>	<i>Description of Public Safety Hazard</i>	<i>Environmental Hazard - Oil Spill Size</i>
Negligible	No significant risk to the public, with no injuries	Less than 10 bbls (420 gal)
Slight	At most a few minor injuries	10–238 bbl (420–10,000 gal)
Moderate	Up to 10 severe injuries	238–2,380 bbl (10,000–100,000 gal)
Severe	Up to 100 severe injuries or up to 10 fatalities	2,380–357,142 bbls (100,000–15,000,000 gal)
Catastrophic	More than 100 severe injuries or more than 10 fatalities	Greater than 357,142 bbl (15,000,000 gal)
FREQUENCY CLASSIFICATION		
<i>Classification</i>	<i>Frequency per year</i>	<i>Description of the Event</i>
Extraordinary	< once in 1,000,000 years	Has never occurred but could occur.
Improbable	between once in 10,000 and once in 1,000,000 years	Occurred on a worldwide basis, but only a few times. Not expected to occur.
Possible	Between once in a 100 and once in 10,000 years	Is not expected to occur during the project lifetime.
Occasional	Between once in a 10 and once in 100 years	Would probably occur during the project lifetime.
Periodic	Between once per year and once in 10 years	Would occur about once a decade.
Frequent	Greater than once in a year	Would occur once in a year on average.
<i>Sources:</i> Santa Barbara County 1995; Aspen Environmental Group 1996.		

not invalidate the analysis contained herein. Terrorism can be viewed as a potential trigger that could initiate events described in this section such as hazardous materials release and/or explosion. The potential impact of those events, once triggered by whatever means, would remain as described herein. The Berth 136-147 Terminal operator would also be required to develop a Terminal Security Plan for the Terminal, which would be approved by the USCG and the California State Lands Commission (CSLC) prior to implementation of the proposed Project. Ships calling at the Port would need to provide 96 hour advance notice. They would be screened by the USCG and CBP. The USCG would have options of denying entry of vessels to the POLA if any security situation arises.

Hazards Associated with Truck Transportation

Proposed Project-related increases in truck trips could result in an increase in vehicular accidents, injuries and fatalities. Therefore, potential impact of increased truck traffic on regional injury and fatality rates have been evaluated.

1 The Federal Motor Carrier Safety Administration (FMCSA), within DOT, operates and
2 maintains the Motor Carrier Management Information System (MCMIS). MCMIS
3 contains information on the safety fitness of commercial motor carriers and hazardous
4 material shippers subject to the FMCSA Regulations and the 49 CFR Hazardous
5 Materials Regulations. As part of these requirements, reportable accident rates are
6 generated for various types of carriers, including carriers of hazardous materials. More
7 than 500,000 motor carriers are included in the database, of which approximately
8 40,000 carry hazardous materials. A DOT reportable accident is an accident that
9 produces either a fatality, a hospitalization, or requires the vehicle be towed.

10 The Hazardous Materials Information System (HMIS) is another system of databases
11 managed by the Office of Hazardous Materials Safety within DOT. The database
12 maintains information on transportation-related hazardous material incidents.

13 According to an FMCSA detailed analysis (FMCSA 2001), the estimated non-
14 hazardous materials truck accident rate is more than twice the hazardous materials
15 truck accident rate. The non-hazardous materials truck accident rate was estimated to
16 be 0.73 accidents per million vehicle miles and the average hazardous materials truck
17 accident rate was estimated to be 0.32 accidents per million vehicle miles.

18 Based on the National Highway Traffic Safety Administration (NHTSA) (DOT
19 2003), of the estimated 457,000 truck crashes in 2000 (causing fatalities, injuries, or
20 property damage), an estimated 1 percent produced fatalities and 22 percent produced
21 injuries. The Fatality Analysis Reporting System (FARS) and the Trucks Involved in
22 Fatal Accidents (TIFA) survey were the sources of data for this analysis, which
23 primarily examined fatalities associated with vehicle impact and trauma.

24 **3.7.4.1.1 CEQA Baseline**

25 Section 15125 of the CEQA Guidelines requires EIRs to include a description of the
26 physical environmental conditions in the vicinity of a project that exist at the time of
27 the NOP. These environmental conditions would normally constitute the baseline
28 physical conditions by which the CEQA lead agency determines whether an impact is
29 significant. For purposes of this Draft EIS/EIR, the CEQA Baseline for determining
30 the significance of potential impacts under CEQA is December 2003. CEQA
31 Baseline conditions are described in Table 2-2 of Section 2.4.

32 The CEQA Baseline represents the setting at a fixed point in time, with no project
33 growth over time, and differs from the “No Project” Alternative (discussed in Section
34 2.5.1) in that the No Project Alternative addresses what is likely to happen at the site
35 over time, starting from the baseline conditions. The No Project Alternative allows for
36 growth at the proposed Project site that would occur without any required additional
37 approvals.

38 **3.7.4.1.2 No Federal Action/NEPA Baseline**

39 For purposes of this Draft EIS/EIR, the evaluation of significance under NEPA is
40 defined by comparing the proposed Project or other alternative to the No Federal Action
41 scenario. The No Federal Action/NEPA Baseline condition for determining

1 significance of impacts coincides with the “No Federal Action” condition, which is
 2 defined by examining the full range of construction and operational activities the
 3 applicant could implement and is likely to implement absent permits from the
 4 USACE. Therefore, the No Federal Action/NEPA Baseline would not include any
 5 dredging, filling of the Northwest Slip, wharf construction or upgrades, or crane
 6 replacement. The No Federal Action/NEPA Baseline would include construction and
 7 operation of all upland elements (existing lands) for backlands or other purposes.
 8 The upland elements are assumed to include:

- 9 • Adding 57 acres of existing land for backland area and an on-dock rail yard;
- 10 • Constructing a 500-space parking lot for union workers;
- 11 • Demolishing the existing administration building and constructing a new
 12 LEED certified administration building and other terminal buildings;
- 13 • Adding new lighting and replacing existing lighting, fencing, paving, and
 14 utilities on the backlands;
- 15 • Relocating the Pier A rail yard and constructing the new on-dock rail yard;
- 16 • Widening and realigning Harry Bridges Boulevard; and
- 17 • Developing the Harry Bridges Buffer Area.

18 Unlike the CEQA Baseline, which is defined by conditions at a point in time, the No
 19 Federal Action/NEPA Baseline is not bound by statute to a “flat” or “no growth”
 20 scenario; therefore, the USACE may project increases in operations over the life of a
 21 project to properly analyze the No Federal Action/NEPA Baseline condition.
 22 Normally, any ultimate permit decision would focus on direct impacts to the aquatic
 23 environment, as well as indirect and cumulative impacts in the uplands determined to
 24 be within the scope of federal control and responsibility. Significance of the
 25 proposed Project or alternative is defined by comparing the proposed Project or
 26 alternative to the No Federal Action/NEPA Baseline (i.e., the increment). The No
 27 Federal Action/NEPA Baseline conditions are described in Table 2-2 of Section 2.4.

28 The No Federal Action/NEPA Baseline also differs from the “No Project” Alternative,
 29 where the Port would take no further action to construct and develop additional
 30 backlands (other than the 176 acres that currently exist). Under this alternative, no
 31 construction impacts would occur. However, forecasted increases in cargo throughput
 32 would still occur as greater operational efficiencies are made.

33 **3.7.4.2 Thresholds of Significance**

34 Criteria for determining the significance of impacts related to risk of upset are based
 35 on the *Los Angeles CEQA Thresholds Guide* (City of Los Angeles 2006) and federal
 36 and state standards, regulations, and guidelines. The Project would have a significant
 37 impact on risk of upset if it would:

1 regulations that govern the storage of hazardous materials in containers (i.e., the types
2 of materials and the size of packages containing hazardous materials) and the separation
3 of containers holding hazardous materials, would limit the potential adverse impacts of
4 contamination to a relatively small area. In addition, standard BMPs would be used
5 during construction and demolition activities to minimize runoff of contaminants, in
6 compliance with the State General Permit for Storm Water Discharges Associated with
7 Construction Activity (Water Quality Order 99-08-DWQ) and Project-specific Storm
8 Water Pollution Prevention Plan (SWPPP) (see Section 3.13, Water Quality,
9 Sediments, and Oceanography for more information).

10 **CEQA Impact Determination**

11 Implementation of construction and demolition standards, including BMPs, would
12 minimize the potential for an accidental release of petroleum products and/or
13 hazardous materials and/or explosion during Phase I/II construction/demolition
14 activities at Berths 136-147. Because construction/demolition related spills are not
15 uncommon, the probability of a spill occurring is classified as “frequent” (more than
16 once a year). However, because such spills are typically short-term and localized,
17 mainly due to the fact that the volume in any single vehicle is generally less than 50
18 gallons and fuel trucks are limited to 10,000 gallons or less, the potential
19 consequence of such accidents is classified as “slight” resulting in a Risk Code of 4
20 that is “acceptable.” Therefore, under CEQA, construction and demolition would not
21 substantially increase the probable frequency and severity of consequences to people
22 or property as a result of an accidental release or explosion of a hazardous substance.
23 Based on criterion **RISK-1**, impacts would be less than significant.

24 *Mitigation Measures*

25 No mitigation is required.

26 *Residual Impacts*

27 With no mitigation required, the residual impacts would be less than significant.

28 **NEPA Impact Determination**

29 The proposed Project would include seismic upgrade of existing wharves and
30 construction of new wharves and dikes, which would result in increased susceptibility
31 to hazardous materials spills during construction. Implementation of construction
32 standards, including BMPs, would minimize the potential for an accidental release of
33 hazardous materials and/or explosion during Phase I/II in-water construction activities
34 at Berths 136-147. Because construction/demolition related spills are not uncommon,
35 the probability of a spill occurring is classified as “frequent” (more than once a year).
36 However, because such spills are typically short-term and localized, the potential
37 consequence of such accidents is classified as “slight” resulting in a Risk Code of 4 that
38 is “acceptable.” Therefore, under NEPA, construction and demolition would not
39 substantially increase the probable frequency and severity of consequences to people or
40 property as a result of an accidental release or explosion of a hazardous substance.
41 Based on risk criterion **RISK-1**, impacts would be less than significant.

1 *Mitigation Measures*

2 No mitigation is required.

3 *Residual Impacts*

4 With no mitigation required, the residual impacts would be less than significant.

5 **Impact RISK-2a: Phase I/II construction/demolition activities would not**
6 **substantially increase the probable frequency and severity of**
7 **consequences to people from exposure to health hazards.**

8 Construction and demolition activities would be conducted using BMPs and in
9 accordance with the Los Angeles Municipal Code (Chapter 5, Section 57, Division 4 and
10 5; Chapter 6, Article 4). Quantities of hazardous materials that exceed the thresholds
11 provided in Chapter 6.95 of the California Health and Safety Code would be subject to a
12 Release Response Plan (RRP) and a Hazardous Materials Inventory (HMI).
13 Implementation of increased inventory accountability and spill prevention controls
14 associated with this Release Response Plan and Hazardous Materials Inventory, such as
15 limiting the types of materials stored and size of packages containing hazardous
16 materials, would limit both the frequency and severity of potential releases of hazardous
17 materials, thus minimizing potential health hazards and/or contamination of soil or water
18 during construction/demolition activities. These measures reduce the frequency and
19 consequences of spills by requiring proper packaging for the material being shipped,
20 limits on package size, and thus potential spill size, as well as proper response measures
21 for the materials being handled. Impacts from contamination of soil or water during
22 construction/demolition activities would apply to not only construction personnel, but to
23 people and property occupying operational portions of the Project area, as Berths 136-
24 147 Terminal would be operating during Phase I/II construction activities.

25 Near-surface contaminated soil may be encountered during demolition of the Pier A
26 rail yard, resulting in potential health hazards to demolition and/or construction
27 personnel. See Section 3.6, Groundwater and Soils for more information.

28 **CEQA Impact Determination**

29 Several standard policies regulate the storage of hazardous materials including the
30 types of materials, size of packages containing hazardous materials, and the
31 separation of containers containing hazardous materials. These measures reduce the
32 frequency and consequences of spills by requiring proper packaging for the material
33 being shipped, limits on package size, and thus potential spill size, as well as proper
34 response measures for the materials being handled. Implementation of these
35 preventative measures would minimize the potential for spills to impact members of
36 the public and limit the adverse impacts of contamination to a relatively small area.
37 Because construction/demolition related spills are not uncommon, the probability of a
38 spill occurring is classified as “frequent” (more than once a year). However, because
39 such spills are typically short-term and localized, the potential consequence of such
40 accidents is classified as “slight” resulting in a Risk Code of 4 that is “acceptable.”
41 Therefore, under CEQA, construction/demolition activities at Berths 136-147 would
42 not substantially increase the probable frequency and severity of consequences to

1 people from exposure to health hazards. Based on risk criterion **RISK-2**, impacts
2 would be less than significant.

3 *Mitigation Measures*

4 No mitigation is required.

5 *Residual Impacts*

6 With no mitigation required, the residual impacts would be less than significant.

7 **NEPA Impact Determination**

8 The proposed Project would include seismic upgrade of existing wharves and
9 construction of new wharves and dikes, which would result in increased susceptibility to
10 hazardous materials spills during construction. Several standard policies regulate the
11 storage of hazardous materials including the types of materials, size of packages
12 containing hazardous materials, and the separation of containers containing hazardous
13 materials. These measures reduce the frequency and consequences of spills by requiring
14 proper packaging for the material being shipped, limits on package size, and thus
15 potential spill size, as well as proper response measures for the materials being handled.
16 Implementation of these preventative measures would minimize the potential for spills to
17 impact members of the public and limit the potential adverse impacts of contamination to
18 a relatively small area. Therefore, under NEPA, construction/demolition activities at
19 Berths 136-147 would not substantially increase the probable frequency and severity of
20 consequences to people from exposure to health hazards. Based on risk criterion **RISK-**
21 **2**, impacts would be less than significant.

22 *Mitigation Measures*

23 No mitigation is required.

24 *Residual Impacts*

25 With no mitigation required, the residual impacts would be less than significant.

26 **Impact RISK-3a: Phase I/II construction/demolition activities would not**
27 **substantially interfere with an existing emergency response or evacuation**
28 **plan or increase the risk of injury or death.**

29 Emergency response and evacuation planning is the responsibility of the Los Angeles
30 Police Department (LAPD), LAFD, Port Police, and United States Coast Guard (USCG).
31 Phase I/II construction and demolition activities would be subject to emergency response
32 and evacuation systems implemented by LAFD. During construction/demolition
33 activities, the LAFD would require that adequate vehicular access to the proposed
34 Project area be provided and maintained. Prior to commencement of
35 construction/demolition activities, all plans would be reviewed by the LAFD to ensure
36 adequate access is maintained throughout Phase I/II construction/demolition.

1 **CEQA Impact Determination**

2 Proposed Project contractors would be required to adhere to all LAFD emergency
3 response and evacuation regulations, ensuring compliance with existing emergency
4 response plans. Therefore, under CEQA, Phase I/II construction/demolition activities
5 would not substantially interfere with an existing emergency response or evacuation
6 plan or increase the risk of injury or death. Based on risk criterion **RISK-3**, impacts
7 would be less than significant.

8 *Mitigation Measures*

9 No mitigation is required.

10 *Residual Impacts*

11 With no mitigation required, the residual impacts would be less than significant.

12 **NEPA Impact Determination**

13 Proposed Project contractors would be required to adhere to all LAFD emergency
14 response and evacuation regulations, ensuring compliance with existing emergency
15 response plans. Therefore, under NEPA, Phase I/II construction/demolition activities
16 would not substantially interfere with an existing emergency response or evacuation
17 plan or increase the risk of injury or death. Based on risk criterion **RISK-1**, impacts
18 would be less than significant.

19 *Mitigation Measures*

20 No mitigation is required.

21 *Residual Impacts*

22 With no mitigation required, the residual impacts would be less than significant.

23 **Impact RISK-4a: The proposed Project would comply with applicable
24 regulations and policies guiding development within the Port.**

25 As described in Section 3.7.3.1, List of Regulations, the proposed Project is subject
26 to numerous regulations for development and operation of the proposed facilities.
27 For example, construction and demolition would be completed in accordance with
28 RCRA, HSWA, CERCLA, CCR Title 22 and Title 26, and the California Hazardous
29 Waste Control Law, which would govern proper containment, spill control, and
30 disposal of hazardous waste generated during demolition and construction activities.
31 Implementation of increased inventory accountability, spill prevention controls, and
32 waste disposal controls associated with these regulations would limit both the frequency
33 and severity of potential releases of hazardous materials.

34 Potential releases of hazardous substances during demolition and/or construction would
35 be addressed through the federal Emergency Planning and Right-To-Know Act, which
36 is administered in California by the SERC, and the Hazardous Material Release

1 Response Plans and Inventory Law. In addition, demolition and construction would be
2 completed in accordance with the Los Angeles Municipal Fire Code, which regulates
3 the construction of buildings and other structures used to store flammable hazardous
4 materials, and the Los Angeles Municipal Public Property Code, which regulates the
5 discharge of materials into the sanitary sewer and storm drain. The latter requires the
6 construction of spill-containment structures to prevent the entry of forbidden materials,
7 such as hazardous materials, into sanitary sewers and storm drains. LAHD maintains
8 compliance with these federal, state, and local laws through a variety of methods,
9 including internal compliance reviews, preparation of regulatory plans, and agency
10 oversight. LAHD has implemented various plans and programs to ensure compliance
11 with these regulations. These regulations must be adhered to during design and
12 construction of the proposed Project. Implementation of increased spill prevention
13 controls, spill release notification requirements, and waste disposal controls associated
14 with these regulations would limit both the frequency and severity of potential releases
15 of hazardous materials.

16 Construction/demolition activities would be conducted using BMPs in accordance
17 with City guidelines, as detailed in the Development Best Management Practices
18 Handbook (City of Los Angeles 2002a). Applicable BMPs include, but are not
19 limited to, vehicle and equipment fueling and maintenance; material delivery,
20 storage, and use; spill prevention and control; solid and hazardous waste
21 management; and contaminated soil management. Proposed Project plans and
22 specifications will be reviewed by the LAFD for conformance to the Los Angeles
23 Municipal Fire Code, as a standard practice. Implementation of increased spill
24 prevention controls associated with these BMPs would limit both the frequency and
25 severity of potential releases of hazardous materials.

26 **CEQA Impact Determination**

27 Because proposed Project construction/demolition would be completed using
28 standard BMPs and in accordance with LAHD plans and programs, LAFD
29 regulations, and all hazardous waste laws and regulations, impacts relating to
30 compliance with applicable regulations and policies guiding development in the Port
31 would be less than significant under CEQA under criterion **RISK-4**.

32 *Mitigation Measures*

33 No mitigation is required.

34 *Residual Impacts*

35 With no mitigation required, the residual impacts would be less than significant.

36 **NEPA Impact Determination**

37 Because proposed Project construction would be completed using standard BMPs and in
38 accordance with LAHD plans and programs, LAFD regulations, and all hazardous waste
39 laws and regulations, impacts under NEPA relating to compliance with applicable
40 regulations and policies guiding development in the Port would be less than significant
41 under criterion **RISK-4**.

1 *Mitigation Measures*

2 No mitigation is required.

3 *Residual Impacts*

4 With no mitigation required, the residual impacts would be less than significant.

5 **Impact RISK-5a: Tsunami-induced flooding would result in fuel releases**
6 **from demolition/construction equipment or hazardous substances**
7 **releases from containers, which in turn would result in risks to persons**
8 **and/or the environment.**

9 As discussed in section 3.5, there is the potential for a large tsunami to impact the Port.
10 A large tsunami would likely lead to a fuel spill from demolition and/or construction
11 equipment, as well as from containers of petroleum products and hazardous substances
12 used during the demolition/construction period. Unfinished structures are especially
13 vulnerable to damage from tsunamis during the construction period.

14 The Port is subject to diurnal tides, meaning two high tides and two low tides during a
15 24-hour day. The average of the lowest water level during low tide periods each day is
16 typically set as a benchmark of 0 ft (0 m) and is defined as Mean Lower Low Water
17 level (MLLW). For purposes of this discussion, all proposed Project structures and
18 land surfaces are expressed as height above (or below) MLLW. The mean sea level
19 (MSL) in the Port is +2.8 ft (0.86 m) above MLLW (NOAA 2005). This height reflects
20 the arithmetic mean of hourly heights observed over the National Tidal Datum Epoch
21 (19 years) and therefore reflects the mean of both high and low tides in the Port. The
22 recently developed Port Complex model described in Section 3.5.2 predicts tsunami
23 wave heights with respect to MSL, rather than MLLW, and therefore can be considered
24 a reasonable average condition under which a tsunami might occur. The Port MSL of
25 +2.82 ft (0.86 m) must be considered in comparing projected tsunami run-up (i.e.,
26 amount of wharf overtopping and flooding) to proposed wharf height and topographic
27 elevations, which are measured with respect to MLLW.

28 A reasonable worst-case scenario for generation of a tsunami or seiche in the San
29 Pedro Bay Ports include the recently developed Port Complex model, which predicts
30 tsunami wave heights of 1.3 to 5.3 ft (0.4 to 1.6 m) above MSL at the proposed
31 Project site, under both earthquake and landslide scenarios. Incorporating the Port
32 MSL of +2.82 ft (0.86 m), the model predicts tsunami wave heights of 4.1 to 8.1 ft
33 (0.8 to 2.4 m) above MLLW at the proposed Project site. Because the proposed
34 Project site elevation ranges from 10 to 15 ft (3.0 to 4.6 m) above MLLW, localized
35 tsunami-induced flooding would not occur.

36 While the analysis above considers a reasonable worst-case seismic scenario based
37 on a maximum seismic event, with respect to MSL, a theoretical maximum worst-
38 case wave action from a tsunami would result if the single highest tide predicted over
39 the next 40 years at the San Pedro Bay Ports was present at the time of the seismic
40 event. The single highest tide predicted over the next 40 years is 7.3 ft (2.2 m) above
41 MLLW. This condition is expected to occur less than 1 percent of the time over this
42 40-year period. If that very rare condition were to coincide with a maximum tsunami

1 event, the model predicts tsunami wave heights of 8.6 to 12.6 ft (2.6 to 3.8 m) above
2 MLLW at the proposed Project site. Because the proposed Project site elevation
3 ranges from 10 to 15 ft (3.0 to 4.5 m) above MLLW, localized tsunami-induced
4 flooding up to 2.6 ft (0.8 m) is possible. To determine the extent of potential impacts
5 due to tsunami-induced flooding, Port structural engineers have determined that Port
6 reinforced concrete or steel structures designed to meet California earthquake
7 protocols incorporated into MOTEMS would be expected to survive complete
8 inundation in the event of a tsunami (personal communication, Yin, P., P.E., Senior
9 Structural Engineer, LAHD 2006). However, substantial infrastructure damage
10 and/or injury to personnel would occur as a result of complete site inundation.

11 As previously discussed, there is a potential for tsunami-induced flooding under the
12 theoretical maximum worst-case scenario. However, the likelihood of a large
13 tsunami is very low during construction of the proposed Project and the overall
14 probability of this worst-case scenario is less than one in a 100,000 year period.

15 The most likely worst-case tsunami scenario was based partially on a magnitude 7.6
16 earthquake on the offshore Santa Catalina Fault. The recurrence interval for a magnitude
17 7.5 earthquake along an offshore fault in the Southern California Continental Borderland
18 is about 10,000 years. Similarly, the recurrence interval of a magnitude 7.0 earthquake is
19 about 5,000 years and the recurrence interval of a magnitude 6.0 earthquake is about 500
20 years. However, there is no certainty that any of these earthquake events would result in
21 a tsunami, since only about 10 percent of earthquakes worldwide result in a tsunami. In
22 addition, available evidence indicates that tsunamigenic landslides would be extremely
23 infrequent and occur less often than large earthquakes. This suggests recurrence
24 intervals for such landslide events would be longer than the 10,000-year recurrence
25 interval estimated for a magnitude 7.5 earthquake (Moffatt and Nichol 2007). As noted
26 above, the probability of the worst-case combination of a large tsunami and extremely
27 high tides would be less than once in a 100,000-year period.

28 **CEQA Impact Determination**

29 Impacts due to seismically induced tsunamis and seiches are typical for the entire
30 California coastline and would not be increased by construction of the proposed Project.
31 However, because the proposed Project site elevation is located within 10 to 15 feet (3 to
32 4.6 m) above MLLW and projects in the construction phase are especially vulnerable to
33 tsunami damage due to the presence of unfinished structures, there is a substantial risk of
34 coastal flooding due to tsunamis and seiches, which in turn, could result in accidental
35 spills of petroleum products or hazardous substances. Because a major tsunami is not
36 expected during the life of the proposed Project, but could occur (see Section 3.5,
37 Geology for additional information on the probability of a major tsunami), the
38 probability of a major tsunami occurring is classified as “improbable” (less than once
39 every 10,000 years). The potential consequence of such an event is classified as
40 “moderate,” resulting in a Risk Code of 4 that is “acceptable.” The volume of spilled
41 fuel is also expected to be relatively low. While there will be fuel-containing equipment
42 present during construction, most equipment is equipped with watertight tanks, with the
43 most likely scenario being the infiltration of water into the tank and fuel combustion
44 chambers and very little fuel spilled. Thus, the volume spilled in the event of a tsunami
45 would be less than 10,000 gallons, which is considered “slight.” In light of such a low

1 probability and acceptable risk of a large tsunami, impacts would be less than significant
2 as they pertain to hazardous materials spills under criterion **RISK-5**.

3 *Mitigation Measures*

4 No mitigation is required.

5 *Residual Impacts*

6 With no mitigation required, the residual impacts would be less than significant.

7 **NEPA Impact Determination**

8 Impacts due to seismically induced tsunamis and seiches are typical for the entire
9 California coastline and would not be increased by construction of the proposed
10 Project. However, because the proposed Project site elevation is located within 10 to
11 15 feet (3 to 4.6 m) above MLLW and projects in the construction phase are
12 especially vulnerable to tsunami damage due to the presence of unfinished structures,
13 there is a substantial risk of coastal flooding due to tsunamis and seiches, which in
14 turn, could result in accidental spills of petroleum products or hazardous substances.
15 Because a major tsunami is not expected during the life of the proposed Project, but
16 could occur (see Section 3.5, Geology for additional information on the probability of a
17 major tsunami), the probability of a major tsunami occurring is classified as
18 “improbable” (less than once every 10,000 years). The potential consequence of such an
19 event is classified as “slight,” resulting in a Risk Code of 4 that is “acceptable.” In
20 light of such a low probability and acceptable risk of a large tsunami, impacts would
21 be less than significant under criterion **RISK-5**.

22 *Mitigation Measures*

23 No mitigation is required.

24 *Residual Impacts*

25 With no mitigation required, the residual impacts would be less than significant.

26 **Impact RISK-6a: A potential terrorist attack would result in adverse**
27 **consequences to areas near the proposed Project site during the**
28 **construction period.**

29 ***Risk of Terrorist Actions during Construction***

30 The probability of a terrorist attack on the proposed project facilities is not likely to
31 appreciably change over the existing baseline during construction. It is possible that
32 the increase in construction vessel traffic in the vicinity of the Berths 136-147
33 Terminal could lead to a greater opportunity of a successful terrorist attack; however,
34 existing Port security measures would counter this potential increase in unauthorized
35 access to the terminal.

Consequences of Terrorist Attack

The Berths 136-147 Terminal will be fully operational during the construction period; therefore the risks associated with terrorism discussed in Section 3.7.2.4 will apply to the terminal during this period. The potential consequences of a terrorist action on a container terminal would be mainly environmental and economic. A terrorist action involving a container vessel while at berth may result in a fuel and/or commodity spill and its associated environmental damage. Within the Port, a terrorist action could block key waterways and result in economic disruption. Potential environmental damage would include fuel and/or commodity spills into the marine environment, with associated degradation of water quality and damage to marine biological resources. Container ships typically carry up to 5,000 barrels of fuel oil but would not be full when arriving at the port. These impacts would be limited to the area surrounding the point of attack and would be contained by the relevant oil spill response contractor. A potential fire associated with a terrorist attack could result in short-term impacts to local air quality.

The consequences associated with the smuggling of weapons of mass destruction would be substantial in terms of impacts to the environment and public health and safety. However, the consequences of a WMD attack would not be affected by the Project. Furthermore, the likelihood of such an event would not be impacted by Project-related infrastructure or throughput increases, but would depend on the terrorist's desired outcome and the ability of safeguards, unaffected by the Project, to thwart it. Cargo containers represent only one of many potential methods to smuggle weapons of mass destruction, and with current security initiatives (see Section 3.7.2.5) may be less plausible than other established smuggling routes (e.g., land-based ports of entry, cross border tunnels, illegal vessel transportation, etc.).

CEQA Impact Determination

Potential public safety consequences of a terrorist attack on the Berths 136-147 Terminal for the proposed Project are considered negligible since, in the event of a successful attack, the potential for a small number of offsite injuries are possible mainly due to fire, which in turn would be a result of large amounts of fuel spilled into Port waters. Potential thermal radiation and explosion overpressure levels would be limited to the immediate vicinity of the attack and would not overlap any existing, planned, or permitted vulnerable resources, nevertheless, but the potential for limited public exposure along Port waterways is possible.

The risk of a terrorist attack is considered part of the baseline for the project. Terrorism risk associated with container terminals currently exists, and is not influenced by changes in container traffic volume. Currently, the Berths 136-147 Terminal handles approximately 3.1 percent of the national containerized cargo and 8.5 percent of the POLA/POLB cargo volume (based on MARAD 2005b; Parsons 2006). An increase in the volume of container vessels visiting the terminal would not change the probability or consequences of a terrorist attack on the Berths 136-147 Terminal since the terminal is already considered a potential economic target, as well as a potential mode to smuggle a weapon into the United States. In addition, the measures outlined in Section 3.7.2.5 would serve to reduce the potential for a successful terrorist attack on the Berths 136-147 facility as compared to project baseline conditions (under which many of these measures had not yet been implemented). These measures have since improved both

1 terminal and cargo security, and have resulted in enhanced cargo screening. Therefore,
2 potential impacts associated with a potential terrorist attack on the Berths 136-147
3 facility are considered less than significant.

4 *Mitigation Measures*

5 As terrorism impacts are less than significant, no mitigation is required.

6 *Residual Impacts*

7 With no mitigation required, residual impacts would be less than significant.

8 **NEPA Impact Determination**

9 Impacts under NEPA would be less than significant as defined in the CEQA
10 determination above.

11 *Mitigation Measures*

12 As terrorism impacts are less than significant, no mitigation is required.

13 *Residual Impacts*

14 With no mitigation required, residual impacts would be less than significant.

15 **3.7.4.3.1.2 Operational Impacts**

16 **Impact RISK-1b: Berths 136-147 Terminal operations would not**
17 **substantially increase the probable frequency and severity of**
18 **consequences to people or property as a result of accidental release or**
19 **explosion of a hazardous substance.**

20 Existing terminal facilities include a single container terminal at Berths 136-147 and
21 a rail yard at Pier A. As of December 2003 (CEQA Baseline), the Berths 136-147
22 Terminal handles approximately 891,976 TEUs per year.

23 With build-out of the proposed Project, Berths 136-147 Terminal operations would
24 handle approximately 2,389,000 TEUs per year when functioning at maximum
25 capacity. This would equate to a 168 percent increase in throughput capacity.

26 Terminal operations would be subject to safety regulations that govern the storage and
27 handling of hazardous materials, which would limit the severity and frequency of
28 potential releases of hazardous materials resulting in increased exposure of people to
29 health hazards (i.e., Port RMP, USCG and LAFD regulations and requirements, and
30 DOT regulations). For example, as discussed in Section 3.7.3.1, List of Regulations,
31 and summarized below, the USCG maintains a HMSD, under the jurisdiction of the
32 federal Department of Homeland Security (33 CFR 126), which develops standards and
33 industry guidance to promote the safety of life and protection of property and the
34 environment during marine transportation of hazardous materials. In addition, the DOT

1 Hazardous Materials Regulations (Title 49 CFR Parts 100-185) regulate almost all
2 aspects of terminal operations. Parts 172 (Emergency Response), 173 (Packaging
3 Requirements), 174 (Rail Transportation), 176 (Vessel Transportation), 177 (Highway
4 Transportation), 178 (Packaging Specifications) and 180 (Packaging Maintenance)
5 would all apply to the proposed Project activities.

6 Hazardous materials cargo associated with the proposed Project would be shipped,
7 transported, handled, and stored in compliance with the USCG regulations, fire
8 department requirements, and Caltrans regulations. For example, as discussed in
9 Section 3.7.3.1, List of Regulations, the USCG maintains a HMSD, under the
10 jurisdiction of the federal Department of Homeland Security (33 CFR 126), which
11 develops standards and industry guidance to promote the safety of life and protection
12 of property and the environment during marine transportation of hazardous materials.
13 Among other requirements, the proposed Project would conform to the USCG
14 requirement to provide a segregated cargo area for containerized hazardous materials.
15 Terminal cargo operations involving hazardous materials are also governed by the
16 LAFD in accordance with regulations of state and federal departments of
17 transportation (49 CFR 176). The transport of hazardous materials in containers on
18 the street and highway system is regulated by Caltrans procedures and the
19 Standardized Emergency Management System prescribed under Section 8607 of the
20 California Government Code. These safety regulations strictly govern the storage of
21 hazardous materials in containers (i.e., types of materials and size of packages
22 containing hazardous materials). Implementation of increased hazardous materials
23 inventory control and spill prevention controls associated with these regulations would
24 limit both the frequency and severity of potential releases of hazardous materials.

25 The new ICTF at Berths 136-147 would handle cargo only from that terminal. The
26 ICTF would handle two double-stacked unit trains twice each day and each train
27 would average approximately 330 containers inbound and outbound. When the
28 terminal is fully optimized and functioning at maximum capacity by 2025, the rail
29 yard would transport approximately 30 percent of the terminal's expected
30 throughput, which would reduce truck traffic on public streets within the proposed
31 Project vicinity. Containers from Berths 136-147 would be trucked to the new rail
32 yard via internal roads; public streets would not be affected.

33 Terminal maintenance activities would involve the use of hazardous materials such as
34 petroleum products, solvents, paints, and cleaners. Quantities of hazardous materials
35 that exceed the thresholds provided in Chapter 6.95 of the California Health and Safety
36 Code would be subject to an RRP and HMI. Implementation of increased inventory
37 accountability and spill prevention controls associated with this RRP and HMI would
38 limit both the frequency and severity of potential releases of hazardous materials.
39 Based on the limited volumes that could potentially spill, quantities of hazardous
40 materials utilized at Berths 136-147 that are below the thresholds of Chapter 6.95
41 would not likely result in a substantial release into the environment.

42 **CEQA Impact Determination**

43 Because projected terminal operations at Berths 136-147 would accommodate
44 approximately a 168 percent increase in containerized cargo compared to the CEQA

1 Baseline, the potential for an accidental release or explosion of hazardous materials
 2 would also be expected to increase proportionally.

3 During the period 1997-2004 there were 40 “hazardous material” spills directly
 4 associated with container terminals in the Ports of Los Angeles and Long Beach.
 5 This equates to approximately five spills per year for the entire port complex. During
 6 this period, the total throughput of the container terminals at both Ports was
 7 76,874,841 TEU. Therefore, the probability of a spill at a container terminal can be
 8 estimated at 5.2×10^{-7} per TEU (40 spills divided by 76,874,841 TEU). This spill
 9 probability conservatively represents the baseline hazardous material spill probability
 10 since it includes materials that would not be considered a risk to public safety (e.g.,
 11 perfume spills), but would still be considered an environmental hazard. The
 12 probability of spills associated with future operations would be based on the spill
 13 probability per TEU times the number of TEUs under the proposed Project.

14 It should be noted that during this period there were no reported impacts to the public
 15 (injuries, fatalities and evacuations), with potential consequences limited to port
 16 workers (two worker injuries that were treated at the scene and 20 workers evaluated
 17 as a precaution).

18 Based on the Port’s accident history of containers containing hazardous materials,
 19 which includes 40 incidents over an eight year period in the entire port complex (POLA
 20 and POLB), the frequency of project-related spills can be estimated as follows:

Table 3.7-5. Existing and Projected Cargo Throughput Volumes at Berths 136-147

<i>Operations</i>	<i>Overall Throughput (TEUs)¹</i>	<i>Increase in TEUs (%)</i>	<i>Potential Spills (per year)</i>
POLA Baseline (2003)	7,178,940	NA	3.7
CEQA Baseline (2003)	891,976	NA	0.5
Project (2038)	2,389,000	168%	1.2
<i>Note:</i> 1. TEUs = twenty-foot equivalent units			

21 Based on the projected increase in TEUs, the frequency of potential project-related
 22 spills would increase to 1.2 from 0.5 spills per year, or about one spill per year. This
 23 spill frequency would be classified as “frequent” (more than once a year). Because,
 24 based on past history, a slight possibility exists for injury and or property damage to
 25 occur during one of these frequent accidents, the potential consequence of such
 26 accidents is classified as “slight,” resulting in a Risk Code of 4 that is “acceptable.”
 27 It should be noted that there were no impacts to the public from any of the hazardous
 28 materials spills that were reported during the 1997-2004 period. Compliance with
 29 applicable federal, state, and local laws and regulations governing the transport of
 30 hazardous materials and emergency response to hazardous material spills, as
 31 described above, would minimize the potentials for adverse public health impacts.
 32 Therefore, under CEQA, proposed Project operations would not substantially
 33 increase the probable frequency and severity of consequences to people or property

as a result of a potential accidental release or explosion of a hazardous substance. Impacts would be less than significant under criterion **RISK-1**.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

The proposed Project would result in upgrades of existing wharves and construction of new wharves, which in turn would result in an increase in TEUs, in comparison to the No Federal Action/NEPA Baseline. Berths 136-147 Terminal operations under the No Federal Action/NEPA Baseline would handle approximately 1,491,100, TEUs per year when optimized and functioning at maximum capacity (year 2038). The proposed Project would result in a net increase of 897,900 TEUs per year compared to the No Federal Action/NEPA Baseline. An overall increase in TEUs would result in proportionally greater hazardous materials containers subject to accidental release or explosion as follows:

Table 3.7-6. Existing and Projected Cargo Throughput Volumes at Berths 136-147

<i>Operations</i>	<i>Overall Throughput (TEUs)¹</i>	<i>Increase in TEUs (%)</i>	<i>Potential Spills (per year)</i>
POLA Baseline (2003)	7,178,940	NA	3.7
No Federal Action/NEPA Baseline (2015)	1,491,100	NA	0.8
Project (2038)	2,389,000	60%	1.2

Note: 1. TEUs = twenty-foot equivalent units

Based on the projected increase in TEUs, the frequency of potential project-related spills would increase to 1.2 from 0.8 spills per year, or remain about one spill per year. This spill frequency would be classified as “frequent” (more than once a year). Because, based on past history, a slight possibility exists for injury and or property damage to occur during one of these frequent accidents, the potential consequence of such accidents is classified as “slight,” resulting in a Risk Code of 4 that is “acceptable.” It should be noted that there were no impacts to the public from any of the hazardous materials spills that were reported during the 1997-2004 period. Compliance with applicable federal, state, and local laws and regulations governing the transport of hazardous materials and emergency response to hazardous material spills, as described above, would minimize the potentials for adverse public health impacts. Therefore, under CEQA, proposed Project operations would not substantially increase the probable frequency and severity of consequences to people or property as a result of

1 a potential accidental release or explosion of a hazardous substance. Impacts would be
2 less than significant under criterion **RISK-1**.

3 *Mitigation Measures*

4 No mitigation is required.

5 *Residual Impacts*

6 With no mitigation required, the residual impacts would be less than significant.

7 **Impact RISK-2b: Proposed Project operations would not substantially**
8 **increase the probable frequency and severity of consequences to**
9 **people or property from exposure to health hazards.**

10 The proposed Project would include siting facilities that would potentially handle
11 hazardous materials and increase other hazards to the public. These hazards would
12 include the same hazardous materials that are currently handled at the terminal, but the
13 volume of hazardous materials would increase proportionally with the increase in TEUs.
14 Likewise, the increased throughput volume would increase the chance of a fire or
15 explosion at the terminal, as well as hazards associated with container transportation.
16 The handling and storing of hazardous materials would increase the probability of a local
17 accident involving a release, spill, fire or explosion, which is proportional to the size of
18 the terminal and its throughput as was addressed in **Impact RISK-1b**.

19 Because projected terminal operations at Berths 136-147 would accommodate
20 approximately a 168 percent increase in containerized cargo compared to the CEQA
21 Baseline, the potential for increased truck transportation-related accidents would also
22 occur. Potential project-related increases in truck trips could result in an increase in
23 vehicular accidents, injuries and fatalities. Therefore, potential impact of increased
24 truck traffic on regional injury and fatality rates have been evaluated.

25 According to an FMCSA detailed analysis (FMCSA 2001), the estimated non-
26 hazardous materials truck accident rate is more than twice the hazardous materials
27 truck accident rate. The non-hazardous materials truck accident rate was estimated to
28 be 0.73 accidents per million vehicle miles and the average hazardous materials truck
29 accident rate was estimated to be 0.32 accidents per million vehicle miles. The
30 hazardous material truck accident rate is not directly applicable to the proposed
31 Project container trucks since such trucks are generally limited to bulk hazardous
32 material carriers. Therefore, in order to conduct a conservative analysis, the higher
33 accident rate associated with non-hazardous material trucks was used.

34 Based on the NHTSA (DOT, 2003), of the estimated 457,000 truck crashes in 2000
35 (causing fatalities, injuries, or property damage), an estimated 1 percent produced
36 fatalities and 22 percent produced injuries. The FARS and the TIFA survey were the
37 sources of data for this analysis, which primarily examined fatalities associated with
38 vehicle impact and trauma.

1 Based on these statistics and the projected truck trips for the existing facilities and
 2 proposed Project, the potential rate of truck accidents, injuries and fatalities can be
 3 estimated and evaluated.

4 **CEQA Impact Determination**

5 Potential project-related truck accident rates can be estimated based on national
 6 average accident rates and the average number of miles per cargo truck trip. Based
 7 on the port’s air pollutant emission inventory, it was determined that the average
 8 truck trip was approximately 49 miles (Starcrest Consulting Group 2003). Given the
 9 annual number of truck trips, the average distance of each trip, and the published
 10 accident, injury and fatality rates, the following probabilities were estimated:

Table 3.7-7. Existing and Projected Truck Trips at Berths 136-147

<i>Operations</i>	<i>Annual Truck Trips</i>	<i>Increase (%)</i>	<i>Accident Rate (per year)</i>	<i>Injury Probability (per year)</i>	<i>Fatality Probability (per year)</i>
CEQA Baseline (2003)	1,197,589	NA	42.8	9.4	0.4
Project (2038)	1,880,401	57%	67.2	14.8	0.7

11 Because the occurrence of truck accidents associated with Berth 136-147 occur at a
 12 frequency greater than one per year, truck accidents are considered a “frequent”
 13 event. Because the possibility exists for injury and/or fatality to occur during one of
 14 these frequent accidents as noted in Table 3.7-7, the consequence of such accidents is
 15 classified as “severe” since the potential number of injuries would increase to 14.8
 16 from a baseline of 9.4, resulting in a Risk Code of 2 that is “undesirable” and requires
 17 additional engineering or administrative controls. However, as discussed below, the
 18 Port is developing a transportation master plan and participating in the TWIC
 19 program which will reduce the Risk Code to 3 (moderate).

20 The Port is currently developing a Port-wide transportation master plan (TMP) for
 21 roadways in and around its facilities. Present and future traffic improvement needs are
 22 being determined based on existing and projected traffic volumes. The results will be a
 23 TMP providing ideas on what to expect and how to prepare for the future volumes.
 24 Some of the transportation improvements already under consideration include: I-110/SR-
 25 47/Harbor Boulevard interchange improvements; Navy Way connector (grade
 26 separation) to westbound Seaside Ave.; south Wilmington grade separations; and
 27 additional traffic capacity analysis for the Vincent Thomas Bridge. In addition, the Port
 28 is working on several strategies to increase rail transport, which will reduce reliance on
 29 trucks. These projects would serve to reduce the frequency of truck accidents.

30 In addition, the Port is currently phasing out older trucks as part of the TMP, and the
 31 TWIC program will also help identify and exclude truck drivers that lack the proper
 32 licensing and training. The phasing out of older trucks would reduce the probability
 33 of accidents that occur as a result of mechanical failure by approximately 10 percent
 34 (ADL 1990). In addition, proper driver training, or more specifically, the reduction
 35 in the number of drivers that do not meet minimum training specifications, would
 36 reduce potential accidents by approximately 30 percent. Since these programs will

1 be implemented prior to the proposed Project expansion, the potential number of
 2 injuries would be reduced to approximately 9.3, which would reduce the
 3 consequence classification to “moderate” and a Risk Code to 3 or less, as required by
 4 under Risk Code 2.

5 Therefore, under CEQA, proposed Project operations would not substantially
 6 increase the probable frequency and severity of consequences to people from
 7 exposure to health hazards and would meet criterion **RISK-2** and potential impacts
 8 would be considered less than significant under criterion **RISK-2**.

9 *Mitigation Measure*

10 No mitigation is required.

11 *Residual Impacts*

12 With no mitigation required, the residual impacts would be less than significant.

13 **NEPA Impact Determination**

14 The proposed Project would result in upgrades of existing wharves and construction of
 15 new wharves, which in turn would result in an increase in TEUs and truck trips, in
 16 comparison to the No Federal Action/NEPA Baseline, as described under the NEPA
 17 Impact Determination for **Impact Risk 1b**. Given the annual number of truck trips,
 18 the average distance of each trip, and the published accident, injury and fatality rates,
 19 the following probabilities were estimated:

Table 3.7-8. Existing and Projected Truck Trips at Berths 136-147

<i>Operations</i>	<i>Annual Truck Trips</i>	<i>Increase (%)</i>	<i>Accident Rate (per year)</i>	<i>Injury Probability (per year)</i>	<i>Fatality Probability (per year)</i>
No Federal Action/NEPA Baseline (2015)	1,291,247	NA	46.1	10.1	0.5
Project (2038)	1,880,401	57%	67.2	14.8	0.7

20 Because the occurrence of truck accidents associated with Berth 136-147 occur at a
 21 frequency greater than one per year, truck accidents are considered a “frequent”
 22 event. Because the possibility exists for injury and/or fatality to occur during one of
 23 these frequent accidents as noted in Table 3.7-7, the potential consequence of such
 24 accidents is classified as “severe” since the potential number of injuries would
 25 increase to 14.8 from a baseline of 9.4, resulting in a Risk Code of 2 that is
 26 “undesirable” and requires additional engineering or administrative controls.

27 The Port is currently developing a Port-wide TMP for roadways in and around its
 28 facilities. Present and future traffic improvement needs are being determined based on
 29 existing and projected traffic volumes. The results will be a TMP providing ideas on
 30 what to expect and how to prepare for the future volumes. Some of the transportation
 31 improvements already under consideration include: I-110/SR-47/Harbor Boulevard

1 interchange improvements; Navy Way connector (grade separation) to westbound
2 Seaside Ave.; south Wilmington grade separations; and additional traffic capacity
3 analysis for the Vincent Thomas Bridge. In addition, the Port is working on several
4 strategies to increase rail transport, which will reduce reliance on trucks. These projects
5 would serve to reduce the frequency of truck accidents.

6 In addition, the Port is currently phasing out older trucks as part of the TMP, and the
7 TWIC program will also help identify and exclude truck drivers that lack the proper
8 licensing and training. The phasing out of older trucks would reduce the probability
9 of accidents that occur as a result of mechanical failure by approximately 10 percent
10 (ADL 1990). In addition, proper driver training, or more specifically, the reduction
11 in the number of drivers that do not meet minimum training specifications, would
12 reduce potential accidents by approximately 30 percent (ADL 1990). Since these
13 programs will be implemented prior to the proposed Project expansion, the potential
14 number of injuries would be reduced to approximately 9.3, which would reduce the
15 consequence classification to “moderate” and a Risk Code to 3 or less, as required by
16 under Risk Code 2.

17 Therefore, under NEPA, proposed Project operations would not substantially
18 increase the probable frequency and severity of consequences to people from
19 exposure to health hazards and would meet criterion **RISK-2** and potential impacts
20 would be considered less than significant under criterion **RISK-2**.

21 *Mitigation Measures*

22 No mitigation is required.

23 *Residual Impacts*

24 With no mitigation required, the residual impacts would be less than significant.

25 **Impact RISK-3b: Proposed Project operations would not substantially** 26 **interfere with any existing emergency response plans or emergency** 27 **evacuation plans.**

28 The proposed Project would consolidate the Berths 136-147 area into a single
29 terminal and optimize terminal operations by increasing backland capacity,
30 constructing new wharves and upgrading existing wharves to accommodate modern
31 container terminal ships, constructing an on-dock ICTF, and implementing
32 transportation infrastructure improvements. The Berths 136-147 Terminal would
33 continue to operate as a container terminal; therefore, proposed terminal operations
34 would not interfere with any existing contingency plans, since the current activities
35 are consistent with the contingency plans and the proposed Project would not add any
36 additional activities that would be inconsistent with these plans. Proposed
37 transportation system improvements (i.e., widening of Harry Bridges Boulevard)
38 would reduce vehicular traffic delays, improving emergency response in the proposed
39 Project area. In addition, existing oil spill contingency and emergency response
40 plans for the proposed Project site would be revised to incorporate proposed facility
41 and operation changes. Because existing management plans are commonly revised to

1 incorporate terminal operation changes, conflicts with existing contingency and
2 emergency response plans are not anticipated.

3 All Berths 136-147 facilities personnel, including dock laborers and equipment
4 operators, would be trained in emergency response and evacuation procedures. The
5 proposed Project site would be secured, with access allowed only to authorized
6 personnel. The LAFD and Port Police would be able to provide adequate emergency
7 response services to the proposed Project site. Additionally, proposed Project
8 operations would also be subject to emergency response and evacuation systems
9 implemented by the LAFD, which would review all plans to ensure that adequate
10 access in the proposed Project vicinity is maintained. All proposed Project contractors
11 would be required to adhere to plan requirements.

12 **CEQA Impact Determination**

13 Because the terminal would continue to be operated as a container terminal, proposed
14 road improvements would reduce traffic congestion, and proposed Project operations
15 would be subject to emergency response and evacuation systems implemented by the
16 LAFD, proposed Project operations would not interfere with any existing emergency
17 response or emergency evacuation plans or increase the risk of injury or death.
18 Therefore impacts would be less than significant under CEQA.

19 *Mitigation Measures*

20 No mitigation is required.

21 *Residual Impacts*

22 With no mitigation required, the residual impacts would be less than significant under
23 CEQA.

24 **NEPA Impact Determination**

25 Because the terminal would continue to be operated as a container terminal and
26 proposed Project operations would be subject to emergency response and evacuation
27 systems implemented by the LAFD, proposed Project operations would not interfere
28 with any existing emergency response or emergency evacuation plans or increase the
29 risk of injury or death. Therefore, impacts would be less than significant under NEPA.

30 *Mitigation Measures*

31 No mitigation is required.

32 *Residual Impacts*

33 With no mitigation required, the residual impacts would be less than significant under
34 NEPA.

35 **Impact RISK-4b: The proposed Project would comply with applicable**
36 **regulations and policies guiding development within the Port.**

1 The proposed Project is subject to numerous regulations for operation of the proposed
2 facilities. LAHD has implemented various plans and programs to ensure compliance
3 with these regulations, which must be adhered to during operation of the proposed
4 Project. For example, as discussed in Section 3.7.3.1, List of Regulations, the USCG
5 maintains a HMSD, under the jurisdiction of the federal Department of Homeland
6 Security (33 CFR 126), which develops standards and industry guidance to promote the
7 safety of life and protection of property and the environment during marine
8 transportation of hazardous materials. Among other requirements, the proposed Project
9 would conform to the USCG requirement to provide a segregated cargo area for
10 containerized hazardous materials. Terminal cargo operations involving hazardous
11 materials are also governed by the LAFD in accordance with regulations of state and
12 federal departments of transportation (49 CFR 176). The transport of hazardous
13 materials in containers on the street and highway system is regulated by Caltrans
14 procedures and the Standardized Emergency Management System prescribed under
15 Section 8607 of the California Government Code. These safety regulations strictly
16 govern the storage of hazardous materials in containers (i.e., types of materials and size
17 of packages containing hazardous materials). In addition, any facility constructed in the
18 proposed Project area, identified as either a hazardous cargo facility or a vulnerable
19 resource, would be required to conform to the RMP, which includes packaging
20 constraints and the provision of a separate storage area for hazardous cargo.

21 LAHD maintains compliance with these state and federal laws through a variety of
22 methods, including internal compliance reviews, preparation of regulatory plans, and
23 agency oversight. Most notably, the Port RMP implements development guidelines in
24 an effort to minimize the danger of accidents to vulnerable resources. This would be
25 achieved mainly through physical separation as well as through facility design features,
26 fire protection, and other risk management methods. There are two primary categories
27 of vulnerable resources, people, and facilities. People are further divided into
28 subgroups. The first subgroup is comprised of residences, recreational users, and
29 visitors. Within the Port setting, residences and recreational users are considered
30 vulnerable resources. The second subgroup is comprised of workers in high density
31 (i.e., generally more than 10 people per acre, per employer).

32 Facilities that are vulnerable resources include Critical Regional Activities/Facilities
33 and High Value Facilities. Critical Regional Activities/Facilities are facilities in the
34 Port that are important to the local or regional economy, the national defense, or some
35 major aspect of commerce. These facilities typically have a large quantity of unique
36 equipment, a very large working population, and are critical to both the economy and to
37 national defense. Such facilities in the Port have been generally defined in the Port
38 RMP as the former Todd Shipyard, Fish Harbor, Badger Avenue Bridge, and Vincent
39 Thomas Bridge.

40 High Value Facilities are non-hazardous facilities, within and near the Ports, which
41 have very high economic value. These facilities include both facility improvements and
42 cargo in-place, such as container storage areas. However, the determination of a
43 vulnerable resource is made by the Port and LAFD on a case-by-case basis. Although
44 the Port generally considers container terminals to be High Value Facilities, these types
45 of facilities have never been considered vulnerable resources in risk analyses completed
46 by the Port and LAFD (personal communication, Dan Knott 2007). The proposed
47 Project would be located immediately adjacent to the ConocoPhillips liquid bulk

1 facility (Berths 148-149) and immediately across Slip 1 from several other liquid bulk
2 facilities (Berths 161-169), at a distance of approximately 400 to 800 feet. Because
3 container terminals are not considered vulnerable resources, the proposed Project would
4 not conflict with the RMP.

5 Proposed Project plans and specifications will be reviewed by the LAFD for
6 conformance to the Los Angeles Municipal Fire Code, as a standard practice.
7 Buildings will be equipped with fire protection equipment as required by the
8 Los Angeles Municipal Fire Code. Access to all buildings and adequacy of road and
9 fire lanes will be reviewed by the LAFD to ensure that adequate access and
10 firefighting features are provided. Proposed Project plans would include an internal
11 circulation system, code-required features, and other firefighting design elements, as
12 approved by the LAFD.

13 Operation of the proposed Project would be required to comply with all existing
14 hazardous waste laws and regulations, including the federal RCRA and CERCLA,
15 and CCR Title 22 and Title 26. The proposed Project would comply with these laws
16 and regulations, which would ensure that potential hazardous materials handling
17 would occur in an acceptable manner.

18 **CEQA Impact Determination**

19 The terminal would not conflict with RMP guidelines. Proposed Project plans and
20 specifications will be reviewed by the LAFD for conformance to the Los Angeles
21 Municipal Fire Code, and operation of the proposed Project would be required to
22 comply with all existing hazardous waste laws and regulations. Therefore, under
23 CEQA, proposed Project operations would comply with applicable regulations and
24 policies guiding development within the Port. Impacts would be less than significant.

25 ***Mitigation Measures***

26 No mitigation is required.

27 ***Residual Impacts***

28 With no mitigation required, the residual impacts would be less than significant.

29 **NEPA Impact Determination**

30 The terminal would not conflict with RMP guidelines. Proposed Project plans and
31 specifications will be reviewed by the LAFD for conformance to the Los Angeles
32 Municipal Fire Code, and operation of the proposed Project would be required to comply
33 with all existing hazardous waste laws and regulations. Therefore, under NEPA,
34 proposed Project operations would comply with applicable regulations and policies
35 guiding development within the Port. Impacts would be less than significant.

36 ***Mitigation Measures***

37 No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

Impact RISK-5b: Tsunami-induced flooding would result in fuel releases from ships or hazardous substances releases from containers, which in turn would result in risks to persons and/or the environment.

As discussed in section 3.5, there is the potential for a large tsunami to impact the Port. A large tsunami would likely lead to a fuel spill if a moored vessel is present. Although crude oil tankers would not moor at Berths 136-147, each ship contains large quantities of fuel oil (up to 5,000 barrels). While in transit, the hazards posed to tankers are insignificant, and in most cases, imperceptible. However, while docked, a tsunami striking the Port could cause significant ship movement and even a hull breach if the ship is pushed against the wharf.

The Port is subject to diurnal tides, meaning two high tides and two low tides during a 24-hour day. The average of the lowest water level during low tide periods each day is typically set as a benchmark of 0 ft (0 m) and is defined as Mean Lower Low Water level (MLLW). For purposes of this discussion, all proposed Project structures and land surfaces are expressed as height above (or below) MLLW. The mean sea level (MSL) in the Port is +2.8 ft (0.86 m) above MLLW (NOAA 2005). This height reflects the arithmetic mean of hourly heights observed over the National Tidal Datum Epoch (19 years) and therefore reflects the mean of both high and low tides in the Port. The recently developed Port Complex model described in Section 3.5.2 predicts tsunami wave heights with respect to MSL, rather than MLLW, and therefore can be considered a reasonable average condition under which a tsunami might occur. The Port MSL of +2.82 ft (0.86 m) must be considered in comparing projected tsunami run-up (i.e., amount of wharf overtopping and flooding) to proposed wharf height and topographic elevations, which are measured with respect to MLLW.

A reasonable worst-case scenario for generation of a tsunami or seiche in the San Pedro Bay Ports include the recently developed Port Complex model, which predicts tsunami wave heights of 1.3 to 5.3 ft (0.4 to 1.6 m) above MSL at the proposed Project site, under both earthquake and landslide scenarios. Incorporating the Port MSL of +2.82 ft (0.86 m), the model predicts tsunami wave heights of 4.1 to 8.1 ft (0.8 to 2.4 m) above MLLW at the proposed Project site. Because the proposed Project site elevation ranges from 10 to 15 ft (3.0 to 4.6 m) above MLLW, localized tsunami-induced flooding would not occur.

While the analysis above considers a reasonable worst-case seismic scenario based on a maximum seismic event, with respect to MSL, a theoretical maximum worst-case wave action from a tsunami would result if the single highest tide predicted over the next 40 years at the San Pedro Bay Ports was present at the time of the seismic event. The single highest tide predicted over the next 40 years is 7.3 ft (2.2 m) above MLLW. This condition is expected to occur less than 1 percent of the time over this 40-year period. If that very rare condition were to coincide with a maximum tsunami event, the model predicts tsunami wave heights of 8.6 to 12.6 ft (2.6 to 3.8 m) above MLLW at the proposed Project site. Because the proposed Project site elevation ranges from 10 to 15 ft (3.0 to 4.5 m) above MLLW, localized tsunami-induced

1 flooding up to 2.6 ft (0.8 m) is possible. To determine the extent of potential impacts
2 due to tsunami-induced flooding, Port structural engineers have determined that Port
3 reinforced concrete or steel structures designed to meet California earthquake
4 protocols incorporated into MOTEMS would be expected to survive complete
5 inundation in the event of a tsunami (personal communication, Yin, P., P.E., Senior
6 Structural Engineer, LAHD 2006). However, substantial infrastructure damage
7 and/or injury to personnel would occur as a result of complete site inundation.

8 As previously discussed, there is a potential for tsunami-induced flooding under the
9 theoretical maximum worst-case scenario. However, the likelihood of a large
10 tsunami is very low during operation of the proposed Project and the overall
11 probability of this worst-case scenario is less than one in a 100,000 year period.

12 The most likely worst-case tsunami scenario was based partially on a magnitude 7.6
13 earthquake on the offshore Santa Catalina Fault. The recurrence interval for a
14 magnitude 7.5 earthquake along an offshore fault in the Southern California
15 Continental Borderland is about 10,000 years. Similarly, the recurrence interval of a
16 magnitude 7.0 earthquake is about 5,000 years and the recurrence interval of a
17 magnitude 6.0 earthquake is about 500 years. However, there is no certainty that any
18 of these earthquake events would result in a tsunami, since only about 10 percent of
19 earthquakes worldwide result in a tsunami. In addition, available evidence indicates
20 that tsunamigenic landslides would be extremely infrequent and occur less often than
21 large earthquakes. This suggests recurrence intervals for such landslide events would
22 be longer than the 10,000-year recurrence interval estimated for a magnitude 7.5
23 earthquake (Moffatt and Nichol 2007). As noted above, the probability of the worst-
24 case combination of a large tsunami and extremely high tides would be less than once
25 in a 100,000-year period.

26 Containers of hazardous substances on ships or on berths could similarly be damaged
27 as a result of a large tsunami. Such damage would result in releases of both
28 hazardous and non-hazardous cargo to the environment, adversely impacting persons
29 and/or the marine waters. However, containers carrying hazardous cargo would not
30 necessarily release their contents in the event of a large tsunami. The DOT
31 regulations (49 CFR Parts 172-180) covering hazardous material packaging and
32 transportation would minimize potential release volumes since packages must meet
33 minimum integrity specifications and size limitations.

34 The owner or operators of tanker vessels are required to have an approved Tank
35 Vessel Response Plan on board and a qualified individual within the U.S. with full
36 authority to implement removal actions in the event of an oil spill incident, and to
37 contract with the spill response organizations to carry out cleanup activities in case of
38 a spill. The existing oil spill response capabilities in the POLA/POLB are sufficient
39 to isolate spills with containment booms and recover the maximum possible spill
40 from an oil tanker within the Port.

41 Various studies have shown that double-hull tank vessels have lower probability of
42 releases when tanker vessels are involved in accidents. Because of these studies, the
43 USCG issued regulations addressing double-hull requirements for tanker vessels.
44 The regulations establish a timeline for eliminating single-hull vessels from operating
45 in the navigable waters or the Exclusive Economic Zone (EEZ) of the U.S. after

1 January 1, 2010 and double-bottom or double-sided vessels by January 1, 2015.
2 Only vessels equipped with a double hull, or with an approved double containment
3 system will be allowed to operate after those times. It is unlikely that single-hull
4 vessels will utilize the proposed Project terminal facilities given the current proposed
5 Project schedule and the planned phase-out of these vessels.

6 **CEQA Impact Determination**

7 Designing new facilities based on existing building codes may not prevent substantial
8 damage to structures from coastal flooding as a result of tsunamis or seiches.
9 Impacts due to seismically induced tsunamis and seiches are typical for the entire
10 California coastline and would not be increased by construction of the proposed
11 Project. However, because the proposed Project site elevation is located within 10 to
12 15 feet (3 to 4.6 m) above MLLW, there is a substantial risk of coastal flooding due
13 to tsunamis and seiches, which in turn, could result in accidental spills of petroleum
14 products or hazardous substances. Because a major tsunami is not expected during the
15 life of the proposed Project, but could occur (see Section 3.5, Geology for additional
16 information on the probability of a major tsunami), the probability of a major tsunami
17 occurring is classified as “improbable” (less than once every 10,000 years). The
18 potential consequence of such an event is classified as “moderate,” resulting in a Risk
19 Code of 4 that is “acceptable.” The volume of spilled fuel is also expected to be
20 relatively low since all fuel storage containers at the project site would be quite small in
21 comparison to the significance criteria volumes. While there will be fuel-containing
22 equipment present during construction, most equipment is equipped with watertight
23 tanks, with the most likely scenario being the infiltration of water into the tank and fuel
24 combustion chambers and very little fuel spilled. Thus, the volume spilled in the event
25 of a tsunami would be less than 10,000 gallons, which is considered “slight.” In light of
26 such a low probability and acceptable risk of a large tsunami, impacts would be less than
27 significant as they pertain to hazardous materials spills under criterion **RISK-5**.

28 *Mitigation Measures*

29 No mitigation is required.

30 *Residual Impacts*

31 With no mitigation required, the residual impacts would be less than significant.

32 **NEPA Impact Determination**

33 Designing new facilities based on existing building codes may not prevent substantial
34 damage to structures from coastal flooding as a result of tsunamis or seiches.
35 Impacts due to seismically induced tsunamis and seiches are typical for the entire
36 California coastline and would not be increased by construction of the proposed
37 Project. However, because the proposed Project site elevation is located within 10 to
38 15 feet (3 to 4.6 m) above MLLW, there is a substantial risk of coastal flooding due
39 to tsunamis and seiches, which in turn, could result in accidental spills of petroleum
40 products or hazardous substances. Because a major tsunami is not expected during the
41 life of the proposed Project, but could occur (see Section 3.5, Geology for additional
42 information on the probability of a major tsunami), the probability of a major tsunami

1 occurring is classified as “improbable” (less than once every 10,000 years). The
2 potential consequence of such an event is classified as “moderate,” resulting in a Risk
3 Code of 4 that is “acceptable.” The volume of spilled fuel is also expected to be
4 relatively low since all fuel storage containers at the project site would be quite small in
5 comparison to the significance criteria volumes. While there will be fuel-containing
6 equipment present during construction, most equipment is equipped with watertight
7 tanks, with the most likely scenario being the infiltration of water into the tank and fuel
8 combustion chambers and very little fuel spilled. Thus, the volume spilled in the event
9 of a tsunami would be less than 10,000 gallons, which is considered “slight.” In light of
10 such a low probability and acceptable risk of a large tsunami, impacts would be less than
11 significant as they pertain to hazardous materials spills under criterion **RISK-5**.

12 *Mitigation Measures*

13 No mitigation is required.

14 *Residual Impacts*

15 With no mitigation required, the residual impacts would be considered less than
16 significant.

17 **Impact RISK-6b: A potential terrorist attack would result in adverse**
18 **consequences to areas near the proposed Project site during the**
19 **operations period.**

20 *Risk of Terrorist Actions associated with Project Operations*

21 The probability of a terrorist attack on the proposed project facilities is not likely to
22 appreciably change over the existing baseline. It is possible that the increase in
23 vessel traffic in the vicinity of the Berths 136-147 Terminal could lead to a greater
24 opportunity of a successful terrorist attack; however, existing Port security measures
25 would counter this potential increase in unauthorized access to the terminal.

26 *Consequences of Terrorist Attack*

27 The risks associated with terrorism discussed in Section 3.7.2.4 would apply to the
28 terminal during operations. The potential consequences of a terrorist action on a
29 container terminal would be mainly environmental and economic. A terrorist action
30 involving a container vessel while at berth may result in a fuel and/or commodity
31 spill and its associated environmental damage. Within the Port, a terrorist action
32 could block key waterways and result in economic disruption. Potential
33 environmental damage would include fuel and/or commodity spills into the marine
34 environment, with associated degradation of water quality and damage to marine
35 biological resources. Container ships typically carry up to 5,000 barrels of fuel oil
36 but would not be full when arriving at the port. These impacts would be limited to
37 the area surrounding the point of attack and would be contained by the relevant oil
38 spill response contractor. A potential fire associated with a terrorist attack could
39 result in short-term impacts to local air quality.

1 The consequences associated with the smuggling of weapons of mass destruction
2 would be substantial in terms of impacts to the environment and public health and
3 safety. However, the consequences of a WMD attack would not be affected by the
4 Project. Furthermore, the likelihood of such an event would not be impacted by
5 Project-related infrastructure or throughput increases, but would depend on the
6 terrorist's desired outcome and the ability of safeguards, unaffected by the Project, to
7 thwart it. Cargo containers represent only one of many potential methods to smuggle
8 weapons of mass destruction, and with current security initiatives (see Section
9 3.7.2.5) may be less plausible than other established smuggling routes (e.g., land-
10 based ports of entry, cross border tunnels, illegal vessel transportation, etc.).

11 **CEQA Impact Determination**

12 Potential public safety consequences of a terrorist attack on the Berths 136-147
13 Terminal for the proposed Project are considered negligible since, in the event of a
14 successful attack, the potential for a small number of offsite injuries are possible mainly
15 due to fire, which in turn would be a result of large amounts of fuel spilled into Port
16 waters. Potential thermal radiation and explosion overpressure levels would be limited
17 to the immediate vicinity of the attack and would not overlap any existing, planned, or
18 permitted vulnerable resources, ; however, the potential for limited public exposure
19 along Port waterways is possible.

20 The risk of a terrorist attack is considered part of the baseline for the project.
21 Terrorism risk associated with container terminals currently exists, and is not
22 influenced by changes in container traffic volume. Currently, the Berths 136-147
23 Terminal handles approximately 3.1 percent of the national containerized cargo and
24 8.5 percent of the POLA/POLB cargo volume (based on MARAD 2005b; Parsons
25 2006). With the implementation of the proposed project, and compared to regional
26 and national growth projections, the relative importance of the project will remain at
27 3.1 percent of national containerized cargo throughput, but decrease to 5.6 of the
28 POLA/POLB cargo volume (based on projections in MARAD 2005b; Parsons 2006).
29 Overall, growth at the Berths 136-147 Terminal would not increase
30 disproportionately as compared to regional (POLA/POLB) and national container
31 terminals growth, and would, therefore, not change the relative importance of the
32 terminal as a terrorist target.

33 An increase in the volume of container vessels visiting the terminal would not change
34 the probability or consequences of a terrorist attack on the Berths 136-147 Terminal
35 since the terminal is already considered a potential economic target, as well as a
36 potential mode to smuggle a weapon into the United States. In addition, the measures
37 outlined in Section 3.7.2.5 would serve to reduce the potential for a successful terrorist
38 attack on the Berths 136-147 facility as compared to project baseline conditions (under
39 which many of these measures had not been implemented). These measures have since
40 improved both terminal and cargo security, and have resulted in enhanced cargo
41 screening. Therefore, potential impacts associated with a potential terrorist attack on
42 the Berths 136-147 facility are considered less than significant.

43 ***Mitigation Measures***

44 As terrorism impacts are less than significant, no mitigation is required.

1 *Residual Impacts*

2 With no mitigation required, residual impacts would be less than significant.

3 **NEPA Impact Determination**

4 Potential impacts under NEPA would be that same as under CEQA and are
5 considered less than significant.

6 *Mitigation Measures*

7 As terrorism impacts are less than significant, no mitigation is required.

8 *Residual Impacts*

9 With no mitigation required, residual impacts would be less than significant.

10 **3.7.4.3.2 Alternatives**

11 **3.7.4.3.2.1 Alternative 1 – No Project Alternative**

12 **3.7.4.3.2.1.1 Construction Impacts**

13 **CEQA Impact Determination**

14 Under the No Project Alternative (Alternative 1), no development would occur within
15 the Project area. Therefore, Alternative 1 would not result in or expose people to
16 accidental release of hazardous materials, contamination of soil or water, and/or an
17 accidental release from a fire or explosion, beyond those associated with current baseline
18 conditions. Therefore, no construction impacts would occur under CEQA for **RISK-1a,**
19 **RISK-2a, RISK-3a, RISK-4a, RISK-5a, and RISK-6a.**

20 **NEPA Impact Determination**

21 Under Alternative 1, no development would occur within the in-water Project area (i.e.,
22 no dredging, filling of the Northwest Slip, or new wharf construction). Therefore,
23 potential impacts under NEPA are not applicable for **RISK-1a** through **RISK-6a**
24 since there would be no federal action under this alternative.

25 **3.7.4.3.2.1.2 Operational Impacts**

26 **Impact RISK-1b: Berths 136-147 Terminal operations would not increase**
27 **the probable frequency and severity of consequences to people or**
28 **property as a result of accidental release or explosion of a hazardous**
29 **substance.**

1 Under Alternative 1, Berths 136-147 Terminal operations would handle a maximum
2 throughput of 1,697,000 TEUs per year when optimized and functioning at maximum
3 capacity (year 2025). This alternative would result in 692,000 fewer TEUs per year
4 compared to the proposed Project. Thus, the number of hazardous materials containers
5 and the overall risk to the public would be reduced compared to the proposed Project.

6 Terminal operations would be subject to safety regulations that govern the storage and
7 handling of hazardous materials, which would limit the severity and frequency of
8 potential releases of hazardous materials resulting in increased exposure of people to
9 health hazards (i.e., Port RMP, USCG and LAFD regulations and requirements, and
10 DOT regulations). For example, as discussed in Section 3.7.3.1, List of Regulations, and
11 summarized below, the USCG maintains a HMSD, under the jurisdiction of the federal
12 Department of Homeland Security (33 CFR 126), which develops standards and industry
13 guidance to promote the safety of life and protection of property and the environment
14 during marine transportation of hazardous materials. In addition, the DOT Hazardous
15 Materials Regulations (Title 49 CFR Parts 100-185) regulate almost all aspects of
16 terminal operations. Parts 172 (Emergency Response), 173 (Packaging Requirements),
17 174 (Rail Transportation), 176 (Vessel Transportation), 177 (Highway Transportation),
18 178 (Packaging Specifications) and 180 (Packaging Maintenance) would all apply to the
19 alternative project activities.

20 Hazardous materials cargo associated with the Alternative 1 would be shipped,
21 transported, handled, and stored in compliance with the USCG regulations, fire
22 department requirements, and Caltrans regulations. For example, as discussed in
23 Section 3.7.3.1, List of Regulations, the USCG maintains a HMSD, under the
24 jurisdiction of the federal Department of Homeland Security (33 CFR 126), which
25 develops standards and industry guidance to promote the safety of life and protection
26 of property and the environment during marine transportation of hazardous materials.
27 Among other requirements, Alternative 1 would conform to the USCG requirement to
28 provide a segregated cargo area for containerized hazardous materials. Terminal cargo
29 operations involving hazardous materials are also governed by the LAFD in
30 accordance with regulations of state and federal departments of transportation
31 (49 CFR 176). The transport of hazardous materials in containers on the street and
32 highway system is regulated by Caltrans procedures and the Standardized Emergency
33 Management System prescribed under Section 8607 of the California Government
34 Code. These safety regulations strictly govern the storage of hazardous materials in
35 containers (i.e., types of materials and size of packages containing hazardous materials).
36 Implementation of increased hazardous materials inventory control and spill prevention
37 controls associated with these regulations would limit both the frequency and severity
38 of potential releases of hazardous materials.

39 Terminal maintenance activities would involve the use of hazardous materials such as
40 petroleum products, solvents, paints, and cleaners. Quantities of hazardous materials that
41 exceed the thresholds provided in Chapter 6.95 of the California Health and Safety Code
42 would be subject to an RRP and HMI. Implementation of increased inventory
43 accountability and spill prevention controls associated with this RRP and HMI would
44 limit both the frequency and severity of potential releases of hazardous materials. Based
45 on the limited volumes that could potentially spill, quantities of hazardous materials
46 utilized at Berths 136-147 that are below the thresholds of Chapter 6.95 would not likely
47 result in a substantial release into the environment.

CEQA Impact Determination

Because projected terminal operations at Berths 136-147 would accommodate approximately a 90 percent increase in containerized cargo compared to the CEQA Baseline, the potential for an accidental release or explosion of hazardous materials would also be expected to increase proportionally. During the period 1997-2004 there were 40 “hazardous material” spills directly associated with container terminals in the Ports of Los Angeles and Long Beach. This equates to approximately five spills per year for the entire port complex. During this period, the total throughput of the container terminals was 76,874,841 TEU. Therefore, the probability of a spill at a container terminal can be estimated at 5.2×10^{-7} per TEU (40 spills divided by 76,874,841 TEU). This spill probability conservatively represents the baseline hazardous material spill probability since it include materials that would not be considered a risk to public safety (e.g., perfume spills), but would still be considered an environmental hazard. The probability of spills associated with future operations would be based on the spill probability per TEU times the number of TEUs under the alternative project.

It should be noted that during this period there were no reported impacts to the public (injuries, fatalities and evacuations), with potential consequences limited to port workers (two worker injuries that were treated at the scene and 20 workers evaluated as a precaution).

Based on the Port’s accident history of containers containing hazardous materials, which includes 40 incidents over an eight year period in the entire port complex (POLA and POLB), the frequency of project-related spills can be estimated as follows:

Table 3.7-9. Existing and Projected Cargo Throughput Volumes at Berths 136-147

<i>Operations</i>	<i>Overall Throughput (TEUs)¹</i>	<i>Increase in TEUs (%)</i>	<i>Potential Spills (per year)</i>
POLA Baseline (2003)	4,977,818	NA	3.7
CEQA Baseline (2003)	891,976	NA	0.5
Alternative 1	1,697,000	90%	0.9

Note: 1. TEUs = twenty-foot equivalent units

Based on the projected increase in TEUs, the frequency of potential Alternative 1-related spills would increase to 0.9 from 0.5 spills per year, or about one spill per year. This spill frequency would be classified as “periodic” (between once per year and once in 10 years). Because, based on past history, a slight possibility exists for injury and or property damage to occur during one of these frequent accidents, the consequence of such accidents is classified as “slight,” resulting in a Risk Code of 4 that is “acceptable.” It should be noted that there were no impacts to the public from any of the hazardous materials spills that were reported during the 1997-2004 period. Compliance with applicable federal, state, and local laws and regulations governing the transport of hazardous materials and emergency response to hazardous material spills, as described above, would minimize the potentials for adverse public health

1 impacts. Therefore, under CEQA, Alternative 1 operations would not substantially
2 increase the probable frequency and severity of consequences to people or property
3 as a result of an accidental release or explosion of a hazardous substance. Impacts
4 would be less than significant under criterion **RISK-1**.

5 *Mitigation Measures*

6 No mitigation is required.

7 *Residual Impacts*

8 With no mitigation required, the residual impacts would be less than significant.

9 **NEPA Impact Determination**

10 Under this alternative, no development would occur within the in-water Project area
11 (i.e., no dredging, filling of the Northwest Slip or new wharf construction). Therefore,
12 potential impacts under NEPA are not applicable since there would be no federal action
13 under this alternative.

14 *Mitigation Measures*

15 Due to No Federal Action, mitigation is not applicable. No mitigation is required.

16 *Residual Impacts*

17 No impact.

18 **Impact RISK-2b: Alternative 1 operations would not substantially increase**
19 **the probable frequency and severity of consequences to people or**
20 **property from exposure to health hazards.**

21 Under this alternative, Berths 136-147 Terminal operations would handle a maximum
22 throughput of 1,697,000 TEUs per year when optimized and functioning at maximum
23 capacity (year 2025). This alternative would result in 692,000 fewer TEUs per year
24 compared to the proposed Project. Because projected terminal operations at Berths
25 136-147 would accommodate approximately 692,000 fewer TEUs per year compared
26 to the proposed Project, the number of hazardous materials containers and the overall
27 health risk to people or property would be reduced proportionally.

28 Because projected terminal operations at Berths 136-147 would accommodate
29 approximately a 90 percent increase in containerized cargo compared to the CEQA
30 Baseline, the potential for increased truck transportation-related accidents would also
31 occur. Potential Alternative 1-related increases in truck trips could result in an
32 increase in vehicular accidents, injuries and fatalities. Therefore, potential impacts of
33 increased truck traffic on regional injury and fatality rates have been evaluated.

34 According to an FMCSA detailed analysis (FMCSA 2001), the estimated non-
35 hazardous materials truck accident rate is more than twice the hazardous materials
36 truck accident rate. The non-hazardous materials truck accident rate was estimated to

1 be 0.73 accidents per million vehicle miles and the average hazardous materials truck
 2 accident rate was estimated to be 0.32 accidents per million vehicle miles. The
 3 hazardous material truck accident rate is not directly applicable to existing terminal
 4 container trucks since they are generally limited to bulk hazardous material carriers.
 5 Therefore, for this analysis, the higher accident rate associated with non-hazardous
 6 material trucks was used.

7 Based on the NHTSA (DOT, 2003), of the estimated 457,000 truck crashes in 2000
 8 (causing fatalities, injuries, or property damage), an estimated 1 percent produced
 9 fatalities and 22 percent produced injuries. The FARS and the TIFA survey were the
 10 sources of data for this analysis, which primarily examined fatalities associated with
 11 vehicle impact and trauma.

12 Based on these statistics and the projected truck trips for the existing facilities and
 13 future operations under the Alternative 1, the potential rate of truck accidents,
 14 injuries and fatalities can be estimated and evaluated.

15 **CEQA Impact Determination**

16 Potential Alternative 1-related truck accident rates can be estimated based on national
 17 average accident rates and the average number of miles per cargo truck trip. Based on
 18 the port’s air pollutant emission inventory, it was determined that the average truck trip
 19 was approximately 49 miles (Starcrest Consulting Group 2003). Given the annual
 20 number of truck trips, the average distance of each trip, and the published accident,
 21 injury and fatality rates, the following probabilities were estimated:

Table 3.7-10. Existing and Projected Truck Trips at Berths 136-147

<i>Operations</i>	<i>Annual Truck Trips</i>	<i>Increase (%)</i>	<i>Accident Rate (per year)</i>	<i>Injury Probability (per year)</i>	<i>Fatality Probability (per year)</i>
CEQA Baseline (2003)	1,197,589	NA	42.8	9.4	0.4
Alternative 1 (2038)	1,879,127	57%	67.1	14.8	0.7

22 Because the occurrence of truck accidents associated with Berth 136-147 occur at a
 23 frequency greater than one per year, truck accidents are considered a “frequent”
 24 event. Because the possibility exists for injury and/or fatality to occur during one of
 25 these frequent accidents as noted in Table 3.7-10, the consequence of such accidents
 26 is classified as “severe” since the number of injuries would increase to 14.8 from a
 27 baseline of 9.4, resulting in a Risk Code of 2 that is “undesirable” and requires
 28 additional engineering or administrative controls.

29 The Port is currently developing a Port-wide TMP for roadways in and around its
 30 facilities. Present and future traffic improvement needs are being determined based on
 31 existing and projected traffic volumes. The results will be a TMP providing ideas on
 32 what to expect and how to prepare for the future volumes. Some of the transportation
 33 improvements already under consideration include: I-110/SR-47/Harbor Boulevard
 34 interchange improvements; Navy Way connector (grade separation) to westbound

1 Seaside Ave.; south Wilmington grade separations; and additional traffic capacity
 2 analysis for the Vincent Thomas Bridge. In addition, the Port is working on several
 3 strategies to increase rail transport, which will reduce reliance on trucks. These projects
 4 would serve to reduce the frequency of truck accidents.

5 In addition, the Port is currently phasing out older trucks as part of the TMP, and the
 6 TWIC program will also help identify and exclude truck drivers that lack the proper
 7 licensing and training. The phasing out of older trucks would reduce the probability of
 8 accidents that occur as a result of mechanical failure by approximately 10 percent (ADL
 9 1990). In addition, proper driver training, or more specifically, the reduction in the
 10 number of drivers that do not meet minimum training specifications, would reduce
 11 potential accidents by approximately 30 percent. The potential number of injuries would
 12 be reduced to approximately 9.3, which would reduce the consequence classification to
 13 “moderate” and a Risk Code to 3 or less, as required by under Risk Code 2.

14 Therefore, under CEQA, Alternative 1 operations would not substantially increase
 15 the probable frequency and severity of consequences to people from exposure to
 16 health hazards and would meet criterion **RISK-2** and impacts would be considered
 17 less than significant under criterion **RISK-2**.

18 *Mitigation Measure*

19 No mitigation is required.

20 *Residual Impacts*

21 With no mitigation required, the residual impacts would be less than significant.

22 **NEPA Impact Determination**

23 Under this alternative, no development would occur within the in-water Project area
 24 (i.e., no dredging, filling of the Northwest Slip or new wharf construction). Therefore,
 25 potential impacts under NEPA are not applicable since there would be no federal action
 26 under this alternative.

27 *Mitigation Measures*

28 Due to No Federal Action, mitigation is not applicable. No mitigation is required.

29 *Residual Impacts*

30 No impact.

31 **Impact RISK-3b: Alternative 1 operations would not substantially**
 32 **interfere with any existing emergency response plans or emergency**
 33 **evacuation plans.**

34 Under Alternative 1, The Berths 136-147 Terminal would continue to operate as a
 35 container terminal; therefore, proposed terminal operations would not interfere with

1 any existing contingency plans, since the current activities are consistent with the
2 contingency plans and the alternative project would not add any additional activities
3 that would be inconsistent with these plans. All Berths 136-147 facilities personnel,
4 including dock laborers and equipment operators, would be trained in emergency
5 response and evacuation procedures. The Project site would be secured, with access
6 allowed only to authorized personnel. The LAFD and Port Police would be able to
7 provide adequate emergency response services to the Project site. Additionally,
8 Alternative 1 operations would be subject to emergency response and evacuation
9 systems implemented by the LAFD, which would review all plans to ensure that
10 adequate access in the Project vicinity is maintained. All contractors would be required
11 to adhere to plan requirements.

12 **CEQA Impact Determination**

13 Because the terminal would continue to be operated as a container terminal, Alternative
14 1 operations would continue to be subject to emergency response and evacuation
15 systems implemented by the LAFD. Alternative 1 operations would not interfere with
16 any existing emergency response or emergency evacuation plans or increase the risk of
17 injury or death. Therefore impacts would be less than significant under CEQA.

18 *Mitigation Measures*

19 No mitigation is required.

20 *Residual Impacts*

21 With no mitigation required, the residual impacts would be less than significant under
22 CEQA.

23 **NEPA Impact Determination**

24 Under this alternative, no development would occur within the in-water Project area
25 (i.e., no dredging, filling of the Northwest Slip or new wharf construction).
26 Therefore, potential impacts under NEPA are not applicable since there
27 would be no federal action under this alternative.

28 *Mitigation Measures*

29 Due to No Federal Action, mitigation is not applicable. No mitigation is required.

30 *Residual Impacts*

31 No impact.

32 **Impact RISK-4b: Alternative 1 operations would comply with applicable 33 regulations and policies guiding development within the Port.**

34 Alternative 1 operations would be subject to numerous regulations. LAHD has
35 implemented various plans and programs to ensure compliance with these regulations,
36 which must be adhered to during Alternative 1 operations. For example, as discussed in

1 Section 3.7.3.1, List of Regulations, the USCG maintains a HMSD, under the
2 jurisdiction of the federal Department of Homeland Security (33 CFR 126), which
3 develops standards and industry guidance to promote the safety of life and protection of
4 property and the environment during marine transportation of hazardous materials.

5 Among other requirements, Alternative 1 operations would conform to the USCG
6 requirement to provide a segregated cargo area for containerized hazardous materials.
7 Terminal cargo operations involving hazardous materials are also governed by the LAFD
8 in accordance with regulations of state and federal departments of transportation
9 (49 CFR 176). The transport of hazardous materials in containers on the street and
10 highway system is regulated by Caltrans procedures and the Standardized Emergency
11 Management System, prescribed under Section 8607 of the California Government
12 Code. These safety regulations strictly govern the storage of hazardous materials in
13 containers (i.e., types of materials and size of packages containing hazardous materials).
14 Any facilities identified as either a hazardous cargo facility or a vulnerable resource
15 would be required to conform to the RMP, which includes packaging constraints and the
16 provision of a separate storage area for hazardous cargo.

17 LAHD maintains compliance with these state and federal laws through a variety of
18 methods, including internal compliance reviews, preparation of regulatory plans, and
19 agency oversight. Most notably, the Port RMP implements development guidelines in
20 an effort to minimize the danger of accidents to vulnerable resources. This would be
21 achieved mainly through physical separation as well as through facility design features,
22 fire protection, and other risk management methods. There are two primary categories of
23 vulnerable resources, people, and facilities. People are further divided into subgroups.
24 The first subgroup is comprised of residences, recreational users, and visitors. Within
25 the Port setting, residences and recreational users are considered vulnerable resources.
26 The second subgroup is comprised of workers in high density (i.e., generally more than
27 10 people per acre, per employer).

28 Facilities that are vulnerable resources include Critical Regional Activities/Facilities and
29 High Value Facilities. Critical Regional Activities/Facilities are facilities in the Port that
30 are important to the local or regional economy, the national defense, or some major
31 aspect of commerce. These facilities typically have a large quantity of unique
32 equipment, a very large working population, and are critical to both the economy and to
33 national defense. Such facilities in the Port have been generally defined in the Port RMP
34 as the former Todd Shipyard, Fish Harbor, Badger Avenue Bridge, and Vincent Thomas
35 Bridge.

36 High Value Facilities are non-hazardous facilities, within and near the Ports, which
37 have very high economic value. These facilities include both facility improvements and
38 cargo in-place, such as container storage areas. However, the determination of a
39 vulnerable resource is made by the Port and LAFD on a case-by-case basis. Although
40 the Port generally considers container terminals to be High Value Facilities, these types
41 of facilities have never been considered vulnerable resources in risk analyses completed
42 by the Port and LAFD (personal communication, Dan Knott 2007). Alternative 1
43 would be located immediately adjacent to the ConocoPhillips liquid bulk facility
44 (Berths 148-149) and immediately across Slip 1 from several other liquid bulk facilities
45 (Berths 161-169), at a distance of approximately 400 to 800 feet. Because container

1 terminals are not considered vulnerable resources, this alternative would not conflict
2 with the RMP.

3 Plans and specifications of existing facilities have been reviewed by the LAFD for
4 conformance to the Los Angeles Municipal Fire Code, as a standard practice.
5 Buildings have been equipped with fire protection equipment as required by the
6 Los Angeles Municipal Fire Code. Access to all buildings and adequacy of road and
7 fire lanes have been reviewed by the LAFD to ensure that adequate access and
8 firefighting features are provided.

9 Operation of Alternative 1 would be required to comply with all existing hazardous
10 waste laws and regulations, including the federal RCRA and CERCLA, and CCR
11 Title 22 and Title 26. Alternative 1 operations would comply with these laws and
12 regulations, which would ensure that potential hazardous materials handling would
13 occur in an acceptable manner.

14 **CEQA Impact Determination**

15 Alternative 1 operations would not conflict with RMP guidelines or the Los Angeles
16 Municipal Fire Code and would be required to comply with all existing hazardous
17 waste laws and regulations. Therefore, under CEQA, Alternative 1 operations would
18 comply with applicable regulations and policies guiding development within the Port.
19 Impacts would be less than significant.

20 *Mitigation Measures*

21 No mitigation is required.

22 *Residual Impacts*

23 With no mitigation required, the residual impacts would be less than significant.

24 **NEPA Impact Determination**

25 Under this alternative, no development would occur within the in-water Project area
26 (i.e., no dredging, filling of the Northwest Slip or new wharf construction). Therefore,
27 there would be no federal action and an impact determination is not applicable.

28 *Mitigation Measures*

29 Due to No Federal Action, mitigation is not applicable. No mitigation is required.

30 *Residual Impacts*

31 No impact.

32 **Impact RISK-5b: Tsunami-induced flooding would result in fuel**
33 **releases from ships or hazardous substances releases from containers,**
34 **which in turn would result in risks to persons and/or the environment.**

1 As discussed in Section 3.5, there is the potential for a large tsunami to impact the Port.
2 A large tsunami would likely lead to a fuel spill if a moored vessel is present. Although
3 crude oil tankers would not moor at Berths 136-147, each ship contains large quantities
4 of fuel oil. While in transit, the hazards posed to tankers are insignificant, and in most
5 cases, imperceptible. However, while docked, a tsunami striking the Port could cause
6 significant ship movement and even a hull breach if the ship is pushed against the wharf.

7 Under this alternative, Berths 136-147 Terminal operations would handle a maximum
8 throughput of 1,697,000 TEUs per year when optimized and functioning at maximum
9 capacity (year 2025). This alternative would result in 692,000 fewer TEUs per year
10 compared to the proposed Project. Thus, the number of ship calls and the overall health
11 risk to persons and/or the environment would be reduced compared to the proposed
12 Project.

13 The Port is subject to diurnal tides, meaning two high tides and two low tides during a
14 24-hour day. The average of the lowest water level during low tide periods each day is
15 typically set as a benchmark of 0 ft (0 m) and is defined as Mean Lower Low Water
16 level (MLLW). For purposes of this discussion, all alternative project structures and
17 land surfaces are expressed as height above (or below) MLLW. The mean sea level
18 (MSL) in the Port is +2.8 ft (0.86 m) above MLLW (NOAA 2005). This height reflects
19 the arithmetic mean of hourly heights observed over the National Tidal Datum Epoch
20 (19 years) and therefore reflects the mean of both high and low tides in the Port. The
21 recently developed Port Complex model described in Section 3.5.2 predicts tsunami
22 wave heights with respect to MSL, rather than MLLW, and therefore can be considered
23 a reasonable average condition under which a tsunami might occur. The Port MSL of
24 +2.82 ft (0.86 m) must be considered in comparing projected tsunami run-up (i.e.,
25 amount of wharf overtopping and flooding) to proposed wharf height and topographic
26 elevations, which are measured with respect to MLLW.

27 A reasonable worst-case scenario for generation of a tsunami or seiche in the San
28 Pedro Bay Ports include the recently developed Port Complex model, which predicts
29 tsunami wave heights of 1.3 to 5.3 ft (0.4 to 1.6 m) above MSL at the alternative
30 project site, under both earthquake and landslide scenarios. Incorporating the Port
31 MSL of +2.82 ft (0.86 m), the model predicts tsunami wave heights of 4.1 to 8.1 ft
32 (0.8 to 2.4 m) above MLLW at the alternative project site. Because the alternative
33 project site elevation ranges from 10 to 15 ft (3.0 to 4.6 m) above MLLW, localized
34 tsunami-induced flooding would not occur.

35 While the analysis above considers a reasonable worst-case seismic scenario based
36 on a maximum seismic event, with respect to MSL, a theoretical maximum worst-
37 case wave action from a tsunami would result if the single highest tide predicted over
38 the next 40 years at the San Pedro Bay Ports was present at the time of the seismic
39 event. The single highest tide predicted over the next 40 years is 7.3 ft (2.2 m) above
40 MLLW. This condition is expected to occur less than 1 percent of the time over this
41 40-year period. If that very rare condition were to coincide with a maximum tsunami
42 event, the model predicts tsunami wave heights of 8.6 to 12.6 ft (2.6 to 3.8 m) above
43 MLLW at the alternative project site. Because the alternative project site elevation
44 ranges from 10 to 15 ft (3.0 to 4.5 m) above MLLW, localized tsunami-induced
45 flooding up to 2.6 ft (0.8 m) is possible. To determine the extent of potential impacts
46 due to tsunami-induced flooding, Port structural engineers have determined that Port

1 reinforced concrete or steel structures designed to meet California earthquake
2 protocols incorporated into MOTEMS would be expected to survive complete
3 inundation in the event of a tsunami (personal communication, Yin, P., P.E., Senior
4 Structural Engineer, LAHD 2006). However, substantial infrastructure damage
5 and/or injury to personnel would occur as a result of complete site inundation.

6 As previously discussed, there is a potential for tsunami-induced flooding under the
7 theoretical maximum worst-case scenario. However, the likelihood of a large
8 tsunami is very low during construction of the alternative project and the overall
9 probability of this worst-case scenario is less than one in a 100,000 year period.

10 The most likely worst-case tsunami scenario was based partially on a magnitude 7.6
11 earthquake on the offshore Santa Catalina Fault. The recurrence interval for a
12 magnitude 7.5 earthquake along an offshore fault in the Southern California
13 Continental Borderland is about 10,000 years. Similarly, the recurrence interval of a
14 magnitude 7.0 earthquake is about 5,000 years and the recurrence interval of a
15 magnitude 6.0 earthquake is about 500 years. However, there is no certainty that any
16 of these earthquake events would result in a tsunami, since only about 10 percent of
17 earthquakes worldwide result in a tsunami. In addition, available evidence indicates
18 that tsunamigenic landslides would be extremely infrequent and occur less often than
19 large earthquakes. This suggests recurrence intervals for such landslide events would
20 be longer than the 10,000-year recurrence interval estimated for a magnitude 7.5
21 earthquake (Moffatt and Nichol 2007). As noted above, the probability of the worst-
22 case combination of a large tsunami and extremely high tides would be less than once
23 in a 100,000-year period.

24 Containers of hazardous substances on ships or on berths could similarly be damaged
25 as a result of a large tsunami. Such damage would result in releases of both
26 hazardous and non-hazardous cargo to the environment, adversely impacting persons
27 and/or the marine waters. However, containers carrying hazardous cargo would not
28 necessarily release their contents in the event of a large tsunami. The DOT
29 regulations (49 CFR Parts 172-180) covering hazardous material packaging and
30 transportation would minimize potential release volumes since packages must meet
31 minimum integrity specifications and size limitations.

32 The owner or operators of tanker vessels are required to have an approved Tank Vessel
33 Response Plan on board and a qualified individual within the U.S. with full authority to
34 implement removal actions in the event of an oil spill incident, and to contract with the
35 spill response organizations to carry out cleanup activities in case of a spill. The
36 existing oil spill response capabilities in the POLA/POLB are sufficient to isolate spills
37 with containment booms and recover the maximum possible spill from an oil tanker
38 within the Port.

39 Various studies have shown that double-hull tank vessels have lower probability of
40 releases when tanker vessels are involved in accidents. Because of these studies, the
41 USCG issued regulations addressing double-hull requirements for tanker vessels.
42 The regulations establish a timeline for eliminating single-hull vessels from operating
43 in the navigable waters or the EEZ of the U.S. after January 1, 2010 and double-
44 bottom or double-sided vessels by January 1, 2015. Only vessels equipped with a

1 double hull, or with an approved double containment system will be allowed to
2 operate after those times.

3 **CEQA Impact Determination**

4 Because projected terminal operations at Berths 136-147 would accommodate
5 approximately 692,000 fewer TEUs per year compared to the proposed Project, the
6 number of hazardous materials containers and ship calls subject to accidental release
7 or explosion of hazardous materials would also be expected to decrease. Impacts due
8 to seismically induced tsunamis and seiches are typical for the entire California
9 coastline and would not be increased by Alternative 1 operations. However, because
10 the Project site elevation is located within 10 to 15 feet (3 to 4.6 m) above MLLW,
11 there is a substantial risk of coastal flooding due to tsunamis and seiches, which in
12 turn, could result in accidental spills of petroleum products or hazardous substances.
13 Because a major tsunami is not expected during the life of Alternative 1, but could occur
14 (see Section 3.5, Geology for additional information on the probability of a major
15 tsunami), the probability of a major tsunami occurring is classified as “improbable” (less
16 than once every 10,000 years). The consequence of such an event is classified as
17 “moderate,” resulting in a Risk Code of 4 that is “acceptable.” The volume of spilled
18 fuel is also expected to be relatively low since all fuel storage containers at the project
19 site would be quite small in comparison to the significance criteria volumes. While there
20 will be fuel-containing equipment present during construction, most equipment is
21 equipped with watertight tanks, with the most likely scenario being the infiltration of
22 water into the tank and fuel combustion chambers and very little fuel spilled. Thus, the
23 volume spilled in the event of a tsunami would be less than 10,000 gallons, which is
24 considered “slight.” In light of such a low probability and acceptable risk of a large
25 tsunami, impacts would be less than significant as they pertain to hazardous materials
26 spills under criterion **RISK-5**.

27 *Mitigation Measures*

28 No mitigation is required.

29 *Residual Impacts*

30 With no mitigation required, the residual impacts would be less than significant.

31 **NEPA Impact Determination**

32 Under this alternative, no development would occur within the in-water Project area
33 (i.e., no dredging, filling of the Northwest Slip or new wharf construction). Therefore,
34 there would be no federal action and an impact determination is not applicable.

35 *Mitigation Measures*

36 Due to No Federal Action, mitigation is not applicable. No mitigation is required.

37 *Residual Impacts*

38 No impact.

1 **Impact RISK-6b: A potential terrorist attack would result in adverse**
2 **consequences to areas near the Alternative 1 site during the operations**
3 **period.**

4 ***Risk of Terrorist Actions associated with Operations***

5 The probability of a terrorist attack on the alternative project facilities is not likely to
6 appreciably change over the existing baseline. It is possible that the increase in
7 vessel traffic in the vicinity of the Berths 136-147 Terminal could lead to a greater
8 opportunity of a successful terrorist attack; however, existing Port security measures
9 would counter this potential increase in unauthorized access to the terminal.

10 ***Consequences of Terrorist Attack***

11 The risks associated with terrorism discussed in Section 3.7.2.4 would apply to the
12 terminal during operations. The potential consequences of a terrorist action on a
13 container terminal would be mainly environmental and economic. A terrorist action
14 involving a container vessel while at berth may result in a fuel spill and/or commodity
15 and its associated environmental damage. Within the Port, a terrorist action could block
16 key waterways and result in economic disruption. Potential environmental damage
17 would include fuel and/or commodity spills into the marine environment, with associated
18 degradation of water quality and damage to marine biological resources. Container ships
19 typically carry up to 5,000 barrels of fuel oil but would not be full when arriving at the
20 port. These impacts would be limited to the area surrounding the point of attack and
21 would be contained by the relevant oil spill response contractor. A potential fire
22 associated with a terrorist attack could result in short-term impacts to local air quality.

23 The consequences associated with the smuggling of weapons of mass destruction would
24 be substantial in terms of impacts to the environment and public health and safety.
25 However, the consequences of a WMD attack would not be affected by the alternative.
26 Furthermore, the likelihood of such an event would not be impacted by alternative-
27 related infrastructure or throughput increases, but would depend on the terrorist's
28 desired outcome and the ability of safeguards, unaffected by the alternative, to thwart it.
29 Cargo containers represent only one of many potential methods to smuggle weapons of
30 mass destruction, and with current security initiatives (see Section 3.7.2.5) may be less
31 plausible than other established smuggling routes (e.g., land-based ports of entry, cross
32 border tunnels, illegal vessel transportation, etc.).

33 **CEQA Impact Determination**

34 Potential public safety consequences of a terrorist attack on the Berths 136-147
35 Terminal for the alternative project are considered negligible since, in the event of a
36 successful attack, the potential for a small number of offsite injuries are possible
37 mainly due to fire, which in turn would be a result of fuel spilled into Port waters.
38 Potential thermal radiation and explosion overpressure levels would be limited to the
39 immediate vicinity of the attack and would not overlap any existing, planned, or
40 permitted vulnerable resources; however, the potential for limited public exposure along
41 Port waterways is possible.

1 The risk of a terrorist attack is considered part of the baseline for the project alternative.
2 Terrorism risk associated with container terminals currently exists, and is not influenced
3 by changes in container traffic volume. Currently, the Berths 136-147 Terminal
4 handles approximately 3.1 percent of the national containerized cargo and 8.5 percent
5 of the POLA/POLB cargo volume (based on MARAD 2005b; Parsons 2006). With
6 the implementation of the alternative, and compared to regional and national growth
7 projections, the relative importance of the project will decrease to 2.2 percent of
8 national containerized cargo throughput and decrease to 4.0 of the POLA/POLB
9 cargo volume (based on projections in MARAD 2005b; Parsons 2006). Overall,
10 growth at the Berths 136-147 Terminal would not increase disproportionately as
11 compared to regional (POLA/POLB) and national container terminals growth, and
12 would, therefore, not change the relative importance of the terminal as a terrorist target.

13 An increase in the volume of container vessels visiting the terminal would not change the
14 probability or consequences of a terrorist attack on the Berths 136-147 Terminal since
15 the terminal is already considered a potential economic target, as well as a potential
16 mode to smuggle a weapon into the United States. In addition, the measures outlined in
17 Section 3.7.2.5 would serve to reduce the potential for a successful terrorist attack on the
18 Berths 136-147 facility as compared to project baseline conditions (under which many
19 of these measures had not yet been implemented). These measures have since improved
20 both terminal and cargo security, and have resulted in enhanced cargo screening.
21 Therefore, potential impacts associated with a potential terrorist attack on the Berths
22 136-147 facility are considered less than significant.

23 *Mitigation Measures*

24 As terrorism impacts are less than significant, no mitigation is required.

25 *Residual Impacts*

26 With no mitigation required, residual impacts would be less than significant.

27 **NEPA Impact Determination**

28 Under this alternative, no development would occur within the in-water Project area
29 (i.e., no dredging, filling of the Northwest Slip or new wharf construction). Therefore,
30 there would be no federal action and an impact determination is not applicable.

31 *Mitigation Measures*

32 Due to No Federal Action, mitigation is not applicable. No mitigation is required.

33 *Residual Impacts*

34 No impact.

3.7.4.3.2.2 Alternative 2 – Reduced Project: Proposed Project without the 10-Acre Fill**3.7.4.3.2.2.1 Construction Impacts**

Impact RISK-1a: Phase I/II construction/demolition activities would not substantially increase the probable frequency and severity of consequences to people or property as a result of accidental release or explosion of a hazardous substance.

Phase I/II construction activities from the Reduced Project alternative (Alternative 2) would include creation of an additional 67 acres of backland, construction of an ICTF rail yard, widening of Harry Bridges Boulevard, construction of a buffer area along Harry Bridges Boulevard, construction of a new administration building and other facilities, construction of a 705-foot wharf at Berth 147, construction of a 400-foot new wharf adjacent to the new 10-acre fill at the Northwest Slip, construction of a combined 229,500 cubic yards (cy) of rock dike, placement of a combined 36,000 cy of fill behind the dikes, and dredging to deepen waters along Berths 145-147 to the planned –53 channel depth. Construction equipment could spill oil, gas, or fluids during normal usage or during refueling, resulting in potential health and safety impacts to not only construction personnel, but to people and property occupying operational portions of the Project area, as the Berths 136-147 Terminal would be operating during Phase I/II construction activities. BMPs and Los Angeles Municipal Code regulations (Chapter 5, Section 57, Division 4 and 5; Chapter 6, Article 4) would govern Phase I/II construction and demolition activities. Federal and state regulations that govern the storage of hazardous materials in containers (i.e., the types of materials and the size of packages containing hazardous materials) and the separation of containers holding hazardous materials, would limit the potential adverse impacts of contamination to a relatively small area. In addition, standard BMPs would be used during construction and demolition activities to minimize runoff of contaminants, in compliance with the State General Permit for Storm Water Discharges Associated with Construction Activity (Water Quality Order 99-08-DWQ) and Project-specific SWPPP (see Section 3.13, Water Quality, Sediments, and Oceanography for more information).

CEQA Impact Determination

Implementation of construction and demolition standards, including BMPs, would minimize the potential for an accidental release of petroleum products and/or hazardous materials and/or explosion during Phase I/II construction/demolition activities at Berths 136-147. Because construction/demolition related spills are not uncommon, the probability of a spill occurring is classified as “frequent” (more than once a year). However, because such spills are typically short-term and localized, mainly due to the fact that the volume in any single vehicle is generally less than 50 gallons and fuel trucks are limited to 10,000 gallons or less, the potential consequence of such accidents is classified as “slight” resulting in a Risk Code of 4 that is “acceptable.” Therefore, under CEQA, construction and demolition activities associated with Alternative 2 would not substantially increase the probable frequency and severity of consequences to people or property as a result of an accidental release or explosion of a hazardous substance. Based on criterion **RISK-1**, impacts would be less than significant.

1 *Mitigation Measures*

2 No mitigation is required.

3 *Residual Impacts*

4 With no mitigation required, the residual impacts would be less than significant.

5 **NEPA Impact Determination**

6 With respect to the No Federal Action/NEPA Baseline, in-water construction impacts
7 would be similar to, but slightly less than those described for the proposed Project,
8 because the 10-acre (4.0 ha) fill and 400-foot (122 m) Berth 136 wharf extension
9 would not occur under this alternative. Reduced impacts include reduced potential for
10 accidental releases or explosion of petroleum products or a hazardous substance and
11 reduced potential for exposure of personnel to health hazards.

12 Alternative 2 would include seismic upgrade of existing wharves and construction of
13 new wharves and dikes, which would result in increased susceptibility to hazardous
14 materials spills during construction. Implementation of construction standards,
15 including BMPs, would minimize the potential for an accidental release of hazardous
16 materials and/or explosion during Phase I/II in-water construction activities at Berths
17 136-147. Because construction/demolition related spills are not uncommon, the
18 probability of a spill occurring is classified as “frequent” (more than once a year).
19 However, because such spills are typically short-term and localized, the potential
20 consequence of such accidents is classified as “slight” resulting in a Risk Code of 4
21 that is “acceptable.” Therefore, under NEPA, construction and demolition activities
22 associated with Alternative 2 would not substantially increase the probable frequency
23 and severity of consequences to people or property as a result of an accidental release
24 or explosion of a hazardous substance. Based on risk criterion **RISK-1**, impacts
25 would be less than significant.

26 *Mitigation Measures*

27 No mitigation is required.

28 *Residual Impacts*

29 With no mitigation required, the residual impacts would be less than significant.

30 **Impact RISK-2a: Phase I/II construction/demolition activities would not**
31 **substantially increase the probable frequency and severity of**
32 **consequences to people from exposure to health hazards.**

33 Risk of upset impacts during Phase I/II construction would remain basically the same,
34 but slightly reduced compared to those described for the proposed Project. Under this
35 alternative, the proposed 10-acre Northwest Slip would not be filled and the 400-foot
36 adjacent wharf would not be constructed. Consequently, the potential for construction
37 equipment to spill oil, gas, or fluids during normal usage or during refueling would be
38 reduced. Therefore, this alternative would reduce the potential for an accidental release

1 of hazardous materials and/or contamination of soil or water and would reduce the
2 potential for an accidental release from a fire or explosion during construction activities.

3 Construction and demolition activities would be conducted using BMPs and in
4 accordance with the Los Angeles Municipal Code (Chapter 5, Section 57, Division 4
5 and 5; Chapter 6, Article 4). Quantities of hazardous materials that exceed the thresholds
6 provided in Chapter 6.95 of the California Health and Safety Code would be subject to
7 an RRP and HMI. Implementation of increased inventory accountability and spill
8 prevention controls associated with this RRP and HMI, such as limiting the types of
9 materials stored and size of packages containing hazardous materials, would limit both
10 the frequency and severity of potential releases of hazardous materials, thus minimizing
11 potential health hazards and/or contamination of soil or water during
12 construction/demolition activities. These measures reduce the frequency and
13 consequences of spills by requiring proper packaging for the material being shipped,
14 limits on package size, and thus potential spill size, as well as proper response measures
15 for the materials being handled. Impacts from contamination of soul or water during
16 construction/demolition activities would apply to not only construction personnel, but to
17 people and property occupying operational portions of the Project area, as Berths 136-
18 147 Terminal would be operating during Phase I/II construction activities.

19 Near-surface contaminated soil may be encountered during demolition of the Pier A
20 rail yard, resulting in potential health hazards to demolition and/or construction
21 personnel. See Section 3.6, Groundwater and Soils for more information.

22 **CEQA Impact Determination**

23 Several standard policies regulate the storage of hazardous materials including the
24 types of materials, size of packages containing hazardous materials, and the
25 separation of containers containing hazardous materials. These measures reduce the
26 frequency and consequences of spills by requiring proper packaging for the material
27 being shipped, limits on package size, and thus potential spill size, as well as proper
28 response measures for the materials being handled. Implementation of these
29 preventative measures would minimize the potential for spills to impact members of
30 the public and limit the adverse impacts of contamination to a relatively small area.
31 Because construction/demolition related spills are not uncommon, the probability of a
32 spill occurring is classified as “frequent” (more than once a year). However, because
33 such spills are typically short-term and localized, the potential consequence of such
34 accidents is classified as “slight” resulting in a Risk Code of 4 that is “acceptable.”
35 Therefore, under CEQA, construction/demolition activities at Berths 136-147 would
36 not substantially increase the probable frequency and severity of consequences to
37 people from exposure to health hazards. Based on risk criterion **RISK-2**, impacts
38 from Alternative 2 would be less than significant.

39 *Mitigation Measures*

40 No mitigation is required.

41 *Residual Impacts*

42 With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

With respect to the No Federal Action/NEPA Baseline, in-water construction impacts would be similar to, but slightly less than those described for the proposed Project, because the 10-acre (4.0 ha) fill and 400-foot (122 m) Berth 136 wharf extension would not occur under this alternative. Reduced impacts include reduced potential for accidental releases or explosion of petroleum products or a hazardous substance and reduced potential for exposure of personnel to health hazards.

Alternative 2 would include seismic upgrade of existing wharves and construction of new wharves and dikes, which would result in increased susceptibility to hazardous materials spills during construction. Several standard policies regulate the storage of hazardous materials including the types of materials, size of packages containing hazardous materials, and the separation of containers containing hazardous materials. These measures reduce the frequency and consequences of spills by requiring proper packaging for the material being shipped, limits on package size, and thus potential spill size, as well as proper response measures for the materials being handled. Implementation of these preventative measures would minimize the potential for spills to impact members of the public and limit the potential adverse impacts of contamination to a relatively small area. Therefore, under NEPA, construction/demolition activities at Berths 136-147 would not substantially increase the probable frequency and severity of consequences to people from exposure to health hazards. Impacts from Alternative 2 would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

Impact RISK-3a: Phase I/II construction/demolition activities would not substantially interfere with an existing emergency response or evacuation plan or increase the risk of injury or death.

Emergency response and evacuation planning is the responsibility of the LAPD, LAFD, Port Police, and USCG. Phase I/II construction and demolition activities would be subject to emergency response and evacuation systems implemented by LAFD. During construction/demolition activities, the LAFD would require that adequate vehicular access to the site be provided and maintained. Prior to commencement of construction/demolition activities, all plans would be reviewed by the LAFD to ensure adequate access is maintained throughout Phase I/II construction/demolition.

CEQA Impact Determination

Alternative 2 contractors would be required to adhere to all LAFD emergency response and evacuation regulations, ensuring compliance with existing emergency response plans. Therefore, under CEQA, Phase I/II construction/demolition activities associated with Alternative 2 would not substantially interfere with an existing

1 emergency response or evacuation plan or increase risk of injury or death. Impacts
2 would be less than significant.

3 *Mitigation Measures*

4 No mitigation is required.

5 *Residual Impacts*

6 With no mitigation required, the residual impacts would be less than significant.

7 **NEPA Impact Determination**

8 Alternative 2 contractors would be required to adhere to all LAFD emergency
9 response and evacuation regulations, ensuring compliance with existing emergency
10 response plans. Therefore, under NEPA, Phase I/II construction/demolition activities
11 associated with Alternative 2 would not substantially interfere with an existing
12 emergency response or evacuation plan or increase the risk of injury or death. Based
13 on risk criterion **RISK-3**, impacts would be less than significant.

14 *Mitigation Measures*

15 No mitigation is required.

16 *Residual Impacts*

17 With no mitigation required, the residual impacts would be less than significant.

18 **Impact RISK-4a: Alternative 2 construction/demolition would comply**
19 **with applicable regulations and policies guiding development within the**
20 **Port.**

21 As described in Section 3.7.3.1, List of Regulations, the Alternative 2 would be subject
22 to numerous regulations for development and operation of the proposed facilities. For
23 example, construction and demolition would be completed in accordance with RCRA,
24 HSWA, CERCLA, CCR Title 22 and Title 26, and the California Hazardous Waste
25 Control Law, which would govern proper containment, spill control, and disposal of
26 hazardous waste generated during demolition and construction activities.
27 Implementation of increased inventory accountability, spill prevention controls, and
28 waste disposal controls associated with these regulations would limit both the frequency
29 and severity of potential releases of hazardous materials.

30 Potential releases of hazardous substances during demolition and/or construction would
31 be addressed through the federal Emergency Planning and Right-To-Know Act, which
32 is administered in California by the SERC, and the Hazardous Material Release
33 Response Plans and Inventory Law. In addition, demolition and construction would be
34 completed in accordance with the Los Angeles Municipal Fire Code, which regulates
35 the construction of buildings and other structures used to store flammable hazardous
36 materials, and the Los Angeles Municipal Public Property Code, which regulates the
37 discharge of materials into the sanitary sewer and storm drain. The latter requires the

1 construction of spill-containment structures to prevent the entry of forbidden materials,
2 such as hazardous materials, into sanitary sewers and storm drains. LAHD maintains
3 compliance with these federal, state, and local laws through a variety of methods,
4 including internal compliance reviews, preparation of regulatory plans, and agency
5 oversight. LAHD has implemented various plans and programs to ensure compliance
6 with these regulations. These regulations must be adhered to during design and
7 construction of Alternative 2. Implementation of increased spill prevention controls,
8 spill release notification requirements, and waste disposal controls associated with these
9 regulations would limit both the frequency and severity of potential releases of
10 hazardous materials.

11 Construction/demolition activities would be conducted using BMPs in accordance with
12 City guidelines, as detailed in the Development Best Management Practices Handbook
13 (City of Los Angeles 2002a). Applicable BMPs include, but are not limited to, vehicle
14 and equipment fueling and maintenance; material delivery, storage, and use; spill
15 prevention and control; solid and hazardous waste management; and contaminated soil
16 management. Alternative 2 plans and specifications will be reviewed by the LAFD for
17 conformance to the Los Angeles Municipal Fire Code, as a standard practice.
18 Implementation of increased spill prevention controls associated with these BMPs would
19 limit both the frequency and severity of potential releases of hazardous materials.

20 **CEQA Impact Determination**

21 Because Alternative 2 construction/demolition would be completed using standard
22 BMPs and in accordance with LAHD plans and programs, LAFD regulations, and all
23 hazardous waste laws and regulations, impacts relating to compliance with applicable
24 regulations and policies guiding development in the Port would be less than
25 significant under CEQA under criterion **RISK-4**.

26 *Mitigation Measures*

27 No mitigation is required.

28 *Residual Impacts*

29 With no mitigation required, the residual impacts would be less than significant under
30 CEQA.

31 **NEPA Impact Determination**

32 Because Alternative 2 construction would be completed using standard BMPs and in
33 accordance with LAHD plans and programs, LAFD regulations, and all hazardous
34 waste laws and regulations, impacts under NEPA relating to compliance with
35 applicable regulations and policies guiding development in the Port would be less
36 than significant under criterion **RISK-4**.

37 *Mitigation Measures*

38 No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

Impact RISK-5a: Tsunami-induced flooding would result in fuel releases from demolition/construction equipment or hazardous substances releases from containers, which in turn would result in risks to persons and/or the environment.

As discussed in section 3.5, there is the potential for a large tsunami to impact the Port. A large tsunami would likely lead to a fuel spill from demolition and/or construction equipment, as well as from containers of petroleum products and hazardous substances used during the demolition/construction period. Unfinished structures are especially vulnerable to damage from tsunamis during the construction period.

The Port is subject to diurnal tides, meaning two high tides and two low tides during a 24-hour day. The average of the lowest water level during low tide periods each day is typically set as a benchmark of 0 ft (0 m) and is defined as Mean Lower Low Water level (MLLW). For purposes of this discussion, all Alternative 2 structures and land surfaces are expressed as height above (or below) MLLW. The mean sea level (MSL) in the Port is +2.8 ft (0.86 m) above MLLW (NOAA 2005). This height reflects the arithmetic mean of hourly heights observed over the National Tidal Datum Epoch (19 years) and therefore reflects the mean of both high and low tides in the Port. The recently developed Port Complex model described in Section 3.5.2 predicts tsunami wave heights with respect to MSL, rather than MLLW, and therefore can be considered a reasonable average condition under which a tsunami might occur. The Port MSL of +2.82 ft (0.86 m) must be considered in comparing projected tsunami run-up (i.e., amount of wharf overtopping and flooding) to proposed wharf height and topographic elevations, which are measured with respect to MLLW.

A reasonable worst-case scenario for generation of a tsunami or seiche in the San Pedro Bay Ports include the recently developed Port Complex model, which predicts tsunami wave heights of 1.3 to 5.3 ft (0.4 to 1.6 m) above MSL at the Alternative 2 site, under both earthquake and landslide scenarios. Incorporating the Port MSL of +2.82 ft (0.86 m), the model predicts tsunami wave heights of 4.1 to 8.1 ft (0.8 to 2.4 m) above MLLW at the Alternative 2 site. Because the Alternative 2 site elevation ranges from 10 to 15 ft (3.0 to 4.6 m) above MLLW, localized tsunami-induced flooding would not occur.

While the analysis above considers a reasonable worst-case seismic scenario based on a maximum seismic event, with respect to MSL, a theoretical maximum worst-case wave action from a tsunami would result if the single highest tide predicted over the next 40 years at the San Pedro Bay Ports was present at the time of the seismic event. The single highest tide predicted over the next 40 years is 7.3 ft (2.2 m) above MLLW. This condition is expected to occur less than 1 percent of the time over this 40-year period. If that very rare condition were to coincide with a maximum tsunami event, the model predicts tsunami wave heights of 8.6 to 12.6 ft (2.6 to 3.8 m) above MLLW at the Alternative 2 site. Because the Alternative 2 site elevation ranges from 10 to 15 ft (3.0 to 4.5 m) above MLLW, localized tsunami-induced flooding up to 2.6 ft (0.8 m) is possible. To determine the extent of potential impacts due to tsunami-

1 induced flooding, Port structural engineers have determined that Port reinforced
2 concrete or steel structures designed to meet California earthquake protocols
3 incorporated into MOTEMS would be expected to survive complete inundation in the
4 event of a tsunami (personal communication, Yin, P., P.E., Senior Structural
5 Engineer, LAHD 2006). However, substantial infrastructure damage and/or injury to
6 personnel would occur as a result of complete site inundation.

7 As previously discussed, there is a potential for tsunami-induced flooding under the
8 theoretical maximum worst-case scenario. However, the likelihood of a large
9 tsunami is very low during construction of Alternative 2 and the overall probability
10 of this worst-case scenario is less than one in a 100,000-year period.

11 The most likely worst-case tsunami scenario was based partially on a magnitude 7.6
12 earthquake on the offshore Santa Catalina Fault. The recurrence interval for a
13 magnitude 7.5 earthquake along an offshore fault in the Southern California
14 Continental Borderland is about 10,000 years. Similarly, the recurrence interval of a
15 magnitude 7.0 earthquake is about 5,000 years and the recurrence interval of a
16 magnitude 6.0 earthquake is about 500 years. However, there is no certainty that any
17 of these earthquake events would result in a tsunami, since only about 10 percent of
18 earthquakes worldwide result in a tsunami. In addition, available evidence indicates
19 that tsunamigenic landslides would be extremely infrequent and occur less often than
20 large earthquakes. This suggests recurrence intervals for such landslide events would
21 be longer than the 10,000-year recurrence interval estimated for a magnitude 7.5
22 earthquake (Moffatt and Nichol 2007). As noted above, the probability of the worst-
23 case combination of a large tsunami and extremely high tides would be less than once
24 in a 100,000-year period.

25 **CEQA Impact Determination**

26 Impacts due to seismically induced tsunamis and seiches are typical for the entire
27 California coastline and would not be increased by construction of Alternative 2.
28 However, because the Alternative 2 site elevation is located within 10 to 15 feet (3 to 4.6
29 m) above MLLW and projects in the construction phase are especially vulnerable to
30 tsunami damage due to the presence of unfinished structures, there is a substantial risk of
31 coastal flooding due to tsunamis and seiches, which in turn, could result in accidental
32 spills of petroleum products or hazardous substances. Because a major tsunami is not
33 expected during the life of Alternative 2, but could occur (see Section 3.5, Geology for
34 additional information on the probability of a major tsunami), the probability of a major
35 tsunami occurring is classified as “improbable” (less than once every 10,000 years). The
36 potential consequence of such an event is classified as “moderate,” resulting in a Risk
37 Code of 4 that is “acceptable.” The volume of spilled fuel is also expected to be
38 relatively low. While there will be fuel-containing equipment present during
39 construction, most equipment is equipped with watertight tanks, with the most likely
40 scenario being the infiltration of water into the tank and fuel combustion chambers and
41 very little fuel spilled. Thus, the volume spilled in the event of a tsunami would be less
42 than 10,000 gallons, which is considered “slight.” In light of such a low probability and
43 acceptable risk of a large tsunami, impacts associated with Alternative 2 would be less
44 than significant as they pertain to hazardous materials spills under criterion **RISK-5**.

1 *Mitigation Measures*

2 No mitigation is required.

3 *Residual Impacts*

4 With no mitigation required, the residual impacts would be less than significant.

5 **NEPA Impact Determination**

6 Impacts due to seismically induced tsunamis and seiches are typical for the entire
7 California coastline and would not be increased by construction of Alternative 2.
8 However, because the Project site elevation is located within 10 to 15 feet (3 to 4.6
9 m) above MLLW and projects in the construction phase are especially vulnerable to
10 tsunami damage due to the presence of unfinished structures, there is a substantial
11 risk of coastal flooding due to tsunamis and seiches, which in turn, could result in
12 accidental spills of petroleum products or hazardous substances. Because a major
13 tsunami is not expected during the life of Alternative 2, but could occur (see Section 3.5,
14 Geology for additional information on the probability of a major tsunami), the
15 probability of a major tsunami occurring is classified as “improbable” (less than once
16 every 10,000 years). The potential consequence of such an event is classified as “slight,”
17 resulting in a Risk Code of 4 that is “acceptable.” In light of such a low probability
18 and acceptable risk of a large tsunami, impacts associated with Alternative 2 would
19 be less than significant under criterion **RISK-5**.

20 *Mitigation Measures*

21 No mitigation is required.

22 *Residual Impacts*

23 With no mitigation required, the residual impacts would be less than significant.

24 **Impact RISK-6a: A potential terrorist attack would result in adverse**
25 **consequences to areas near the Alternative 2 site during the**
26 **construction period.**

27 ***Risk of Terrorist Actions during Construction***

28 The probability of a terrorist attack on the Alternative 2 facilities is not likely to
29 appreciably change over the existing baseline during construction. It is possible that
30 the increase in construction vessel traffic in the vicinity of the Berths 136-147
31 Terminal could lead to a greater opportunity of a successful terrorist attack; however,
32 existing Port security measures would counter this potential increase in unauthorized
33 access to the terminal.

Consequences of Terrorist Attack during construction

The Berths 136-147 Terminal will be fully operational during the construction period; therefore the risks associated with terrorism discussed in Section 3.7.2.4 will apply to the terminal during this period. The potential consequences of a terrorist action on a container terminal would be mainly environmental and economic. A terrorist action involving a container vessel while at berth may result in a fuel and/or commodity spill and its associated environmental damage. Within the Port, a terrorist action could block key waterways and result in economic disruption. Potential environmental damage would include fuel and/or commodity spills into the marine environment, with associated degradation of water quality and damage to marine biological resources. Container ships typically carry up to 5,000 barrels of fuel oil but would not be full when arriving at the port. These impacts would be limited to the area surrounding the point of attack and would be contained by the relevant oil spill response contractor. A potential fire associated with a terrorist attack could result in short-term impacts to local air quality.

The consequences associated with the smuggling of weapons of mass destruction would be substantial in terms of impacts to the environment and public health and safety. However, the consequences of a WMD attack would not be affected by this alternative. Furthermore, the likelihood of such an event would not be impacted by alternative-related infrastructure or throughput increases, but would depend on the terrorist's desired outcome and the ability of safeguards, unaffected by the alternative, to thwart it. Cargo containers represent only one of many potential methods to smuggle weapons of mass destruction, and with current security initiatives (see Section 3.7.2.5) may be less plausible than other established smuggling routes (e.g., land-based ports of entry, cross border tunnels, illegal vessel transportation, etc.).

CEQA Impact Determination

Potential public safety consequences of a terrorist attack on the Berths 136-147 Terminal for Alternative 2 are considered negligible since, in the event of a successful attack, the potential for a small number of offsite injuries are possible mainly due to fire, which in turn would be a result of fuel spilled into Port waters. Potential thermal radiation and explosion overpressure levels would be limited to the immediate vicinity of the attack and would not overlap any existing, planned, or permitted vulnerable resources; nevertheless, the potential for limited public exposure along Port waterways is possible.

The risk of a terrorist attack is considered part of the baseline for the alternative. Terrorism risk associated with container terminals currently exists, and is not influenced by changes in container traffic volume. Currently, the Berths 136-147 Terminal handles approximately 3.1 percent of the national containerized cargo and 8.1 percent of the POLA/POLB cargo volume (based on MARAD 2005b; Parsons 2006). An increase in the volume of container vessels visiting the terminal would not change the probability or consequences of a terrorist attack on the Berths 136-147 Terminal since the terminal is already considered a potential economic target, as well as a potential mode to smuggle a weapon into the United States. In addition, the measures outlined in Section 3.7.2.5 would serve to reduce the potential for a successful terrorist attack on the Berths 136-147 facility as compared to project baseline conditions (under which many of these measures had not yet been implemented). These measures have

1 since improved both terminal and cargo security, and have resulted in enhanced cargo
2 screening. Therefore, potential impacts associated with a potential terrorist attack on the
3 Berths 136-147 facility are considered less than significant.

4 *Mitigation Measures*

5 As terrorism impacts are less than significant, no mitigation is required.

6 *Residual Impacts*

7 With no mitigation required, residual impacts would be less than significant.

8 **NEPA Impact Determination**

9 Impacts under NEPA would be less than significant as defined in the CEQA
10 determination for Alternative 2 above.

11 *Mitigation Measures*

12 As terrorism impacts are less than significant, no mitigation is required.

13 *Residual Impacts*

14 With no mitigation required, residual impacts would be less than significant.

15 **3.7.4.3.2.2.2 Operational Impacts**

16 **Impact RISK-1b: Berths 136-147 Terminal operations would not increase**
17 **the probable frequency and severity of consequences to people or**
18 **property as a result of accidental release or explosion of a hazardous**
19 **substance.**

20 Existing terminal facilities include a single container terminal at Berths 136-147 and
21 a rail yard at Pier A. As of December 2003 (CEQA Baseline), the Berths 136-147
22 Terminal handles approximately 891,976 TEUs per year. Berths 136-147 Terminal
23 operations under Alternative 2 could handle approximately 2,389,000 TEUs per year
24 when optimized and functioning at maximum capacity (year 2025), the same as
25 would occur under the proposed Project. Thus, the number of containers containing
26 hazardous materials and the overall risk to the public would be the same as the
27 proposed Project. Overall, impacts resulting from operations under this alternative
28 would be similar, but slightly reduced, compared to the proposed Project.

29 Throughput of 2,389,000 TEUs per year in association with Alternative 2, when
30 functioning at maximum capacity, would equate to a 168 percent increase in
31 throughput capacity. Hazardous materials cargo associated with Alternative 2 would
32 be shipped, transported, handled, and stored in compliance with the USCG regulations,
33 fire department requirements, and Caltrans regulations. For example, as discussed in
34 Section 3.7.3.1, List of Regulations, the USCG maintains a HMSD, under the
35 jurisdiction of the federal Department of Homeland Security (33 CFR 126), which

1 develops standards and industry guidance to promote the safety of life and protection
2 of property and the environment during marine transportation of hazardous materials.
3 Among other requirements, Alternative 2 operations would conform to the USCG
4 requirement to provide a segregated cargo area for containerized hazardous materials.
5 Terminal cargo operations involving hazardous materials are also governed by the
6 LAFD in accordance with regulations of state and federal departments of
7 transportation (49 CFR 176). The transport of hazardous materials in containers on
8 the street and highway system is regulated by Caltrans procedures and the
9 Standardized Emergency Management System prescribed under Section 8607 of the
10 California Government Code. These safety regulations strictly govern the storage of
11 hazardous materials in containers (i.e., types of materials and size of packages
12 containing hazardous materials). Implementation of increased hazardous materials
13 inventory control and spill prevention controls associated with these regulations would
14 limit both the frequency and severity of potential releases of hazardous materials.

15 The new ICTF at Berths 136-147 would handle cargo only from that terminal. The
16 ICTF would handle two double-stacked unit trains twice each day and each train
17 would average approximately 330 containers inbound and outbound. When the
18 terminal is fully optimized and functioning at maximum capacity by 2025, the rail
19 yard would transport approximately 30 percent of the terminal's expected
20 throughput, which would reduce truck traffic on public streets within the Project
21 vicinity. Containers from Berths 136-147 would be trucked to the new rail yard via
22 internal roads; public streets would not be affected.

23 Terminal operations would be subject to safety regulations that govern the storage
24 and handling of hazardous materials, which would limit the severity and frequency of
25 potential releases of hazardous materials resulting in increased exposure of people to
26 health hazards (i.e., Port RMP, USCG and LAFD regulations and requirements, and
27 DOT regulations). For example, as discussed in Section 3.7.3.1, List of Regulations,
28 and summarized below, the USCG maintains a HMSD, under the jurisdiction of the
29 federal Department of Homeland Security (33 CFR 126), which develops standards
30 and industry guidance to promote the safety of life and protection of property and the
31 environment during marine transportation of hazardous materials. In addition, the
32 DOT Hazardous Materials Regulations (Title 49 CFR Parts 100-185) regulate almost
33 all aspects of terminal operations. Parts 172 (Emergency Response), 173 (Packaging
34 Requirements), 174 (Rail Transportation), 176 (Vessel Transportation), 177
35 (Highway Transportation), 178 (Packaging Specifications) and 180 (Packaging
36 Maintenance) would all apply to the alternative project activities.

37 Terminal maintenance activities would involve the use of hazardous materials such as
38 petroleum products, solvents, paints, and cleaners. Quantities of hazardous materials that
39 exceed the thresholds provided in Chapter 6.95 of the California Health and Safety Code
40 would be subject to as RRP and HMI. Implementation of increased inventory
41 accountability and spill prevention controls associated with this RRP and HMI would
42 limit both the frequency and severity of potential releases of hazardous materials. Based
43 on the limited volumes that could potentially spill, quantities of hazardous materials
44 utilized at Berths 136-147 that are below the thresholds of Chapter 6.95 would not likely
45 result in a substantial release into the environment.

CEQA Impact Determination

Because projected terminal operations under Alternative 2 would accommodate approximately a 168 percent increase in containerized cargo compared to the CEQA Baseline, the potential for an accidental release or explosion of hazardous materials would also be expected to increase proportionally. During the period 1997-2004 there were 40 “hazardous material” spills directly associated with container terminals in the Ports of Los Angeles and Long Beach. This equates to approximately five spills per year for the entire port complex. During this period, the total throughput of the container terminals was 76,874,841 TEU. Therefore, the probability of a spill at a container terminal can be estimated at 5.2×10^{-7} per TEU (40 spills divided by 76,874,841 TEU). This spill probability conservatively represents the baseline hazardous material spill probability since it include materials that would not be considered a risk to public safety (e.g., perfume spills), but would still be considered an environmental hazard. The probability of spills associated with future operations would be based on the spill probability per TEU times the number of TEUs under the alternative project.

It should be noted that during this period there were no reported impacts to the public (injuries, fatalities and evacuations), with potential consequences limited to port workers (two worker injuries that were treated at the scene and 20 workers evaluated as a precaution).

Based on the Port’s accident history of containers containing hazardous materials, which includes 40 incidents over an eight year period in the entire port complex (POLA and POLB), the frequency of project-related spills can be estimated as follows:

Table 3.7-11. Existing and Projected Cargo Throughput Volumes at Berths 136-147

<i>Operations</i>	<i>Overall Throughput (TEUs)</i> ¹	<i>Increase in TEUs (%)</i>	<i>Potential Spills (per year)</i>
POLA Baseline (2003)	4,977,818	NA	3.7
CEQA Project Baseline (2003)	891,976	NA	0.5
Alternative 2	2,389,000	168%	1.2
<i>Note:</i> 1. TEUs = twenty-foot equivalent units			

Based on the projected increase in TEUs, the frequency of potential Alternative 2-related spills would increase to 1.2 from 0.5 spills per year, or about one spill per year. This spill frequency would be classified as “frequent” (once per year). Because, based on past history, a slight possibility exists for injury and or property damage to occur during one of these frequent accidents, the consequence of such accidents is classified as “slight,” resulting in a Risk Code of 4 that is “acceptable.” It should be noted that there were no impacts to the public from any of the hazardous materials spills that were reported during the 1997-2004 period. Compliance with applicable federal, state, and local laws and regulations governing the transport of hazardous materials and emergency response to hazardous material spills, as

described above, would minimize the potentials for adverse public health impacts. Therefore, under CEQA, Alternative 2 operations would not substantially increase the probable frequency and severity of consequences to people or property as a result of an accidental release or explosion of a hazardous substance. Impacts would be less than significant under criterion **RISK-1**.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

Because Alternative 2 would result in greater container throughput compared to the No Federal Action/NEPA Baseline, operational impacts would correspondingly be greater. An overall increase in TEUs would result in proportionally greater hazardous materials containers subject to accidental release or explosion as follows:

Table 3.7-12. Existing and Projected Cargo Throughput Volumes at Berths 136-147

<i>Operations</i>	<i>Overall Throughput (TEUs)¹</i>	<i>Increase in TEUs (%)</i>	<i>Potential Spills (per year)</i>
POLA Baseline (2003)	7,178,940	NA	3.7
NEPA Project Baseline (2015)	1,491,100	NA	0.8
Project (2038)	2,389,000	60%	1.2
<i>Note: 1. TEUs = twenty-foot equivalent units</i>			

Based on the projected increase in TEUs, the frequency of Alternative 2-related spills would increase to 1.2 from 0.8 spills per year, or remain about one spill per year. This spill frequency would be classified as “frequent” (more than once a year). Because, based on past history, a slight possibility exists for injury and or property damage to occur during one of these frequent accidents, the potential consequence of such accidents is classified as “slight,” resulting in a Risk Code of 4 that is “acceptable.” It should be noted that there were no impacts to the public from any of the hazardous materials spills that were reported during the 1997-2004 period. Compliance with applicable federal, state, and local laws and regulations governing the transport of hazardous materials and emergency response to hazardous material spills, as described above, would minimize the potentials for adverse public health impacts. Therefore, under NEPA, Alternative 2 operations would not substantially increase the probable frequency and severity of consequences to people or property as a result of a potential accidental release or explosion of a hazardous substance. Impacts would be less than significant under criterion **RISK-1**.

1 *Mitigation Measures*

2 No mitigation is required.

3 *Residual Impacts*

4 With no mitigation required, the residual impacts would be less than significant.

5 **Impact RISK-2b: Alternative 2 operations would not substantially**
6 **increase the probable frequency and severity of consequences to people**
7 **or property from exposure to health hazards.**

8 Alternative 2 would include siting facilities that would potentially handle hazardous
9 materials and increase other hazards to the public. The handling and storing of
10 hazardous materials would increase the probability of a local accident involving a
11 release, spill, fire or explosion, which is proportional to the size of the terminal and
12 its throughput as was addressed in Impact Risk 1b.

13 Because projected terminal operations at Berths 136-147 would accommodate
14 approximately a 168 percent increase in containerized cargo compared to the CEQA
15 Baseline, the potential for increased truck transportation-related accidents would also
16 occur. Potential alternative-related increases in truck trips could result in an increase
17 in vehicular accidents, injuries and fatalities. Therefore, potential impact of increased
18 truck traffic on regional injury and fatality rates have been evaluated.

19 According to an FMCSA detailed analysis (FMCSA 2001), the estimated non-
20 hazardous materials truck accident rate is more than twice the hazardous materials
21 truck accident rate. The non-hazardous materials truck accident rate was estimated to
22 be 0.73 accidents per million vehicle miles and the average hazardous materials truck
23 accident rate was estimated to be 0.32 accidents per million vehicle miles. The
24 hazardous material truck accident rate is not directly applicable to the alternative
25 project container trucks since they are generally limited to bulk hazardous material
26 carriers. Therefore, for this analysis, the higher accident rate associated with non-
27 hazardous material trucks was used.

28 Based on the NHTSA (DOT, 2003), of the estimated 457,000 truck crashes in 2000
29 (causing fatalities, injuries, or property damage), an estimated 1 percent produced
30 fatalities and 22 percent produced injuries. The FARS and the TIFA survey were the
31 sources of data for this analysis, which primarily examined fatalities associated with
32 vehicle impact and trauma.

33 Based on these statistics and the projected truck trips for the existing facilities and
34 Alternative 2, the potential rate of truck accidents, injuries and fatalities can be
35 estimated and evaluated.

36 **CEQA Impact Determination**

37 Potential alternative-related truck accident rates can be estimated based on national
38 average accident rates and the average number of miles per cargo truck trip. Based
39 on the port's air pollutant emission inventory, it was determined that the average

1 truck trip was approximately 49 miles (Starcrest Consulting Group 2003). Given the
 2 annual number of truck trips, the average distance of each trip, and the published
 3 accident, injury and fatality rates, the following probabilities were estimated:

Table 3.7-13. Existing and Projected Truck Trips at Berths 136-147

<i>Operations</i>	<i>Annual Truck Trips</i>	<i>Increase (%)</i>	<i>Accident Rate (per year)</i>	<i>Injury Probability (per year)</i>	<i>Fatality Probability (per year)</i>
CEQA Baseline (2003)	1,197,589	NA	42.8	9.4	0.4
Alternative 2 (2038)	1,880,401	57%	67.2	14.8	0.7

4 Numerous truck accidents occur each year and are therefore considered a “frequent”
 5 event. Because the possibility exists for injury and/or fatality to occur during one of
 6 these frequent accidents as noted in Table 3.7-13, the potential consequence of such
 7 accidents is classified as “severe” since the potential number of injuries would
 8 increase to 14.8 from a baseline of 9.4, resulting in a Risk Code of 2 that is
 9 “undesirable” and requires additional engineering or administrative controls.

10 The Port is currently developing a Port-wide TMP for roadways in and around its
 11 facilities. Present and future traffic improvement needs are being determined based on
 12 existing and projected traffic volumes. The results will be a TMP providing ideas on
 13 what to expect and how to prepare for the future volumes. Some of the transportation
 14 improvements already under consideration include: I-110/SR-47/Harbor Boulevard
 15 interchange improvements; Navy Way connector (grade separation) to westbound
 16 Seaside Ave.; south Wilmington grade separations; and additional traffic capacity
 17 analysis for the Vincent Thomas Bridge. In addition, the Port is working on several
 18 strategies to increase rail transport, which will reduce reliance on trucks. These projects
 19 would serve to reduce the frequency of truck accidents.

20 In addition, the Port is currently phasing out older trucks as part of the TMP, and the
 21 TWIC program will also help identify and exclude truck drivers that lack the proper
 22 licensing and training. The phasing out of older trucks would reduce the probability
 23 of accidents that occur as a result of mechanical failure by approximately 10 percent
 24 (ADL 1990). In addition, proper driver training, or more specifically, the reduction
 25 in the number of drivers that do not meet minimum training specifications, would
 26 reduce potential accidents by approximately 30 percent. Since these programs will
 27 be implemented prior to the alternative project expansion, the potential number of
 28 injuries would be reduced to approximately 9.3, which would reduce the
 29 consequence classification to “moderate” and a Risk Code to 3 or less, as required by
 30 under Risk Code 2.

31 Therefore, under CEQA, Alternative 2 operations would not substantially increase
 32 the probable frequency and severity of consequences to people from exposure to
 33 health hazards and would meet criterion **RISK-2** and impacts would be considered
 34 less than significant under criterion **RISK-2**.

1 **Mitigation Measure**

2 No mitigation is required.

3 **Residual Impacts**

4 With no mitigation required, the residual impacts would be less than significant.

5 **NEPA Impact Determination**

6 Alternative 2 would result in upgrades of existing wharves and construction of new
 7 wharves, which in turn would result in an increase in TEUs and truck trips, in
 8 comparison to the No Federal Action/NEPA Baseline, as described under the NEPA
 9 Impact Determination for **Impact Risk 1b**. Given the annual number of truck trips,
 10 the average distance of each trip, and the published accident, injury and fatality rates,
 11 the following probabilities were estimated:

Table 3.7-14. Existing and Projected Truck Trips at Berths 136-147

<i>Operations</i>	<i>Annual Truck Trips</i>	<i>Increase (%)</i>	<i>Accident Rate (per year)</i>	<i>Injury Probability (per year)</i>	<i>Fatality Probability (per year)</i>
No Federal Action/ NEPA Baseline (2015)	1,291,247	NA	46.1	10.1	0.5
Alternative 2 (2038)	1,880,401	46%	67.2	14.8	0.7

12 Numerous truck accidents occur each year and are therefore considered a “frequent”
 13 event. Because the possibility exists for injury and/or fatality to occur during one of
 14 these frequent accidents as noted in Table 3.7-14, the potential consequence of such
 15 accidents is classified as “severe” since the potential number of injuries would
 16 increase to 14.8 from a baseline of 10.1, resulting in a Risk Code of 2 that is
 17 “undesirable” and requires additional engineering or administrative controls.

18 The Port is currently developing a Port-wide TMP for roadways in and around its
 19 facilities. Present and future traffic improvement needs are being determined based on
 20 existing and projected traffic volumes. The results will be a TMP providing ideas on
 21 what to expect and how to prepare for the future volumes. Some of the transportation
 22 improvements already under consideration include: I-110/SR-47/Harbor Boulevard
 23 interchange improvements; Navy Way connector (grade separation) to westbound
 24 Seaside Ave.; south Wilmington grade separations; and additional traffic capacity
 25 analysis for the Vincent Thomas Bridge. In addition, the Port is working on several
 26 strategies to increase rail transport, which will reduce reliance on trucks. These projects
 27 would serve to reduce the frequency of truck accidents.

28 In addition, the Port is currently phasing out older trucks as part of the TMP, and the
 29 TWIC program will also help identify and exclude truck drivers that lack the proper
 30 licensing and training. The phasing out of older trucks would reduce the probability
 31 of accidents that occur as a result of mechanical failure by approximately 10 percent

(ADL 1990). In addition, proper driver training, or more specifically, the reduction in the number of drivers that do not meet minimum training specifications, would reduce potential accidents by approximately 30 percent. Since these programs will be implemented prior to the alternative project expansion, the potential number of injuries would be reduced to approximately 9.3, which would reduce the consequence classification to “moderate” and a Risk Code to 3 or less, as required by under Risk Code 2.

Therefore, under NEPA, Alternative 2 operations would not substantially increase the probable frequency and severity of consequences to people from exposure to health hazards and would meet criterion **RISK-2** and potential impacts would be considered less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

Impact RISK-3b: Alternative 2 operations would not substantially interfere with any existing emergency response plans or emergency evacuation plans.

Alternative 2 would consolidate the Berths 136-147 area into a single terminal and optimize terminal operations by increasing backland capacity, constructing new wharves and upgrading existing wharves to accommodate modern container terminal ships, constructing an on-dock ICTF, and implementing transportation infrastructure improvements. The Berths 136-147 Terminal would continue to operate as a container terminal; therefore, proposed terminal operations would not interfere with any existing contingency plans, since the current activities are consistent with the contingency plans and the alternative project would not add any additional activities that would be inconsistent with these plans. Proposed transportation system improvements (i.e., widening of Harry Bridges Boulevard) would reduce vehicular traffic delays, improving emergency response in the Project area. In addition, existing oil spill contingency and emergency response plans for the site would be revised to incorporate proposed facility and operation changes. Because existing management plans are commonly revised to incorporate terminal operation changes, conflicts with existing contingency and emergency response plans are not anticipated.

All Berths 136-147 facilities personnel, including dock laborers and equipment operators, would be trained in emergency response and evacuation procedures. The site would be secured, with access allowed only to authorized personnel. The LAFD and Port Police would be able to provide adequate emergency response services to the site. Additionally, Alternative 2 operations would also be subject to emergency response and evacuation systems implemented by the LAFD, which would review all plans to ensure that adequate access in the Project vicinity is maintained. All Alternative 2 contractors would be required to adhere to plan requirements.

1 **CEQA Impact Determination**

2 Because the terminal would continue to be operated as a container terminal, proposed
3 road improvements would reduce traffic congestion, and Alternative 2 operations
4 would be subject to emergency response and evacuation systems implemented by the
5 LAFD, Alternative 2 operations would not interfere with any existing emergency
6 response or emergency evacuation plans or increase the risk of injury or death.
7 Therefore impacts would be less than significant under CEQA.

8 *Mitigation Measures*

9 No mitigation is required.

10 *Residual Impacts*

11 With no mitigation required, the residual impacts would be less than significant under
12 CEQA.

13 **NEPA Impact Determination**

14 Because the terminal would continue to be operated as a container terminal and
15 Alternative 2 operations would be subject to emergency response and evacuation
16 systems implemented by the LAFD, Alternative 2 operations would not interfere with
17 any existing emergency response or emergency evacuation plans or increase the risk
18 of injury or death. Therefore, impacts would be less than significant under NEPA.

19 *Mitigation Measures*

20 No mitigation is required.

21 *Residual Impacts*

22 With no mitigation required, the residual impacts would be less than significant under
23 NEPA.

24 **Impact RISK-4b: Alternative 2 operations would comply with applicable
25 regulations and policies guiding development within the Port.**

26 Alternative 2 operations would be subject to numerous regulations for operation of
27 the proposed facilities. LAHD has implemented various plans and programs to
28 ensure compliance with these regulations, which must be adhered to during operation
29 of this alternative. For example, as discussed in Section 3.7.3.1, List of Regulations,
30 the USCG maintains a HMSD, under the jurisdiction of the federal Department of
31 Homeland Security (33 CFR 126), which develops standards and industry guidance
32 to promote the safety of life and protection of property and the environment during
33 marine transportation of hazardous materials.

34 Among other requirements, Alternative 2 operations would conform to the USCG
35 requirement to provide a segregated cargo area for containerized hazardous materials.
36 Terminal cargo operations involving hazardous materials are also governed by the

1 LAFD in accordance with regulations of state and federal departments of
2 transportation (49 CFR 176). The transport of hazardous materials in containers on
3 the street and highway system is regulated by Caltrans procedures and the
4 Standardized Emergency Management System prescribed under Section 8607 of the
5 California Government Code. These safety regulations strictly govern the storage of
6 hazardous materials in containers (i.e., types of materials and size of packages
7 containing hazardous materials). In addition, any facility constructed at the site,
8 identified as either a hazardous cargo facility or a vulnerable resource, would be
9 required to conform to the RMP, which includes packaging constraints and the
10 provision of a separate storage area for hazardous cargo.

11 LAHD maintains compliance with these state and federal laws through a variety of
12 methods, including internal compliance reviews, preparation of regulatory plans, and
13 agency oversight. Most notably, the Port RMP implements development guidelines in
14 an effort to minimize the danger of accidents to vulnerable resources. This would be
15 achieved mainly through physical separation as well as through facility design features,
16 fire protection, and other risk management methods. There are two primary categories of
17 vulnerable resources, people, and facilities. People are further divided into subgroups.
18 The first subgroup is comprised of residences, recreational users, and visitors. Within
19 the Port setting, residences and recreational users are considered vulnerable resources.
20 The second subgroup is comprised of workers in high density (i.e., generally more than
21 10 people per acre, per employer).

22 Facilities that are vulnerable resources include Critical Regional Activities/Facilities and
23 High Value Facilities. Critical Regional Activities/Facilities are facilities in the Port that
24 are important to the local or regional economy, the national defense, or some major
25 aspect of commerce. These facilities typically have a large quantity of unique
26 equipment, a very large working population, and are critical to both the economy and to
27 national defense. Such facilities in the Port have been generally defined in the Port RMP
28 as the former Todd Shipyard, Fish Harbor, Badger Avenue Bridge, and Vincent Thomas
29 Bridge.

30 High Value Facilities are non-hazardous facilities, within and near the Ports, which
31 have very high economic value. These facilities include both facility improvements
32 and cargo in-place, such as container storage areas. However, the determination of a
33 vulnerable resource is made by the Port and LAFD on a case-by-case basis.
34 Although the Port generally considers container terminals to be High Value
35 Facilities, these types of facilities have never been considered vulnerable resources in
36 risk analyses completed by the Port and LAFD (personal communication, Dan Knott
37 2007). Alternative 2 would be located immediately adjacent to the ConocoPhillips
38 liquid bulk facility (Berths 148-149) and immediately across Slip 1 from several
39 other liquid bulk facilities (Berths 161-169), at a distance of approximately 400 to
40 800 feet. Because container terminals are not considered vulnerable resources, this
41 Alternative would not conflict with the RMP.

42 Alternative 2 plans and specifications will be reviewed by the LAFD for conformance to
43 the Los Angeles Municipal Fire Code, as a standard practice. Buildings will be equipped
44 with fire protection equipment as required by the Los Angeles Municipal Fire Code.
45 Access to all buildings and adequacy of road and fire lanes will be reviewed by the
46 LAFD to ensure that adequate access and firefighting features are provided. Plans would

1 include an internal circulation system, code-required features, and other firefighting
2 design elements, as approved by the LAFD.

3 Operation of Alternative 2 would be required to comply with all existing hazardous
4 waste laws and regulations, including the federal RCRA and CERCLA, and CCR
5 Title 22 and Title 26. Alternative 2 operations would comply with these laws and
6 regulations, which would ensure that potential hazardous materials handling would
7 occur in an acceptable manner.

8 **CEQA Impact Determination**

9 The terminal would not conflict with RMP guidelines. Alternative 2 plans and
10 specifications will be reviewed by the LAFD for conformance to the Los Angeles
11 Municipal Fire Code, and operation of Alternative 2 would be required to comply
12 with all existing hazardous waste laws and regulations. Therefore, under CEQA,
13 Alternative 2 operations would comply with applicable regulations and policies
14 guiding development within the Port. Impacts would be less than significant.

15 *Mitigation Measures*

16 No mitigation is required.

17 *Residual Impacts*

18 With no mitigation required, the residual impacts would be less than significant.

19 **NEPA Impact Determination**

20 The terminal would not conflict with RMP guidelines. Alternative 2 plans and
21 specifications will be reviewed by the LAFD for conformance to the Los Angeles
22 Municipal Fire Code, and operation of Alternative 2 would be required to comply
23 with all existing hazardous waste laws and regulations. Therefore, under NEPA,
24 Alternative 2 operations would comply with applicable regulations and policies
25 guiding development within the Port. Impacts would be less than significant.

26 *Mitigation Measures*

27 No mitigation is required.

28 *Residual Impacts*

29 With no mitigation required, the residual impacts would be less than significant.

30 **Impact RISK-5b: Tsunami-induced flooding would result in fuel releases**
31 **from ships or hazardous substances releases from containers, which in**
32 **turn would result in risks to persons and/or the environment.**

33 As discussed in section 3.5, there is the potential for a large tsunami to impact the Port.
34 A large tsunami would likely lead to a fuel spill if a moored vessel is present. Although
35 crude oil tankers would not moor at Berths 136-147, each ship contains large quantities

1 of fuel oil. While in transit, the hazards posed to tankers are insignificant, and in most
2 cases, imperceptible. However, while docked, a tsunami striking the Port could cause
3 significant ship movement and even a hull breach if the ship is pushed against the wharf.

4 The Port is subject to diurnal tides, meaning two high tides and two low tides during a
5 24-hour day. The average of the lowest water level during low tide periods each day is
6 typically set as a benchmark of 0 ft (0 m) and is defined as Mean Lower Low Water level
7 (MLLW). For purposes of this discussion, all proposed Project structures and land
8 surfaces are expressed as height above (or below) MLLW. The mean sea level (MSL) in
9 the Port is +2.8 ft (0.86 m) above MLLW (NOAA 2005). This height reflects the
10 arithmetic mean of hourly heights observed over the National Tidal Datum Epoch (19
11 years) and therefore reflects the mean of both high and low tides in the Port. The
12 recently developed Port Complex model described in Section 3.5.2 predicts tsunami
13 wave heights with respect to MSL, rather than MLLW, and therefore can be considered a
14 reasonable average condition under which a tsunami might occur. The Port MSL of
15 +2.82 ft (0.86 m) must be considered in comparing projected tsunami run-up (i.e.,
16 amount of wharf overtopping and flooding) to proposed wharf height and topographic
17 elevations, which are measured with respect to MLLW.

18 A reasonable worst-case scenario for generation of a tsunami or seiche in the San Pedro
19 Bay Ports include the recently developed Port Complex model, which predicts tsunami
20 wave heights of 1.3 to 5.3 ft (0.4 to 1.6 m) above MSL at the proposed Project site,
21 under both earthquake and landslide scenarios. Incorporating the Port MSL of +2.82 ft
22 (0.86 m), the model predicts tsunami wave heights of 4.1 to 8.1 ft (0.8 to 2.4 m) above
23 MLLW at the proposed Project site. Because the proposed Project site elevation ranges
24 from 10 to 15 ft (3.0 to 4.6 m) above MLLW, localized tsunami-induced flooding
25 would not occur.

26 While the analysis above considers a reasonable worst-case seismic scenario based on a
27 maximum seismic event, with respect to MSL, a theoretical maximum worst-case wave
28 action from a tsunami would result if the single highest tide predicted over the next 40
29 years at the San Pedro Bay Ports was present at the time of the seismic event. The single
30 highest tide predicted over the next 40 years is 7.3 ft (2.2 m) above MLLW. This
31 condition is expected to occur less than 1 percent of the time over this 40-year period. If
32 that very rare condition were to coincide with a maximum tsunami event, the model
33 predicts tsunami wave heights of 8.6 to 12.6 ft (2.6 to 3.8 m) above MLLW at the
34 proposed Project site. Because the proposed Project site elevation ranges from 10 to 15
35 ft (3.0 to 4.5 m) above MLLW, localized tsunami-induced flooding up to 2.6 ft (0.8 m) is
36 possible. To determine the extent of potential impacts due to tsunami-induced flooding,
37 Port structural engineers have determined that Port reinforced concrete or steel structures
38 designed to meet California earthquake protocols incorporated into MOTEMS would be
39 expected to survive complete inundation in the event of a tsunami (personal
40 communication, Yin, P., P.E., Senior Structural Engineer, LAHD 2006). However,
41 substantial infrastructure damage and/or injury to personnel would occur as a result of
42 complete site inundation.

43 As previously discussed, there is a potential for tsunami-induced flooding under the
44 theoretical maximum worst-case scenario. However, the likelihood of a large tsunami is
45 very low during operation of the proposed Project and the overall probability of this
46 worst-case scenario is less than one in a 100,000 year period.

1 The most likely worst-case tsunami scenario was based partially on a magnitude 7.6
2 earthquake on the offshore Santa Catalina Fault. The recurrence interval for a magnitude
3 7.5 earthquake along an offshore fault in the Southern California Continental Borderland
4 is about 10,000 years. Similarly, the recurrence interval of a magnitude 7.0 earthquake is
5 about 5,000 years and the recurrence interval of a magnitude 6.0 earthquake is about 500
6 years. However, there is no certainty that any of these earthquake events would result in
7 a tsunami, since only about 10 percent of earthquakes worldwide result in a tsunami. In
8 addition, available evidence indicates that tsunamigenic landslides would be extremely
9 infrequent and occur less often than large earthquakes. This suggests recurrence
10 intervals for such landslide events would be longer than the 10,000-year recurrence
11 interval estimated for a magnitude 7.5 earthquake (Moffatt and Nichol 2007). As noted
12 above, the probability of the worst-case combination of a large tsunami and extremely
13 high tides would be less than once in a 100,000-year period.

14 Containers of hazardous substances on ships or on berths could similarly be damaged as
15 a result of a large tsunami. Such damage would result in releases of both hazardous and
16 non-hazardous cargo to the environment, adversely impacting persons and/or the
17 marine waters. However, containers carrying hazardous cargo would not necessarily
18 release their contents in the event of a large tsunami. The DOT regulations (49 CFR
19 Parts 172-180) covering hazardous material packaging and transportation would
20 minimize potential release volumes since packages must meet minimum integrity
21 specifications and size limitations.

22 The owner or operators of tanker vessels are required to have an approved Tank Vessel
23 Response Plan on board and a qualified individual within the U.S. with full authority to
24 implement removal actions in the event of an oil spill incident, and to contract with the
25 spill response organizations to carry out cleanup activities in case of a spill. The
26 existing oil spill response capabilities in the POLA/POLB are sufficient to isolate spills
27 with containment booms and recover the maximum possible spill from an oil tanker
28 within the Port.

29 Various studies have shown that double-hull tank vessels have lower probability of
30 releases when tanker vessels are involved in accidents. Because of these studies, the
31 USCG issued regulations addressing double-hull requirements for tanker vessels. The
32 regulations establish a timeline for eliminating single-hull vessels from operating in the
33 navigable waters or the EEZ of the U.S. after January 1, 2010 and double-bottom or
34 double-sided vessels by January 1, 2015. Only vessels equipped with a double hull, or
35 with an approved double containment system will be allowed to operate after those
36 times. It is unlikely that single-hull vessels will utilize the Alternative 2 terminal
37 facilities given the current schedule and the planned phase-out of these vessels.

38 **CEQA Impact Determination**

39 Impacts due to seismically induced tsunamis and seiches are typical for the entire
40 California coastline and would not be increased by construction of Alternative 2.
41 However, because the Alternative 2 elevation is located within 10 to 15 feet (3 to 4.6 m)
42 above MLLW and projects in the construction phase are especially vulnerable to tsunami
43 damage due to the presence of unfinished structures, there is a substantial risk of coastal
44 flooding due to tsunamis and seiches, which in turn, could result in accidental spills of
45 petroleum products or hazardous substances. Because a major tsunami is not expected

1 during the life of Alternative 2, but could occur (see Section 3.5, Geology for additional
2 information on the probability of a major tsunami), the probability of a major tsunami
3 occurring is classified as “improbable” (less than once every 10,000 years). The
4 potential consequence of such an event is classified as “moderate,” resulting in a Risk
5 Code of 4 that is “acceptable.” The volume of spilled fuel is also expected to be
6 relatively low. While there will be fuel containing equipment present during
7 construction, most equipment is equipped with watertight tanks, with the main problem
8 being the infiltration of water into the tank and fuel combustion chambers. Thus, the
9 volume spilled in the event of a tsunami would be less than 10,000 gallons, which is
10 considered minor. In light of such a low probability and acceptable risk of a large
11 tsunami, impacts associated with Alternative 2 would be less than significant as they
12 pertain to hazardous materials spills under criterion **RISK-5**.

13 *Mitigation Measures*

14 No mitigation is required.

15 *Residual Impacts*

16 With no mitigation required, the residual impacts would be less than significant.

17 **NEPA Impact Determination**

18 Impacts due to seismically induced tsunamis and seiches are typical for the entire
19 California coastline and would not be increased by construction of Alternative 2.
20 However, because Alternative 2 elevations are located within 10 to 15 feet (3 to 4.6 m)
21 above MLLW and projects in the construction phase are especially vulnerable to tsunami
22 damage due to the presence of unfinished structures, there is a substantial risk of coastal
23 flooding due to tsunamis and seiches, which in turn, could result in accidental spills of
24 petroleum products or hazardous substances. Because a major tsunami is not expected
25 during the life of Alternative 2, but could occur (see Section 3.5, Geology for additional
26 information on the probability of a major tsunami), the probability of a major tsunami
27 occurring is classified as “improbable” (less than once every 10,000 years). The
28 potential consequence of such an event is classified as “moderate,” resulting in a Risk
29 Code of 4 that is “acceptable.” In light of such a low probability and acceptable risk of a
30 large tsunami, impacts associated with Alternative 2 would be less than significant under
31 criterion **RISK-5**.

32 *Mitigation Measures*

33 No mitigation is required.

34 *Residual Impacts*

35 With no mitigation required, the residual impacts would be less than significant.

36 **Impact RISK-6b: A potential terrorist attack would result in adverse**
37 **consequences to areas near the Alternative 2 site during the operations**
38 **period.**

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Risk of Terrorist Actions associated with Operations

The probability of a terrorist attack on the alternative project facilities is not likely to appreciably change over the existing baseline. It is possible that the increase in vessel traffic in the vicinity of the Berths 136-147 Terminal could lead to a greater opportunity of a successful terrorist attack; however, existing Port security measures would counter this potential increase in unauthorized access to the terminal.

Consequences of Terrorist Attack

The risks associated with terrorism discussed in Section 3.7.2.4 would apply to the terminal during operations. The potential consequences of a terrorist action on a container terminal would be mainly environmental and economic. A terrorist action involving a container vessel while at berth may result in a fuel and/or commodity spill and its associated environmental damage. Within the Port, a terrorist action could block key waterways and result in economic disruption. Potential environmental damage would include fuel and/or commodity spills into the marine environment, with associated degradation of water quality and damage to marine biological resources. Container ships typically carry up to 5,000 barrels of fuel oil but would not be full when arriving at the port. These impacts would be limited to the area surrounding the point of attack and would be contained by the relevant oil spill response contractor. A potential fire associated with a terrorist attack could result in short-term impacts to local air quality.

The consequences associated with the smuggling of weapons of mass destruction would be substantial in terms of impacts to the environment and public health and safety. However, the consequences of a WMD attack would not be affected by the alternative. Furthermore, the likelihood of such an event would not be impacted by alternative-related infrastructure or throughput increases, but would depend on the terrorist's desired outcome and the ability of safeguards, unaffected by the alternative, to thwart it. Cargo containers represent only one of many potential methods to smuggle weapons of mass destruction, and with current security initiatives (see Section 3.7.2.5) may be less plausible than other established smuggling routes (e.g., land-based ports of entry, cross border tunnels, illegal vessel transportation, etc.).

CEQA Impact Determination

Potential public safety consequences of a terrorist attack on the Berths 136-147 Terminal for the alternative project are considered negligible since, in the event of a successful attack, the potential for a small number of offsite injuries are possible mainly due to fire, which in turn would be a result of fuel spilled into Port waters. Potential thermal radiation and explosion overpressure levels would be limited to the immediate vicinity of the attack and would not overlap any existing, planned, or permitted vulnerable resources; nevertheless, the potential for limited public exposure along Port waterways is possible.

The risk of a terrorist attack is considered part of the baseline for the project alternative. Terrorism risk associated with container terminals currently exists, and is not influenced by changes in container traffic volume. Currently, the Berths 136-147 Terminal handles approximately 3.1 percent of the national containerized cargo and 8.5 percent

1 of the POLA/POLB cargo volume (based on MARAD 2005b; Parsons 2006). With
2 the implementation of the alternative, and compared to regional and national growth
3 projections, the relative importance of the alternative will remain at 3.1 percent of
4 national containerized cargo throughput, but decrease to 5.6 of the POLA/POLB
5 cargo volume (based on projections in MARAD 2005b; Parsons 2006). Overall,
6 growth at the Berths 136-147 Terminal would not increase disproportionately as
7 compared to regional (POLA/POLB) and national container terminals growth, and
8 would, therefore, not change the relative importance of the terminal as a terrorist target.

9 An increase in the volume of container vessels visiting the terminal would not change the
10 probability or consequences of a terrorist attack on the Berths 136-147 Terminal since
11 the terminal is already considered a potential economic target, as well as a potential
12 mode to smuggle a weapon into the United States. In addition, the measures outlined in
13 Section 3.7.2.5 would serve to reduce the potential for a successful terrorist attack on the
14 Berths 136-147 facility as compared to project baseline conditions (under which many
15 of these measures had not yet been implemented). These measures have since improved
16 both terminal and cargo security, and have resulted in enhanced cargo screening.
17 Therefore, potential impacts associated with a potential terrorist attack on the Berths
18 136-147 facility are considered less than significant.

19 *Mitigation Measures*

20 As terrorism impacts are less than significant, no mitigation is required.

21 *Residual Impacts*

22 With no mitigation required, residual impacts would be less than significant.

23 **NEPA Impact Determination**

24 Potential impacts under NEPA would be that same as under CEQA and are
25 considered less than significant.

26 *Mitigation Measures*

27 As terrorism impacts are less than significant, no mitigation is required.

28 *Residual Impacts*

29 With no mitigation required, residual impacts would be less than significant

30 **3.7.4.3.2.3 Alternative 3 – Reduced Wharf**

31 **3.7.4.3.2.3.1 Construction Impacts**

32 **Impact RISK-1a: Phase I/II construction/demolition activities would not**
33 **substantially increase the probable frequency and severity of**

1 **consequences to people or property as a result of accidental release or**
2 **explosion of a hazardous substance.**

3 Under the Reduced Wharf alternative (Alternative 3), Phase I/II construction impacts
4 would be similar but less than those described for the proposed Project, because it
5 would not include the 10-acre (4-ha) fill in the Northwest Slip or the 400-foot (122-
6 m) wharf for the Berth 136 extension. In addition, this alternative would reduce the
7 extent of proposed wharf renovations, as no new wharves would be constructed and
8 only wharf seismic retrofitting would be completed. Although dredging does not
9 involve the handling of hazardous materials and would not create hazard footprints
10 under the RMP (LAHD 1983), elimination of some wharf construction and
11 renovation activities would further reduce the potential for construction equipment to
12 spill oil, gas, or fluids during construction activities. Therefore, this alternative would
13 reduce the potential for an accidental release of hazardous materials and/or
14 contamination of soil or water and would reduce the potential for an accidental release
15 from a fire or explosion during construction activities. Construction equipment could
16 spill oil, gas, or fluids during normal usage or during refueling, resulting in potential
17 health and safety impacts to not only construction personnel, but to people and
18 property occupying operational portions of the site, as Berths 136-147 Terminal
19 would be operating during Phase I/II construction activities. BMPs and Los Angeles
20 Municipal Code regulations (Chapter 5, Section 57, Division 4 and 5; Chapter 6,
21 Article 4) would govern Phase I/II construction and demolition activities. Federal
22 and state regulations that govern the storage of hazardous materials in containers (i.e.,
23 the types of materials and the size of packages containing hazardous materials) and
24 the separation of containers containing hazardous materials, would limit the potential
25 adverse impacts of contamination to a relatively small area. In addition, standard
26 BMPs would be used during construction and demolition activities to minimize
27 runoff of contaminants, in compliance with the State General Permit for Storm Water
28 Discharges Associated with Construction Activity (Water Quality Order 99-08-
29 DWQ) and project-specific SWPPP (see Section 3.13, Water Quality, Sediments, and
30 Oceanography for more information).

31 **CEQA Impact Determination**

32 Implementation of construction and demolition standards, including BMPs, would
33 minimize the potential for an accidental release of petroleum products and/or
34 hazardous materials and/or explosion during Phase I/II construction/demolition
35 activities at Berths 136-147. Because construction/demolition related spills are not
36 uncommon, the probability of a spill occurring is classified as “frequent” (more than
37 once a year). However, because such spills are typically short-term and localized,
38 mainly due to the fact that the volume in any single vehicle is generally less than 50
39 gallons and fuel trucks are limited to 10,000 gallons or less, the potential
40 consequence of such accidents is classified as “slight” resulting in a Risk Code of 4
41 that is “acceptable.” Therefore, under CEQA, construction and demolition activities
42 associated with Alternative 3 would not substantially increase the probable frequency
43 and severity of consequences to people or property as a result of an accidental release
44 or explosion of a hazardous substance. Based on criterion **RISK-1**, impacts would be
45 less than significant.

1 *Mitigation Measures*

2 No mitigation is required.

3 *Residual Impacts*

4 With no mitigation required, the residual impacts would be less than significant.

5 **NEPA Impact Determination**

6 As Alternative 3 would only include minimal in-water construction activities (i.e.,
7 deepening navigation channels and wharf seismic improvements), construction
8 impacts would be similar to, but less severe than those described for the proposed
9 Project. Although dredging does not involve the handling of hazardous materials and
10 would not create hazard footprints under the RMP (LAHD 1983), elimination of
11 some wharf construction and renovation activities would further reduce the potential
12 for construction equipment to spill oil, gas, or fluids during construction activities.

13 Alternative 3 would include seismic upgrade of existing wharves and deepening
14 navigation channels, which would result in increased susceptibility to hazardous
15 materials spills during construction. Implementation of construction standards,
16 including BMPs, would minimize the potential for an accidental release of hazardous
17 materials and/or explosion during Phase I/II in-water construction activities at Berths
18 136-147. Because construction/demolition related spills are not uncommon, the
19 probability of a spill occurring is classified as “frequent” (more than once a year).
20 However, because such spills are typically short-term and localized, the potential
21 consequence of such accidents is classified as “slight” resulting in a Risk Code of 4 that
22 is “acceptable.” Therefore, under NEPA, construction and demolition activities
23 associated with Alternative 3 would not substantially increase the probable frequency
24 and severity of consequences to people or property as a result of a potential accidental
25 release or explosion of a hazardous substance. Impacts would be less than significant.

26 *Mitigation Measures*

27 No mitigation is required.

28 *Residual Impacts*

29 With no mitigation required, the residual impacts would be less than significant.

30 **Impact RISK-2a: Phase I/II construction/demolition activities would not**
31 **substantially increase the probable frequency and severity of**
32 **consequences to people from exposure to health hazards.**

33 Under Alternative 3, Phase I/II construction impacts would be similar but less than
34 those described for the proposed Project, because it would not include the 10-acre (4-
35 ha) fill in the Northwest Slip or the 400-foot (122-m) wharf for the Berth 136
36 extension, and this alternative would reduce the extent of proposed wharf
37 renovations. Although dredging does not involve the handling of hazardous
38 materials and would not create hazard footprints under the RMP (LAHD 1983),

1 elimination of some wharf construction and renovation activities would further
2 reduce the potential for construction equipment to spill oil, gas, or fluids during
3 construction activities. Therefore, this alternative would reduce the potential for health
4 hazards as a result of an accidental release of hazardous materials and/or contamination
5 of soil or water.

6 Construction and demolition activities would be conducted using BMPs and in
7 accordance with the Los Angeles Municipal Code (Chapter 5, Section 57, Division 4
8 and 5; Chapter 6, Article 4). Quantities of hazardous materials that exceed the
9 thresholds provided in Chapter 6.95 of the California Health and Safety Code would be
10 subject to an RRP and HMI. Implementation of increased inventory accountability and
11 spill prevention controls associated with this RRP and HMI, such as limiting the types
12 of materials stored and size of packages containing hazardous materials, would limit
13 both the frequency and severity of potential releases of hazardous materials, thus
14 minimizing potential health hazards and/or contamination of soil or water during
15 construction/demolition activities. These measures reduce the frequency and
16 consequences of spills by requiring proper packaging for the material being shipped,
17 limits on package size, and thus potential spill size, as well as proper response measures
18 for the materials being handled. Impacts from contamination of soil or water during
19 construction/demolition activities would apply to not only construction personnel, but
20 to people and property occupying operational portions of the Project area, as Berths
21 136-147 Terminal would be operating during Phase I/II construction activities.

22 Near-surface contaminated soil may be encountered during demolition of the Pier A
23 rail yard, resulting in potential health hazards to demolition and/or construction
24 personnel. See Section 3.6, Groundwater and Soils for more information.

25 **CEQA Impact Determination**

26 Several standard policies regulate the storage of hazardous materials including the
27 types of materials, size of packages containing hazardous materials, and the
28 separation of containers containing hazardous materials. These measures reduce the
29 frequency and consequences of spills by requiring proper packaging for the material
30 being shipped, limits on package size, and thus potential spill size, as well as proper
31 response measures for the materials being handled. Implementation of these
32 preventative measures would minimize the potential for spills to impact members of
33 the public and limit the adverse impacts of contamination to a relatively small area.
34 Because construction/demolition related spills are not uncommon, the probability of a
35 spill occurring is classified as “frequent” (more than once a year). However, because
36 such spills are typically short-term and localized, the potential consequence of such
37 accidents is classified as “slight” resulting in a Risk Code of 4 that is “acceptable.”
38 Therefore, under CEQA, Alternative 3 construction/demolition activities at Berths
39 136-147 would not substantially increase the probable frequency and severity of
40 consequences to people from exposure to health hazards. Based on risk criterion
41 **RISK-2**, impacts would be less than significant.

42 ***Mitigation Measures***

43 No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

As Alternative 3 would only include minimal in-water construction activities (i.e., deepening navigation channels and wharf seismic improvements), construction impacts would be similar to, but less severe than those described for the proposed Project. Although dredging does not involve the handling of hazardous materials and would not create hazard footprints under the RMP (LAHD 1983), elimination of some wharf construction and renovation activities would further reduce the potential for construction equipment to spill oil, gas, or fluids during construction activities, which could result in health hazards to on-site personnel or the public.

Alternative 3 would include dredging and seismic upgrade of existing wharves, which would result in increased susceptibility to hazardous materials spills during construction. Several standard policies regulate the storage of hazardous materials including the types of materials, size of packages containing hazardous materials, and the separation of containers containing hazardous materials. These measures reduce the frequency and consequences of spills by requiring proper packaging for the material being shipped, limits on package size, and thus potential spill size, as well as proper response measures for the materials being handled. Implementation of these preventative measures would minimize the potential for spills to impact on-site personnel and members of the public and limit the potential adverse impacts of contamination to a relatively small area.

Because construction/demolition related spills are not uncommon, the probability of a spill occurring is classified as “frequent” (more than once a year). However, because such spills are typically short-term and localized, the potential consequence of such accidents is classified as “slight” resulting in a Risk Code of 4 that is “acceptable.” Therefore, under NEPA, Alternative 3 construction and demolition would not substantially increase the probable frequency and severity of consequences to people from exposure to health hazards. Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

Impact RISK-3a: Phase I/II construction/demolition activities would not substantially interfere with an existing emergency response or evacuation plan or increase the risk of injury or death.

Emergency response and evacuation planning is the responsibility of the LAPD, LAFD, Port Police, and USCG. Phase I/II construction and demolition activities would be subject to emergency response and evacuation systems implemented by LAFD. During

1 construction/demolition activities, the LAFD would require that adequate vehicular
2 access to the site be provided and maintained. Prior to commencement of
3 construction/demolition activities, all plans would be reviewed by the LAFD to ensure
4 adequate access is maintained throughout Phase I/II construction/demolition.

5 **CEQA Impact Determination**

6 Alternative 3 contractors would be required to adhere to all LAFD emergency response
7 and evacuation regulations, ensuring compliance with existing emergency response
8 plans. Therefore, under CEQA, Phase I/II construction/demolition activities associated
9 with Alternative 3 would not substantially interfere with an existing emergency
10 response or evacuation plan or increase the risk of injury or death. Impacts would be
11 less than significant.

12 *Mitigation Measures*

13 No mitigation is required.

14 *Residual Impacts*

15 With no mitigation required, the residual impacts would be less than significant.

16 **NEPA Impact Determination**

17 Alternative 3 contractors would be required to adhere to all LAFD emergency response
18 and evacuation regulations, ensuring compliance with existing emergency response
19 plans. Therefore, under NEPA, Phase I/II construction/demolition activities associated
20 with Alternative 3 would not substantially interfere with an existing emergency
21 response or evacuation plan or increase the risk of injury or death. Based on risk
22 criterion **RISK-3**, potential impacts would be less than significant.

23 *Mitigation Measures*

24 No mitigation is required.

25 *Residual Impacts*

26 With no mitigation required, the residual impacts would be less than significant.

27 **Impact RISK-4a: Alternative 3 construction/demolition would comply**
28 **with applicable regulations and policies guiding development within the**
29 **Port.**

30 As described in Section 3.7.3.1, List of Regulations, the Alternative 3 would be subject
31 to numerous regulations for development and operation of the proposed facilities. For
32 example, construction and demolition would be completed in accordance with RCRA,
33 HSWA, CERCLA, CCR Title 22 and Title 26, and the California Hazardous Waste
34 Control Law, which would govern proper containment, spill control, and disposal of
35 hazardous waste generated during demolition and construction activities.
36 Implementation of increased inventory accountability, spill prevention controls, and

1 waste disposal controls associated with these regulations would limit both the frequency
2 and severity of potential releases of hazardous materials.

3 Potential releases of hazardous substances during demolition and/or construction
4 would be addressed through the federal Emergency Planning and Right-To-Know
5 Act, which is administered in California by the SERC, and the Hazardous Material
6 Release Response Plans and Inventory Law. In addition, demolition and construction
7 would be completed in accordance with the Los Angeles Municipal Fire Code, which
8 regulates the construction of buildings and other structures used to store flammable
9 hazardous materials, and the Los Angeles Municipal Public Property Code, which
10 regulates the discharge of materials into the sanitary sewer and storm drain. The
11 latter requires the construction of spill-containment structures to prevent the entry of
12 forbidden materials, such as hazardous materials, into sanitary sewers and storm
13 drains. LAHD maintains compliance with these federal, state, and local laws through
14 a variety of methods, including internal compliance reviews, preparation of
15 regulatory plans, and agency oversight. LAHD has implemented various plans and
16 programs to ensure compliance with these regulations. These regulations must be
17 adhered to during design and construction of Alternative 3. Implementation of
18 increased spill prevention controls, spill release notification requirements, and waste
19 disposal controls associated with these regulations would limit both the frequency and
20 severity of potential releases of hazardous materials.

21 Construction/demolition activities would be conducted using BMPs in accordance with
22 City guidelines, as detailed in the Development Best Management Practices Handbook
23 (City of Los Angeles 2002a). Applicable BMPs include, but are not limited to, vehicle
24 and equipment fueling and maintenance; material delivery, storage, and use; spill
25 prevention and control; solid and hazardous waste management; and contaminated soil
26 management. Alternative 3 plans and specifications will be reviewed by the LAFD for
27 conformance to the Los Angeles Municipal Fire Code, as a standard practice.
28 Implementation of increased spill prevention controls associated with these BMPs would
29 limit both the frequency and severity of potential releases of hazardous materials.

30 **CEQA Impact Determination**

31 Because Alternative 3 construction/demolition would be completed using standard
32 BMPs and in accordance with LAHD plans and programs, LAFD regulations, and all
33 hazardous waste laws and regulations, impacts relating to compliance with applicable
34 regulations and policies guiding development in the Port would be less than
35 significant under CEQA under criterion **RISK-4**.

36 *Mitigation Measures*

37 No mitigation is required.

38 *Residual Impacts*

39 With no mitigation required, the residual impacts would be less than significant under
40 CEQA.

1 **NEPA Impact Determination**

2 Because Alternative 3 construction would be completed using standard BMPs and in
3 accordance with LAHD plans and programs, LAFD regulations, and all hazardous
4 waste laws and regulations, impacts under NEPA relating to compliance with
5 applicable regulations and policies guiding development in the Port would be less
6 than significant under criterion **RISK-4**.

7 *Mitigation Measures*

8 No mitigation is required.

9 *Residual Impacts*

10 With no mitigation required, the residual impacts would be less than significant.

11 **Impact RISK-5a: Tsunami-induced flooding would result in fuel releases
12 from demolition/construction equipment or hazardous substances
13 releases from containers, which in turn would result in risks to persons
14 and/or the environment.**

15 As discussed in section 3.5, there is the potential for a large tsunami to impact the Port.
16 A large tsunami would likely lead to a fuel spill from demolition and/or construction
17 equipment, as well as from containers of petroleum products and hazardous substances
18 used during the demolition/construction period. Unfinished structures are especially
19 vulnerable to damage from tsunamis during the construction period.

20 The Port is subject to diurnal tides, meaning two high tides and two low tides during a
21 24-hour day. The average of the lowest water level during low tide periods each day is
22 typically set as a benchmark of 0 ft (0 m) and is defined as Mean Lower Low Water
23 level (MLLW). For purposes of this discussion, all Alternative 3 structures and land
24 surfaces are expressed as height above (or below) MLLW. The mean sea level (MSL)
25 in the Port is +2.8 ft (0.86 m) above MLLW (NOAA 2005). This height reflects the
26 arithmetic mean of hourly heights observed over the National Tidal Datum Epoch (19
27 years) and therefore reflects the mean of both high and low tides in the Port. The
28 recently developed Port Complex model described in Section 3.5.2 predicts tsunami
29 wave heights with respect to MSL, rather than MLLW, and therefore can be considered
30 a reasonable average condition under which a tsunami might occur. The Port MSL of
31 +2.82 ft (0.86 m) must be considered in comparing projected tsunami run-up (i.e.,
32 amount of wharf overtopping and flooding) to proposed wharf height and topographic
33 elevations, which are measured with respect to MLLW.

34 A reasonable worst-case scenario for generation of a tsunami or seiche in the San
35 Pedro Bay Ports include the recently developed Port Complex model, which predicts
36 tsunami wave heights of 1.3 to 5.3 ft (0.4 to 1.6 m) above MSL at the Alternative 3
37 site, under both earthquake and landslide scenarios. Incorporating the Port MSL of
38 +2.82 ft (0.86 m), the model predicts tsunami wave heights of 4.1 to 8.1 ft (0.8 to 2.4
39 m) above MLLW at the Alternative 3 site. Because the Alternative 3 site elevation
40 ranges from 10 to 15 ft (3.0 to 4.6 m) above MLLW, localized tsunami-induced
41 flooding would not occur.

1 While the analysis above considers a reasonable worst-case seismic scenario based
2 on a maximum seismic event, with respect to MSL, a theoretical maximum worst-
3 case wave action from a tsunami would result if the single highest tide predicted over
4 the next 40 years at the San Pedro Bay Ports was present at the time of the seismic
5 event. The single highest tide predicted over the next 40 years is 7.3 ft (2.2 m) above
6 MLLW. This condition is expected to occur less than 1 percent of the time over this
7 40-year period. If that very rare condition were to coincide with a maximum tsunami
8 event, the model predicts tsunami wave heights of 8.6 to 12.6 ft (2.6 to 3.8 m) above
9 MLLW at the Alternative 3 site. Because the Alternative 3 site elevation ranges from
10 10 to 15 ft (3.0 to 4.5 m) above MLLW, localized tsunami-induced flooding up to 2.6
11 ft (0.8 m) is possible. To determine the extent of potential impacts due to tsunami-
12 induced flooding, Port structural engineers have determined that Port reinforced
13 concrete or steel structures designed to meet California earthquake protocols
14 incorporated into MOTEMS would be expected to survive complete inundation in the
15 event of a tsunami (personal communication, Yin, P., P.E., Senior Structural
16 Engineer, LAHD 2006). However, substantial infrastructure damage and/or injury to
17 personnel would occur as a result of complete site inundation.

18 As previously discussed, there is a potential for tsunami-induced flooding under the
19 theoretical maximum worst-case scenario. However, the likelihood of a large
20 tsunami is very low during construction of Alternative 3 and the overall probability
21 of this worst-case scenario is less than one in a 100,000-year period.

22 The most likely worst-case tsunami scenario was based partially on a magnitude 7.6
23 earthquake on the offshore Santa Catalina Fault. The recurrence interval for a
24 magnitude 7.5 earthquake along an offshore fault in the Southern California
25 Continental Borderland is about 10,000 years. Similarly, the recurrence interval of a
26 magnitude 7.0 earthquake is about 5,000 years and the recurrence interval of a
27 magnitude 6.0 earthquake is about 500 years. However, there is no certainty that any
28 of these earthquake events would result in a tsunami, since only about 10 percent of
29 earthquakes worldwide result in a tsunami. In addition, available evidence indicates
30 that tsunamigenic landslides would be extremely infrequent and occur less often than
31 large earthquakes. This suggests recurrence intervals for such landslide events would
32 be longer than the 10,000-year recurrence interval estimated for a magnitude 7.5
33 earthquake (Moffatt and Nichol 2007). As noted above, the probability of the worst-
34 case combination of a large tsunami and extremely high tides would be less than once
35 in a 100,000-year period.

36 **CEQA Impact Determination**

37 Impacts due to seismically induced tsunamis and seiches are typical for the entire
38 California coastline and would not be increased by construction of Alternative 3.
39 However, because the Alternative 3 site elevation is located within 10 to 15 feet (3 to 4.6
40 m) above MLLW and projects in the construction phase are especially vulnerable to
41 tsunami damage due to the presence of unfinished structures, there is a substantial risk of
42 coastal flooding due to tsunamis and seiches, which in turn, could result in accidental
43 spills of petroleum products or hazardous substances. Because a major tsunami is not
44 expected during the life of Alternative 3, but could occur (see Section 3.5, Geology for
45 additional information on the probability of a major tsunami), the probability of a major
46 tsunami occurring is classified as “improbable” (less than once every 10,000 years). The

1 potential consequence of such an event is classified as “moderate,” resulting in a Risk
2 Code of 4 that is “acceptable.” The volume of spilled fuel is also expected to be
3 relatively low. While there will be fuel-containing equipment present during
4 construction, most equipment is equipped with watertight tanks, with the most likely
5 scenario being the infiltration of water into the tank and fuel combustion chambers and
6 very little fuel spilled. Thus, the volume spilled in the event of a tsunami would be less
7 than 10,000 gallons, which is considered “slight.” In light of such a low probability and
8 acceptable risk of a large tsunami, Alternative 3 impacts would be less than significant as
9 they pertain to hazardous materials spills under criterion **RISK-5**.

10 *Mitigation Measures*

11 No mitigation is required.

12 *Residual Impacts*

13 With no mitigation required, the residual impacts would be less than significant.

14 **NEPA Impact Determination**

15 Impacts due to seismically induced tsunamis and seiches are typical for the entire
16 California coastline and would not be increased by construction of Alternative 3.
17 However, because the Project site elevation is located within 10 to 15 feet (3 to 4.6 m)
18 above MLLW and projects in the construction phase are especially vulnerable to
19 tsunami damage due to the presence of unfinished structures, there is a substantial risk
20 of coastal flooding due to tsunamis and seiches, which in turn, could result in accidental
21 spills of petroleum products or hazardous substances. Because a major tsunami is not
22 expected during the life of Alternative 3, but could occur (see Section 3.5, Geology for
23 additional information on the probability of a major tsunami), the probability of a major
24 tsunami occurring is classified as “improbable” (less than once every 10,000 years).
25 The potential consequence of such an event is classified as “slight,” resulting in a Risk
26 Code of 4 that is “acceptable.” In light of such a low probability and acceptable risk of
27 a large tsunami, Alternative 3 impacts would be less than significant under criterion
28 **RISK-5**.

29 *Mitigation Measures*

30 No mitigation is required.

31 *Residual Impacts*

32 With no mitigation required, the residual impacts would be less than significant.

33 **Impact RISK-6a: A potential terrorist attack would result in adverse**
34 **consequences to areas near the Alternative 3 site during the construction**
35 **period.**

Risk of Terrorist Actions during Construction

The probability of a terrorist attack on the Alternative 3 facilities is not likely to appreciably change over the existing baseline during construction. It is possible that the increase in construction vessel traffic in the vicinity of the Berths 136-147 Terminal could lead to a greater opportunity of a successful terrorist attack; however, existing Port security measures would counter this potential increase in unauthorized access to the terminal.

Consequences of Terrorist Attack

The Berths 136-147 Terminal will be fully operational during the construction period; therefore the risks associated with terrorism discussed in Section 3.7.2.4 will apply to the terminal during this period. The potential consequences of a terrorist action on a container terminal would be mainly environmental and economic. A terrorist action involving a container vessel while at berth may result in a fuel and/or commodity spill and its associated environmental damage. Within the Port, a terrorist action could block key waterways and result in economic disruption. Potential environmental damage would include fuel and/or commodity spills into the marine environment, with associated degradation of water quality and damage to marine biological resources. Container ships typically carry up to 5,000 barrels of fuel oil but would not be full when arriving at the port. These impacts would be limited to the area surrounding the point of attack and would be contained by the relevant oil spill response contractor. A potential fire associated with a terrorist attack could result in short-term impacts to local air quality.

The consequences associated with the smuggling of weapons of mass destruction would be substantial in terms of impacts to the environment and public health and safety. However, the consequences of a WMD attack would not be affected by the alternative. Furthermore, the likelihood of such an event would not be impacted by alternative-related infrastructure or throughput increases, but would depend on the terrorist's desired outcome and the ability of safeguards, unaffected by the alternative, to thwart it. Cargo containers represent only one of many potential methods to smuggle weapons of mass destruction, and with current security initiatives (see Section 3.7.2.5) may be less plausible than other established smuggling routes (e.g., land-based ports of entry, cross border tunnels, illegal vessel transportation, etc.).

CEQA Impact Determination

Potential public safety consequences of a terrorist attack on the Berths 136-147 Terminal for Alternative 3 are considered negligible since, in the event of a successful attack, the potential for a small number of offsite injuries are possible mainly due to fire, which in turn would be a result of fuel spilled into Port waters. Potential thermal radiation and explosion overpressure levels would be limited to the immediate vicinity of the attack and would not overlap any existing, planned, or permitted vulnerable resources; nevertheless, the potential for limited public exposure along Port waterways is possible.

The risk of a terrorist attack is considered part of the baseline for the project. Terrorism risk associated with container terminals currently exists, and is not influenced by

1 changes in container traffic volume. Currently, the Berths 136-147 Terminal handles
2 approximately 3.1 percent of the national containerized cargo and 8.1 percent of the
3 POLA/POLB cargo volume (based on MARAD 2005b; Parsons 2006). An increase
4 in the volume of container vessels visiting the terminal would not change the probability
5 or consequences of a terrorist attack on the Berths 136-147 Terminal since the terminal is
6 already considered a potential economic target, as well as a potential mode to smuggle a
7 weapon into the United States. In addition, the measures outlined in Section 3.7.2.5
8 would serve to reduce the potential for a successful terrorist attack on the Berths 136-
9 147 facility as compared to project baseline conditions (under which many of these
10 measures had not yet been implemented). These measures have since improved both
11 terminal and cargo security, and have resulted in enhanced cargo screening. Therefore,
12 potential impacts associated with a potential terrorist attack on the Berths 136-147
13 facility are considered less than significant.

14 *Mitigation Measures*

15 As terrorism impacts are less than significant, no mitigation is required.

16 *Residual Impacts*

17 With no mitigation required, residual impacts would be less than significant.

18 **NEPA Impact Determination**

19 Impacts under NEPA would be less than significant as defined in the CEQA
20 determination above.

21 *Mitigation Measures*

22 As terrorism impacts are less than significant, no mitigation is required.

23 *Residual Impacts*

24 With no mitigation required, residual impacts would be less than significant.

25 **3.7.4.3.2.3.2 Operational Impacts**

26 **Impact RISK-1b: Berths 136-147 Terminal operations would not increase**
27 **the probable frequency and severity of consequences to people or**
28 **property as a result of accidental release or explosion of a hazardous**
29 **substance.**

30 Berths 136-147 Terminal operations under Alternative 3 could handle approximately
31 2,035,000 TEUs per year when optimized and functioning at maximum capacity
32 (year 2025). This alternative would result in a net reduction of 354,000 TEUs per
33 year compared to the proposed Project. Thus, the number of containers containing
34 hazardous materials and the overall risk to the public would be reduced compared to
35 the proposed Project. Overall, the risk of upset impacts associated with this alternative
36 during operations would be reduced compared to the proposed Project.

1 Throughput of 2,035,000 TEUs per year in association with Alternative 3, when
2 functioning at maximum capacity, would equate to a 128 percent increase in
3 throughput capacity. Hazardous materials cargo associated with Alternative 3 would
4 be shipped, transported, handled, and stored in compliance with the USCG regulations,
5 fire department requirements, and Caltrans regulations. For example, as discussed in
6 Section 3.7.3.1, List of Regulations, the USCG maintains a HMSD, under the
7 jurisdiction of the federal Department of Homeland Security (33 CFR 126), which
8 develops standards and industry guidance to promote the safety of life and protection
9 of property and the environment during marine transportation of hazardous materials.

10 Among other requirements, Alternative 3 operations would conform to the USCG
11 requirement to provide a segregated cargo area for containerized hazardous materials.
12 Terminal cargo operations involving hazardous materials are also governed by the
13 LAFD in accordance with regulations of state and federal departments of
14 transportation (49 CFR 176). The transport of hazardous materials in containers on
15 the street and highway system is regulated by Caltrans procedures and the
16 Standardized Emergency Management System prescribed under Section 8607 of the
17 California Government Code. These safety regulations strictly govern the storage of
18 hazardous materials in containers (i.e., types of materials and size of packages
19 containing hazardous materials). Implementation of increased hazardous materials
20 inventory control and spill prevention controls associated with these regulations would
21 limit both the frequency and severity of potential releases of hazardous materials.

22 The new ICTF at Berths 136-147 would handle cargo only from that terminal. The
23 ICTF would handle two double-stacked unit trains twice each day and each train
24 would average approximately 330 containers inbound and outbound. When the
25 terminal is fully optimized and functioning at maximum capacity by 2025, the rail
26 yard would transport approximately 30 percent of the terminal's expected
27 throughput, which would reduce truck traffic on public streets within the Project
28 vicinity. Containers from Berths 136-147 would be trucked to the new rail yard via
29 internal roads; public streets would not be affected.

30 Terminal operations would be subject to safety regulations that govern the storage
31 and handling of hazardous materials, which would limit the severity and frequency of
32 potential releases of hazardous materials resulting in increased exposure of people to
33 health hazards (i.e., Port RMP, USCG and LAFD regulations and requirements, and
34 DOT regulations). For example, as discussed in Section 3.7.3.1, List of Regulations,
35 and summarized below, the USCG maintains a HMSD, under the jurisdiction of the
36 federal Department of Homeland Security (33 CFR 126), which develops standards
37 and industry guidance to promote the safety of life and protection of property and the
38 environment during marine transportation of hazardous materials. In addition, the
39 DOT Hazardous Materials Regulations (Title 49 CFR Parts 100-185) regulate almost
40 all aspects of terminal operations. Parts 172 (Emergency Response), 173 (Packaging
41 Requirements), 174 (Rail Transportation), 176 (Vessel Transportation), 177
42 (Highway Transportation), 178 (Packaging Specifications) and 180 (Packaging
43 Maintenance) would all apply to the alternative project activities.

44 Terminal maintenance activities would involve the use of hazardous materials such as
45 petroleum products, solvents, paints, and cleaners. Quantities of hazardous materials
46 that exceed the thresholds provided in Chapter 6.95 of the California Health and Safety

Code would be subject to an RRP and HMI. Implementation of increased inventory accountability and spill prevention controls associated with this RRP and HMI would limit both the frequency and severity of potential releases of hazardous materials. Based on the limited volumes that could potentially spill, quantities of hazardous materials utilized at Berths 136-147 that are below the thresholds of Chapter 6.95 would not likely result in a substantial release into the environment.

CEQA Impact Determination

Because projected terminal operations under Alternative 3 would accommodate approximately a 168 percent increase in containerized cargo compared to the CEQA Baseline, the potential for an accidental release or explosion of hazardous materials would also be expected to increase proportionally. Based on the Port's accident history of containers containing hazardous materials, which includes six incidents (five spills and one explosion) over a seven year period, the frequency of project-related spills can be estimated as follows:

Table 3.7-15. Existing and Projected Cargo Throughput Volumes at Berths 136-147

<i>Operations</i>	<i>Overall Throughput (TEUs)¹</i>	<i>Increase in TEUs (%)</i>	<i>Potential Spills (per year)</i>
POLA Baseline (2003)	4,977,818	NA	3.7
Project Baseline (2003)	891,976	NA	0.5
Alternative 3	2,035,000	128%	1.1
<i>Note: 1. TEUs = twenty-foot equivalent units</i>			

Based on the projected increase in TEUs, the frequency of potential Alternative 3-related spills would increase to 1.1 from 0.5 spills per year, or about one spill per year. This spill frequency would be classified as "frequent" (once per year). Because, based on past history, a slight possibility exists for injury and or property damage to occur during one of these frequent accidents, the consequence of such accidents is classified as "slight," resulting in a Risk Code of 4 that is "acceptable." It should be noted that there were no impacts to the public from any of the hazardous materials spills that were reported during the 1997-2004 period. Compliance with applicable federal, state, and local laws and regulations governing the transport of hazardous materials and emergency response to hazardous material spills, as described above, would minimize the potentials for adverse public health impacts. Therefore, under CEQA, Alternative 3 operations would not substantially increase the probable frequency and severity of consequences to people or property as a result of an accidental release or explosion of a hazardous substance. Impacts would be less than significant under criterion **RISK-1**.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

Because Alternative 3 would result in greater container throughput compared to the No Federal Action/NEPA Baseline, operational impacts would correspondingly be greater. An overall increase in TEUs would result in proportionally greater hazardous materials containers subject to accidental release or explosion as follows:

Table 3.7-16. Existing and Projected Cargo Throughput Volumes at Berths 136-147

<i>Operations</i>	<i>Overall Throughput (TEUs)¹</i>	<i>Increase in TEUs (%)</i>	<i>Potential Spills (per year)</i>
POLA Baseline (2003)	7,178,940	NA	3.7
Project Baseline (2015)	1,491,100	NA	0.8
Alternative 3	2,035,000	36%	1.1
<i>Note:</i> 1. TEUs = twenty-foot equivalent units			

Based on the projected increase in TEUs, the frequency of Alternative 3-related spills would increase to 1.1 from 0.8 spills per year, or remain about one spill per year. This spill frequency would be classified as “frequent” (more than once a year). Because, based on past history, a slight possibility exists for injury and or property damage to occur during one of these frequent accidents, the potential consequence of such accidents is classified as “slight,” resulting in a Risk Code of 4 that is “acceptable.” It should be noted that there were no impacts to the public from any of the hazardous materials spills that were reported during the 1997-2004 period. Compliance with applicable federal, state, and local laws and regulations governing the transport of hazardous materials and emergency response to hazardous material spills, as described above, would minimize the potentials for adverse public health impacts. Therefore, under NEPA, Alternative 3 operations would not substantially increase the probable frequency and severity of consequences to people or property as a result of a potential accidental release or explosion of a hazardous substance. Impacts would be less than significant under criterion **RISK-1**.

Mitigation Measures

No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

1 **Impact RISK-2b: Alternative 3 operations would not substantially**
2 **increase the probable frequency and severity of consequences to**
3 **people or property from exposure to health hazards.**

4 Alternative 3 would include siting facilities that would potentially handle hazardous
5 materials and increase other hazards to the public. The handling and storing of
6 hazardous materials would increase the probability of a local accident involving a
7 release, spill, fire or explosion, which is proportional to the size of the terminal and
8 its throughput as was addressed in Impact Risk 1b.

9 Because projected terminal operations at Berths 136-147 would accommodate
10 approximately a 168 percent increase in containerized cargo compared to the CEQA
11 Baseline, the potential for increased truck transportation-related accidents would also
12 occur. Potential project-related increases in truck trips could result in an increase in
13 vehicular accidents, injuries and fatalities. Therefore, potential impact of increased
14 truck traffic on regional injury and fatality rates have been evaluated.

15 According to an FMCSA detailed analysis (FMCSA 2001), the estimated non-
16 hazardous materials truck accident rate is more than twice the hazardous materials
17 truck accident rate. The non-hazardous materials truck accident rate was estimated to
18 be 0.73 accidents per million vehicle miles and the average hazardous materials truck
19 accident rate was estimated to be 0.32 accidents per million vehicle miles. The
20 hazardous material truck accident rate is not directly applicable to the alternative
21 project container trucks since they are generally limited to bulk hazardous material
22 carriers. Therefore, for this analysis, the higher accident rate associated with non-
23 hazardous material trucks was used.

24 Based on the NHTSA (DOT, 2003), of the estimated 457,000 truck crashes in 2000
25 (causing fatalities, injuries, or property damage), an estimated 1 percent produced
26 fatalities and 22 percent produced injuries. The FARS and the TIFA survey were the
27 sources of data for this analysis, which primarily examined fatalities associated with
28 vehicle impact and trauma.

29 Based on these statistics and the projected truck trips for the existing facilities and
30 alternative project, the potential rate of truck accidents, injuries and fatalities can be
31 evaluated.

32 **CEQA Impact Determination**

33 Potential project-related truck accident rates can be estimated based on national
34 average accident rates and the average number of miles per cargo truck trip. Based
35 on the port's air pollutant emission inventory, it was determined that the average
36 truck trip was approximately 49 miles (Starcrest Consulting Group 2003). Given the
37 annual number of truck trips, the average distance of each trip, and the published
38 accident, injury and fatality rates, the following probabilities were estimated:

Table 3.7-17. Existing and Projected Truck Trips at Berths 136-147

<i>Operations</i>	<i>Annual Truck Trips</i>	<i>Increase (%)</i>	<i>Accident Rate (per year)</i>	<i>Injury Probability (per year)</i>	<i>Fatality Probability (per year)</i>
Baseline	1,197,589	NA	42.8	9.4	0.4
Alternative 3	1,456,293	13%	52.0	11.4	0.5

1 Numerous truck accidents occur each year and are therefore considered a “frequent”
 2 event. Because the possibility exists for injury and/or fatality to occur during one of
 3 these frequent accidents as noted in Table 3.7-17, the potential consequence of such
 4 accidents is classified as “severe” since the potential number of injuries would
 5 increase to 11.4 from a baseline of 9.4, resulting in a Risk Code of 2 that is
 6 “undesirable” and requires additional engineering or administrative controls.

7 The Port is currently developing a Port-wide TMP for roadways in and around its
 8 facilities. Present and future traffic improvement needs are being determined based on
 9 existing and projected traffic volumes. The results will be a TMP providing ideas on
 10 what to expect and how to prepare for the future volumes. Some of the transportation
 11 improvements already under consideration include: I-110/SR-47/Harbor Boulevard
 12 interchange improvements; Navy Way connector (grade separation) to westbound
 13 Seaside Ave.; south Wilmington grade separations; and additional traffic capacity
 14 analysis for the Vincent Thomas Bridge. In addition, the Port is working on several
 15 strategies to increase rail transport, which will reduce reliance on trucks. These projects
 16 would serve to reduce the frequency of truck accidents.

17 In addition, the Port is currently phasing out older trucks as part of the TMP, and the
 18 TWIC program will also help identify and exclude truck drivers that lack the proper
 19 licensing and training. The phasing out of older trucks would reduce the probability
 20 of accidents that occur as a result of mechanical failure by approximately 10 percent
 21 (ADL 1990). In addition, proper driver training, or more specifically, the reduction
 22 in the number of drivers that do not meet minimum training specifications, would
 23 reduce potential accidents by approximately 30 percent. Since these programs will
 24 be implemented prior to the alternative project expansion, the potential number of
 25 injuries would be reduced to approximately 9.3, which would reduce the
 26 consequence classification to “moderate” and a Risk Code to 3 or less, as required by
 27 under Risk Code 2.

28 Therefore, under CEQA, Alternative 3 operations would not substantially increase
 29 the probable frequency and severity of consequences to people from exposure to
 30 health hazards and would meet criterion **RISK-2** and impacts would be considered
 31 less than significant under criterion **RISK-2**.

32 ***Mitigation Measure***

33 No mitigation is required.

Residual Impacts

With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

Alternative 3 would result in upgrades of existing wharves and construction of new wharves, which in turn would result in an increase in TEUs and truck trips, in comparison to the No Federal Action/NEPA Baseline, as described under the NEPA Impact Determination for **Impact Risk 1b**. Given the annual number of truck trips, the average distance of each trip, and the published accident, injury and fatality rates, the following probabilities were estimated:

Table 3.7-18. Existing and Projected Truck Trips at Berths 136-147

<i>Operations</i>	<i>Annual Truck Trips</i>	<i>Increase (%)</i>	<i>Accident Rate (per year)</i>	<i>Injury Probability (per year)</i>	<i>Fatality Probability (per year)</i>
Baseline (2015)	1,291,247	NA	46.1	10.1	0.5
Alternative 3	1,456,293	13%	52.0	11.4	0.5

Numerous truck accidents occur each year and are therefore considered a “frequent” event. Because the possibility exists for injury and/or fatality to occur during one of these frequent accidents as noted in Table 3.7-18, the potential consequence of such accidents is classified as “severe” since the potential number of injuries would increase to 11.4 from a baseline of 10.1, resulting in a Risk Code of 2 that is “undesirable” and requires additional engineering or administrative controls.

The Port is currently developing a Port-wide TMP for roadways in and around its facilities. Present and future traffic improvement needs are being determined based on existing and projected traffic volumes. The results will be a TMP providing ideas on what to expect and how to prepare for the future volumes. Some of the transportation improvements already under consideration include: I-110/SR-47/Harbor Boulevard interchange improvements; Navy Way connector (grade separation) to westbound Seaside Ave.; south Wilmington grade separations; and additional traffic capacity analysis for the Vincent Thomas Bridge. In addition, the Port is working on several strategies to increase rail transport, which will reduce reliance on trucks. These projects would serve to reduce the frequency of truck accidents.

In addition, the Port is currently phasing out older trucks as part of the TMP, and the TWIC program will also help identify and exclude truck drivers that lack the proper licensing and training. The phasing out of older trucks would reduce the probability of accidents that occur as a result of mechanical failure by approximately 10 percent (ADL 1990). In addition, proper driver training, or more specifically, the reduction in the number of drivers that do not meet minimum training specifications, would reduce potential accidents by approximately 30 percent. Since these programs will be implemented prior to the alternative project expansion, the potential number of injuries would be reduced to approximately 9.3, which would reduce the

1 consequence classification to “moderate” and a Risk Code to 3 or less, as required by
2 under Risk Code 2.

3 Therefore, under NEPA, Alternative 3 operations would not substantially increase the
4 probable frequency and severity of consequences to people from exposure to health
5 hazards and would meet criterion **RISK-2** and potential impacts would be considered
6 less than significant.

7 *Mitigation Measures*

8 No mitigation is required.

9 *Residual Impacts*

10 With no mitigation required, the residual impacts would be less than significant.

11 **Impact RISK-3b: Alternative 3 operations would not substantially interfere** 12 **with any existing emergency response plans or emergency evacuation** 13 **plans.**

14 Alternative 3 would consolidate the Berths 136-147 area into a single terminal and
15 optimize terminal operations by increasing backland capacity, seismically retrofitting
16 existing wharves, constructing an on-dock ICTF, and implementing transportation
17 infrastructure improvements. The Berths 136-147 Terminal would continue to operate
18 as a container terminal; therefore, proposed terminal operations would not interfere
19 with any existing contingency plans, since the current activities are consistent with
20 the contingency plans and the alternative project would not add any additional
21 activities that would be inconsistent with these plans. Proposed transportation system
22 improvements (i.e., widening of Harry Bridges Boulevard) would reduce vehicular
23 traffic delays, improving emergency response in the Project area. In addition, existing
24 oil spill contingency and emergency response plans for the site would be revised to
25 incorporate proposed facility and operation changes. Because existing management
26 plans are commonly revised to incorporate terminal operation changes, conflicts with
27 existing contingency and emergency response plans are not anticipated.

28 All Berths 136-147 facilities personnel, including dock laborers and equipment
29 operators, would be trained in emergency response and evacuation procedures. The site
30 would be secured, with access allowed only to authorized personnel. The LAFD and
31 Port Police would be able to provide adequate emergency response services to the site.
32 Additionally, Alternative 3 operations would also be subject to emergency response and
33 evacuation systems implemented by the LAFD, which would review all plans to ensure
34 that adequate access in the Project vicinity is maintained. All Alternative 3 contractors
35 would be required to adhere to plan requirements.

36 **CEQA Impact Determination**

37 Because the terminal would continue to be operated as a container terminal, proposed
38 road improvements would reduce traffic congestion, and Alternative 3 operations
39 would be subject to emergency response and evacuation systems implemented by the
40 LAFD, Alternative 3 operations would not interfere with any existing emergency

1 response or emergency evacuation plans or increase the risk of injury or death.
2 Therefore impacts would be less than significant under CEQA.

3 *Mitigation Measures*

4 No mitigation is required.

5 *Residual Impacts*

6 With no mitigation required, the residual impacts would be less than significant under
7 CEQA.

8 **NEPA Impact Determination**

9 Because the terminal would continue to be operated as a container terminal and
10 Alternative 3 operations would be subject to emergency response and evacuation
11 systems implemented by the LAFD, Alternative 3 operations would not interfere with
12 any existing emergency response or emergency evacuation plans or increase the risk
13 of injury or death. Therefore, impacts would be less than significant under NEPA.

14 *Mitigation Measures*

15 No mitigation is required.

16 *Residual Impacts*

17 With no mitigation required, the residual impacts would be less than significant under
18 NEPA.

19 **Impact RISK-4b: Alternative 3 operations would comply with applicable**
20 **regulations and policies guiding development within the Port.**

21 Alternative 3 operations would be subject to numerous regulations for operation of
22 the proposed facilities. LAHD has implemented various plans and programs to
23 ensure compliance with these regulations, which must be adhered to during operation
24 of this alternative. For example, as discussed in Section 3.7.3.1, List of Regulations,
25 the USCG maintains a HMSD, under the jurisdiction of the federal Department of
26 Homeland Security (33 CFR 126), which develops standards and industry guidance
27 to promote the safety of life and protection of property and the environment during
28 marine transportation of hazardous materials.

29 Among other requirements, Alternative 3 operations would conform to the USCG
30 requirement to provide a segregated cargo area for containerized hazardous materials.
31 Terminal cargo operations involving hazardous materials are also governed by the
32 LAFD in accordance with regulations of state and federal departments of
33 transportation (49 CFR 176). The transport of hazardous materials in containers on
34 the street and highway system is regulated by Caltrans procedures and the
35 Standardized Emergency Management System prescribed under Section 8607 of the
36 California Government Code. These safety regulations strictly govern the storage of
37 hazardous materials in containers (i.e., types of materials and size of packages

1 containing hazardous materials). In addition, any facility constructed at the site,
2 identified as either a hazardous cargo facility or a vulnerable resource, would be
3 required to conform to the RMP, which includes packaging constraints and the
4 provision of a separate storage area for hazardous cargo.

5 LAHD maintains compliance with these state and federal laws through a variety of
6 methods, including internal compliance reviews, preparation of regulatory plans, and
7 agency oversight. Most notably, the Port RMP implements development guidelines in
8 an effort to minimize the danger of accidents to vulnerable resources. This would be
9 achieved mainly through physical separation as well as through facility design features,
10 fire protection, and other risk management methods. There are two primary categories of
11 vulnerable resources, people, and facilities. People are further divided into subgroups.
12 The first subgroup is comprised of residences, recreational users, and visitors. Within
13 the Port setting, residences and recreational users are considered vulnerable resources.
14 The second subgroup is comprised of workers in high density (i.e., generally more than
15 10 people per acre, per employer).

16 Facilities that are vulnerable resources include Critical Regional Activities/Facilities
17 and High Value Facilities. Critical Regional Activities/Facilities are facilities in the
18 Port that are important to the local or regional economy, the national defense, or some
19 major aspect of commerce. These facilities typically have a large quantity of unique
20 equipment, a very large working population, and are critical to both the economy and to
21 national defense. Such facilities in the Port have been generally defined in the Port
22 RMP as the former Todd Shipyard, Fish Harbor, Badger Avenue Bridge, and Vincent
23 Thomas Bridge.

24 High Value Facilities are non-hazardous facilities, within and near the Ports, which
25 have very high economic value. These facilities include both facility improvements and
26 cargo in-place, such as container storage areas. However, the determination of a
27 vulnerable resource is made by the Port and LAFD on a case-by-case basis. Although
28 the Port generally considers container terminals to be High Value Facilities, these types
29 of facilities have never been considered vulnerable resources in risk analyses completed
30 by the Port and LAFD (personal communication, Dan Knott 2007). The Project would
31 be located immediately adjacent to the ConocoPhillips liquid bulk facility (Berths 148-
32 149) and immediately across Slip 1 from several other liquid bulk facilities (Berths 161-
33 169), at a distance of approximately 400 to 800 feet. Because container terminals are
34 not considered vulnerable resources, the Project would not conflict with the RMP.

35 Alternative 3 plans and specifications will be reviewed by the LAFD for conformance
36 to the Los Angeles Municipal Fire Code, as a standard practice. Buildings will be
37 equipped with fire protection equipment as required by the Los Angeles Municipal Fire
38 Code. Access to all buildings and adequacy of road and fire lanes will be reviewed by
39 the LAFD to ensure that adequate access and firefighting features are provided.
40 Alternative 3 plans would include an internal circulation system, code-required features,
41 and other firefighting design elements, as approved by the LAFD.

42 Operation of Alternative 3 would be required to comply with all existing hazardous
43 waste laws and regulations, including the federal RCRA and CERCLA, and CCR
44 Title 22 and Title 26. Alternative 3 operations would comply with these laws and

1 regulations, which would ensure that potential hazardous materials handling would
2 occur in an acceptable manner.

3 **CEQA Impact Determination**

4 The terminal would not conflict with RMP guidelines. Alternative 3 plans and
5 specifications will be reviewed by the LAFD for conformance to the Los Angeles
6 Municipal Fire Code, and operation of Alternative 3 would be required to comply
7 with all existing hazardous waste laws and regulations. Therefore, under CEQA,
8 Alternative 3 operations would comply with applicable regulations and policies
9 guiding development within the Port. Impacts would be less than significant.

10 *Mitigation Measures*

11 No mitigation is required.

12 *Residual Impacts*

13 With no mitigation required, the residual impacts would be the less than significant.

14 **NEPA Impact Determination**

15 The terminal would not conflict with RMP guidelines. Alternative 3 plans and
16 specifications will be reviewed by the LAFD for conformance to the Los Angeles
17 Municipal Fire Code, and operation of Alternative 3 would be required to comply
18 with all existing hazardous waste laws and regulations. Therefore, under NEPA,
19 Alternative 3 operations would comply with applicable regulations and policies
20 guiding development within the Port. Impacts would be less than significant.

21 *Mitigation Measures*

22 No mitigation is required.

23 *Residual Impacts*

24 With no mitigation required, the residual impacts would be less than significant.

25 **Impact RISK-5b: Tsunami-induced flooding would result in fuel**
26 **releases from ships or hazardous substances releases from containers,**
27 **which in turn would result in risks to persons and/or the environment.**

28 As discussed in section 3.5, there is the potential for a large tsunami to impact the Port.
29 A large tsunami would likely lead to a fuel spill if a moored vessel is present. Although
30 crude oil tankers would not moor at Berths 136-147, each ship contains large quantities
31 of fuel oil. While in transit, the hazards posed to tankers are insignificant, and in most
32 cases, imperceptible. However, while docked, a tsunami striking the Port could cause
33 significant ship movement and even a hull breach if the ship is pushed against the wharf.

34 The Port is subject to diurnal tides, meaning two high tides and two low tides during a
35 24-hour day. The average of the lowest water level during low tide periods each day is

1 typically set as a benchmark of 0 ft (0 m) and is defined as Mean Lower Low Water level
2 (MLLW). For purposes of this discussion, all proposed Project structures and land
3 surfaces are expressed as height above (or below) MLLW. The mean sea level (MSL) in
4 the Port is +2.8 ft (0.86 m) above MLLW (NOAA 2005). This height reflects the
5 arithmetic mean of hourly heights observed over the National Tidal Datum Epoch (19
6 years) and therefore reflects the mean of both high and low tides in the Port. The
7 recently developed Port Complex model described in Section 3.5.2 predicts tsunami
8 wave heights with respect to MSL, rather than MLLW, and therefore can be considered a
9 reasonable average condition under which a tsunami might occur. The Port MSL of
10 +2.82 ft (0.86 m) must be considered in comparing projected tsunami run-up (i.e.,
11 amount of wharf overtopping and flooding) to proposed wharf height and topographic
12 elevations, which are measured with respect to MLLW.

13 A reasonable worst-case scenario for generation of a tsunami or seiche in the San Pedro
14 Bay Ports include the recently developed Port Complex model, which predicts tsunami
15 wave heights of 1.3 to 5.3 ft (0.4 to 1.6 m)) above MSL at the proposed Project site,
16 under both earthquake and landslide scenarios. Incorporating the Port MSL of +2.82 ft
17 (0.86 m), the model predicts tsunami wave heights of 4.1 to 8.1 ft (0.8 to 2.4 m) above
18 MLLW at the proposed Project site. Because the proposed Project site elevation ranges
19 from 10 to 15 ft (3.0 to 4.6 m) above MLLW, localized tsunami-induced flooding would
20 not occur.

21 While the analysis above considers a reasonable worst-case seismic scenario based on a
22 maximum seismic event, with respect to MSL, a theoretical maximum worst-case wave
23 action from a tsunami would result if the single highest tide predicted over the next 40
24 years at the San Pedro Bay Ports was present at the time of the seismic event. The single
25 highest tide predicted over the next 40 years is 7.3 ft (2.2 m) above MLLW. This
26 condition is expected to occur less than 1 percent of the time over this 40-year period. If
27 that very rare condition were to coincide with a maximum tsunami event, the model
28 predicts tsunami wave heights of 8.6 to 12.6 ft (2.6 to 3.8 m) above MLLW at the
29 proposed Project site. Because the proposed Project site elevation ranges from 10 to 15
30 ft (3.0 to 4.5 m) above MLLW, localized tsunami-induced flooding up to 2.6 ft (0.8 m) is
31 possible. To determine the extent of potential impacts due to tsunami-induced flooding,
32 Port structural engineers have determined that Port reinforced concrete or steel structures
33 designed to meet California earthquake protocols incorporated into MOTEMS would be
34 expected to survive complete inundation in the event of a tsunami (personal
35 communication, Yin, P., P.E., Senior Structural Engineer, LAHD 2006). However,
36 substantial infrastructure damage and/or injury to personnel would occur as a result of
37 complete site inundation.

38 As previously discussed, there is a potential for tsunami-induced flooding under the
39 theoretical maximum worst-case scenario. However, the likelihood of a large tsunami is
40 very low during operation of the proposed Project and the overall probability of this
41 worst-case scenario is less than one in a 100,000 year period.

42 The most likely worst-case tsunami scenario was based partially on a magnitude 7.6
43 earthquake on the offshore Santa Catalina Fault. The recurrence interval for a magnitude
44 7.5 earthquake along an offshore fault in the Southern California Continental Borderland
45 is about 10,000 years. Similarly, the recurrence interval of a magnitude 7.0 earthquake is
46 about 5,000 years and the recurrence interval of a magnitude 6.0 earthquake is about 500

1 years. However, there is no certainty that any of these earthquake events would result in
2 a tsunami, since only about 10 percent of earthquakes worldwide result in a tsunami. In
3 addition, available evidence indicates that tsunamigenic landslides would be extremely
4 infrequent and occur less often than large earthquakes. This suggests recurrence
5 intervals for such landslide events would be longer than the 10,000-year recurrence
6 interval estimated for a magnitude 7.5 earthquake (Moffatt and Nichol 2007). As noted
7 above, the probability of the worst-case combination of a large tsunami and extremely
8 high tides would be less than once in a 100,000-year period.

9 Containers of hazardous substances on ships or on berths could similarly be damaged as
10 a result of a large tsunami. Such damage would result in releases of both hazardous and
11 non-hazardous cargo to the environment, adversely impacting persons and/or the marine
12 waters. However, containers carrying hazardous cargo would not necessarily release
13 their contents in the event of a large tsunami. The DOT regulations (49 CFR Parts 172-
14 180) covering hazardous material packaging and transportation would minimize
15 potential release volumes since packages must meet minimum integrity specifications
16 and size limitations.

17 The owner or operators of tanker vessels are required to have an approved Tank Vessel
18 Response Plan on board and a qualified individual within the U.S. with full authority to
19 implement removal actions in the event of an oil spill incident, and to contract with the
20 spill response organizations to carry out cleanup activities in case of a spill. The existing
21 oil spill response capabilities in the POLA/POLB are sufficient to isolate spills with
22 containment booms and recover the maximum possible spill from an oil tanker within the
23 Port.

24 Various studies have shown that double-hull tank vessels have lower probability of
25 releases when tanker vessels are involved in accidents. Because of these studies, the
26 USCG issued regulations addressing double-hull requirements for tanker vessels. The
27 regulations establish a timeline for eliminating single-hull vessels from operating in the
28 navigable waters or the EEZ of the U.S. after January 1, 2010 and double-bottom or
29 double-sided vessels by January 1, 2015. Only vessels equipped with a double hull, or
30 with an approved double containment system will be allowed to operate after those
31 times. It is unlikely that single-hull vessels will utilize the Alternative 3 terminal
32 facilities given the current schedule and the planned phase-out of these vessels.

33 **CEQA Impact Determination**

34 Impacts due to seismically induced tsunamis and seiches are typical for the entire
35 California coastline and would not be increased by construction of Alternative 3.
36 However, because the Alternative 3 elevation is located within 10 to 15 feet (3 to 4.6 m)
37 above MLLW and projects in the construction phase are especially vulnerable to tsunami
38 damage due to the presence of unfinished structures, there is a substantial risk of coastal
39 flooding due to tsunamis and seiches, which in turn, could result in accidental spills of
40 petroleum products or hazardous substances. Because a major tsunami is not expected
41 during the life of Alternative 3, but could occur (see Section 3.5, Geology for additional
42 information on the probability of a major tsunami), the probability of a major tsunami
43 occurring is classified as “improbable” (less than once every 10,000 years). The
44 potential consequence of such an event is classified as “moderate,” resulting in a Risk
45 Code of 4 that is “acceptable.” The volume of spilled fuel is also expected to be

1 relatively low. While there will be fuel containing equipment present during
2 construction, most equipment is equipped with watertight tanks, with the main problem
3 being the infiltration of water into the tank and fuel combustion chambers. Thus, the
4 volume spilled in the event of a tsunami would be less than 10,000 gallons, which is
5 considered minor. In light of such a low probability and acceptable risk of a large
6 tsunami, Alternative 3 impacts would be less than significant as they pertain to hazardous
7 materials spills under criterion **RISK-5**.

8 *Mitigation Measures*

9 No mitigation is required.

10 *Residual Impacts*

11 With no mitigation required, the residual impacts would be less than significant.

12 **NEPA Impact Determination**

13 Impacts due to seismically induced tsunamis and seiches are typical for the entire
14 California coastline and would not be increased by construction of Alternative 3.
15 However, because Alternative 3 elevations are located within 10 to 15 feet (3 to 4.6 m)
16 above MLLW and projects in the construction phase are especially vulnerable to tsunami
17 damage due to the presence of unfinished structures, there is a substantial risk of coastal
18 flooding due to tsunamis and seiches, which in turn, could result in accidental spills of
19 petroleum products or hazardous substances. Because a major tsunami is not expected
20 during the life of Alternative 3, but could occur (see Section 3.5, Geology for additional
21 information on the probability of a major tsunami), the probability of a major tsunami
22 occurring is classified as “improbable” (less than once every 10,000 years). The
23 potential consequence of such an event is classified as “moderate,” resulting in a Risk
24 Code of 4 that is “acceptable.” In light of such a low probability and acceptable risk of a
25 large tsunami, Alternative impacts would be less than significant under criterion **RISK-**
26 **5**.

27 *Mitigation Measures*

28 No mitigation is required.

29 *Residual Impacts*

30 With no mitigation required, the residual impacts would be less than significant.

31 **Impact RISK-6b: A potential terrorist attack would result in adverse**
32 **consequences to areas near the Alternative 3 site during the operations**
33 **period.**

34 ***Risk of Terrorist Actions associated with Operations***

35 The probability of a terrorist attack on the alternative project facilities is not likely to
36 appreciably change over the existing baseline. It is possible that the increase in

1 vessel traffic in the vicinity of the Berths 136-147 Terminal could lead to a greater
2 opportunity of a successful terrorist attack; however, existing Port security measures
3 would counter this potential increase in unauthorized access to the terminal.

4 ***Consequences of Terrorist Attack***

5 The risks associated with terrorism discussed in Section 3.7.2.4 would apply to the
6 terminal during operations. The potential consequences of a terrorist action on a
7 container terminal would be mainly environmental and economic. A terrorist action
8 involving a container vessel while at berth may result in a fuel and/or commodity spill
9 and its associated environmental damage. Within the Port, a terrorist action could block
10 key waterways and result in economic disruption. Potential environmental damage
11 would include fuel and/or commodity spills into the marine environment, with associated
12 degradation of water quality and damage to marine biological resources. Container ships
13 typically carry up to 5,000 barrels of fuel oil but would not be full when arriving at the
14 port. These impacts would be limited to the area surrounding the point of attack and
15 would be contained by the relevant oil spill response contractor. A potential fire
16 associated with a terrorist attack could result in short-term impacts to local air quality.

17 The consequences associated with the smuggling of weapons of mass destruction would
18 be substantial in terms of impacts to the environment and public health and safety.
19 However, the consequences of a WMD attack would not be affected by the alternative.
20 Furthermore, the likelihood of such an event would not be impacted by alternative-
21 related infrastructure or throughput increases, but would depend on the terrorist's
22 desired outcome and the ability of safeguards, unaffected by the alternative, to thwart it.
23 Cargo containers represent only one of many potential methods to smuggle weapons of
24 mass destruction, and with current security initiatives (see Section 3.7.2.5) may be less
25 plausible than other established smuggling routes (e.g., land-based ports of entry, cross
26 border tunnels, illegal vessel transportation, etc.).

27 **CEQA Impact Determination**

28 Potential public safety consequences of a terrorist attack on the Berths 136-147
29 Terminal for the alternative project are considered negligible since, in the event of a
30 successful attack, the potential for a small number of offsite injuries are possible
31 mainly due to fire, which in turn would be a result of fuel spilled into Port waters.
32 Potential thermal radiation and explosion overpressure levels would be limited to the
33 immediate vicinity of the attack and would not overlap any existing, planned, or
34 permitted vulnerable resources; nevertheless, the potential for limited public exposure
35 along Port waterways is possible.

36 The risk of a terrorist attack is considered part of the baseline for the project alternative.
37 Terrorism risk associated with container terminals currently exists, and is not influenced
38 by changes in container traffic volume. Currently, the Berths 136-147 Terminal
39 handles approximately 3.1 percent of the national containerized cargo and 8.5 percent
40 of the POLA/POLB cargo volume (based on MARAD 2005b; Parsons 2006). With
41 the implementation of the alternative, and compared to regional and national growth
42 projections, the relative importance of the alternative will decrease to 2.7 percent of
43 national containerized cargo throughput, but decrease to 4.8 of the POLA/POLB

1 cargo volume (based on projections in MARAD 2005b; Parsons 2006). Overall,
2 growth at the Berths 136-147 Terminal would not increase disproportionately as
3 compared to regional (POLA/POLB) and national container terminals growth, and
4 would, therefore, not change the relative importance of the terminal as a terrorist target.

5 An increase in the volume of container vessels visiting the terminal would not change the
6 probability or consequences of a terrorist attack on the Berths 136-147 Terminal since
7 the terminal is already considered a potential economic target, as well as a potential
8 mode to smuggle a weapon into the United States. In addition, the measures outlined in
9 Section 3.7.2.5 would serve to reduce the potential for a successful terrorist attack on the
10 Berths 136-147 facility as compared to project baseline conditions (under which many
11 of these measures had not yet been implemented). These measures have since improved
12 both terminal and cargo security, and have resulted in enhanced cargo screening.
13 Therefore, potential impacts associated with a potential terrorist attack on the Berths
14 136-147 facility are considered less than significant.

15 *Mitigation Measures*

16 As terrorism impacts are less than significant, no mitigation is required.

17 *Residual Impacts*

18 With no mitigation required, residual impacts would be less than significant.

19 **NEPA Impact Determination**

20 Potential impacts under NEPA would be that same as under CEQA and are
21 considered less than significant.

22 *Mitigation Measures*

23 As terrorism impacts are less than significant, no mitigation is required.

24 *Residual Impacts*

25 With no mitigation required, residual impacts would be less than significant

26 **3.7.4.3.2.4 Alternative 4 – Omni Terminal**

27 **3.7.4.3.2.4.1 Construction Impacts**

28 **Impact RISK-1a: Phase I/II construction/demolition activities would not**
29 **substantially increase the probable frequency and severity of**
30 **consequences to people or property as a result of accidental release or**
31 **explosion of a hazardous substance.**

32 Development under the Omni Terminal alternative (Alternative 4) would not include
33 dredging or any in-water activities (i.e., wharf construction/renovation, deepening

1 navigation channels, and construction of the 10-acre Northwest Slip and adjacent
2 wharf). A lack of in-water activities would reduce the overall use of petroleum
3 products and hazardous materials used during construction. Therefore, the potential for
4 an accidental release of hazardous materials and/or contamination of soil or water,
5 and/or an accidental release from a fire or explosion would be reduced during
6 construction compared to the proposed Project. Therefore, construction impacts would
7 be similar but less than those described for the proposed Project.

8 Construction equipment could spill oil, gas, or fluids during normal usage or during
9 refueling, resulting in potential health and safety impacts to not only construction
10 personnel, but to people and property occupying operational portions of the site, as
11 Berths 136-147 Terminal would be operating during Phase I/II construction
12 activities. BMPs and Los Angeles Municipal Code regulations (Chapter 5, Section
13 57, Division 4 and 5; Chapter 6, Article 4) would govern Phase I/II construction and
14 demolition activities. Federal and state regulations that govern the storage of
15 hazardous materials in containers (i.e., the types of materials and the size of packages
16 containing hazardous materials) and the separation of containers containing
17 hazardous materials, would limit the potential adverse impacts of contamination to a
18 relatively small area. In addition, standard BMPs would be used during construction
19 and demolition activities to minimize runoff of contaminants, in compliance with the
20 State General Permit for Storm Water Discharges Associated with Construction
21 Activity (Water Quality Order 99-08-DWQ) and project-specific SWPPP (see
22 Section 3.13, Water Quality, Sediments, and Oceanography for more information).

23 **CEQA Impact Determination**

24 Implementation of construction and demolition standards, including BMPs, would
25 minimize the potential for an accidental release of petroleum products and/or hazardous
26 materials and/or explosion during Phase I/II construction/demolition activities at Berths
27 136-147. Because construction/demolition related spills are not uncommon, the
28 probability of a spill occurring is classified as “frequent” (more than once a year).
29 However, because such spills are typically short-term and localized, mainly due to the
30 fact that the volume in any single vehicle is generally less than 50 gallons and fuel trucks
31 are limited to 10,000 gallons or less, the potential consequence of such accidents is
32 classified as “slight” resulting in a Risk Code of 4 that is “acceptable.” Therefore, under
33 CEQA, Alternative 4 construction and demolition activities would not substantially
34 increase the probable frequency and severity of consequences to people or property as a
35 result of an accidental release or explosion of a hazardous substance. Based on criterion
36 **RISK-1**, impacts would be less than significant.

37 *Mitigation Measures*

38 No mitigation is required.

39 *Residual Impacts*

40 With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

Under this alternative, no development would occur within the in-water Project area (i.e., no dredging, filling of the Northwest Slip or new wharf construction). Therefore, there would be no federal action and an impact determination is not applicable.

Mitigation Measures

Due to No Federal Action, mitigation is not applicable. No mitigation is required.

Residual Impacts

No impact.

Impact RISK-2a: Phase I/II construction/demolition activities would not substantially increase the probable frequency and severity of consequences to people from exposure to health hazards.

Development under this alternative would not include dredging or any in-water activities (i.e., wharf construction/renovation, deepening navigation channels, and construction of the 10-acre Northwest Slip and adjacent wharf). The potential for an accidental release of hazardous materials and/or contamination of soil or water, and/or an accidental release from a fire or explosion would be reduced during construction compared to the proposed Project. Therefore, this alternative would reduce the potential for health hazards as a result of an accidental release of hazardous materials and/or contamination of soil or water.

Construction and demolition activities would be conducted using BMPs and in accordance with the Los Angeles Municipal Code (Chapter 5, Section 57, Division 4 and 5; Chapter 6, Article 4). Quantities of hazardous materials that exceed the thresholds provided in Chapter 6.95 of the California Health and Safety Code would be subject to an RRP and HMI. Implementation of increased inventory accountability and spill prevention controls associated with this RRP and HMI, such as limiting the types of materials stored and size of packages containing hazardous materials, would limit both the frequency and severity of potential releases of hazardous materials, thus minimizing potential health hazards and/or contamination of soil or water during construction/ demolition activities. These measures reduce the frequency and consequences of spills by requiring proper packaging for the material being shipped, limits on package size, and thus potential spill size, as well as proper response measures for the materials being handled. Impacts from contamination of soil or water during construction/demolition activities would apply to not only construction personnel, but to people and property occupying operational portions of the Project area, as Berths 136-147 Terminal would be operating during Phase I/II construction activities.

1 Near-surface contaminated soil may be encountered during demolition of the Pier A
2 rail yard, resulting in potential health hazards to demolition and/or construction
3 personnel. See Section 3.6, Groundwater and Soils for more information.

4 **CEQA Impact Determination**

5 Several standard policies regulate the storage of hazardous materials including the
6 types of materials, size of packages containing hazardous materials, and the
7 separation of containers containing hazardous materials. These measures reduce the
8 frequency and consequences of spills by requiring proper packaging for the material
9 being shipped, limits on package size, and thus potential spill size, as well as proper
10 response measures for the materials being handled. Implementation of these
11 preventative measures would minimize the potential for spills to impact members of
12 the public and limit the adverse impacts of contamination to a relatively small area.
13 Because construction/demolition related spills are not uncommon, the probability of a
14 spill occurring is classified as “frequent” (more than once a year). However, because
15 such spills are typically short-term and localized, the potential consequence of such
16 accidents is classified as “slight” resulting in a Risk Code of 4 that is “acceptable.”
17 Therefore, under CEQA, Alternative 4 construction/demolition activities at Berths
18 136-147 would not substantially increase the probable frequency and severity of
19 consequences to people from exposure to health hazards. Based on risk criterion
20 **RISK-2**, impacts would be less than significant.

21 *Mitigation Measures*

22 No mitigation is required.

23 *Residual Impacts*

24 With no mitigation required, the residual impacts would be less than significant.

25 **NEPA Impact Determination**

26 Under this alternative, no development would occur within the in-water Project area
27 (i.e., no dredging, filling of the Northwest Slip or new wharf construction).
28 Therefore, there would be no federal action and an impact determination is not
29 applicable.

30 *Mitigation Measures*

31 Due to No Federal Action, mitigation is not applicable. No mitigation is required.

32 *Residual Impacts*

33 No impact.

34 **Impact RISK-3a: Phase I/II construction/demolition activities would not**
35 **substantially interfere with an existing emergency response or evacuation**
36 **plan or increase the risk of injury or death.**

1 Emergency response and evacuation planning is the responsibility of the LAPD, LAFD,
2 Port Police, and USCG. Phase I/II construction and demolition activities would be
3 subject to emergency response and evacuation systems implemented by LAFD. During
4 construction/demolition activities, the LAFD would require that adequate vehicular
5 access to the site be provided and maintained. Prior to commencement of
6 construction/demolition activities, all plans would be reviewed by the LAFD to ensure
7 adequate access is maintained throughout Phase I/II construction/demolition.

8 **CEQA Impact Determination**

9 Alternative 4 contractors would be required to adhere to all LAFD emergency response
10 and evacuation regulations, ensuring compliance with existing emergency response
11 plans. Therefore, under CEQA, Phase I/II construction/demolition activities associated
12 with Alternative 4, would not substantially interfere with an existing emergency
13 response or evacuation plan or increase the risk of injury or death. Impacts would be
14 less than significant.

15 *Mitigation Measures*

16 No mitigation is required.

17 *Residual Impacts*

18 With no mitigation required, the residual impacts would be less than significant.

19 **NEPA Impact Determination**

20 Under this alternative, no development would occur within the in-water Project area
21 (i.e., no dredging, filling of the Northwest Slip or new wharf construction).
22 Therefore, there would be no federal action and an impact determination is not
23 applicable.

24 *Mitigation Measures*

25 Due to No Federal Action, mitigation is not applicable. No mitigation is required.

26 *Residual Impacts*

27 No impact.

28 **Impact RISK-4a: Alternative 4 construction/demolition would comply with** 29 **applicable regulations and policies guiding development within the Port.**

30 As described in Section 3.7.3.1, List of Regulations, the Alternative 4 would be subject
31 to numerous regulations for development and operation of the proposed facilities. For
32 example, construction and demolition would be completed in accordance with RCRA,
33 HSWA, CERCLA, CCR Title 22 and Title 26, and the California Hazardous Waste
34 Control Law, which would govern proper containment, spill control, and disposal of
35 hazardous waste generated during demolition and construction activities.
36 Implementation of increased inventory accountability, spill prevention controls, and

1 waste disposal controls associated with these regulations would limit both the frequency
2 and severity of potential releases of hazardous materials.

3 Potential releases of hazardous substances during demolition and/or construction would
4 be addressed through the federal Emergency Planning and Right-To-Know Act, which
5 is administered in California by the SERC, and the Hazardous Material Release
6 Response Plans and Inventory Law. In addition, demolition and construction would be
7 completed in accordance with the Los Angeles Municipal Fire Code, which regulates
8 the construction of buildings and other structures used to store flammable hazardous
9 materials, and the Los Angeles Municipal Public Property Code, which regulates the
10 discharge of materials into the sanitary sewer and storm drain. The latter requires the
11 construction of spill-containment structures to prevent the entry of forbidden materials,
12 such as hazardous materials, into sanitary sewers and storm drains.

13 LAHD maintains compliance with these federal, state, and local laws through a
14 variety of methods, including internal compliance reviews, preparation of regulatory
15 plans, and agency oversight. LAHD has implemented various plans and programs to
16 ensure compliance with these regulations. These regulations must be adhered to
17 during design and construction of the Project. Implementation of increased spill
18 prevention controls, spill release notification requirements, and waste disposal controls
19 associated with these regulations would limit both the frequency and severity of
20 potential releases of hazardous materials.

21 Construction/demolition activities would be conducted using BMPs in accordance with
22 City guidelines, as detailed in the Development Best Management Practices Handbook
23 (City of Los Angeles 2002a). Applicable BMPs include, but are not limited to, vehicle
24 and equipment fueling and maintenance; material delivery, storage, and use; spill
25 prevention and control; solid and hazardous waste management; and contaminated soil
26 management. Alternative 4 plans and specifications will be reviewed by the LAFD for
27 conformance to the Los Angeles Municipal Fire Code, as a standard practice.
28 Implementation of increased spill prevention controls associated with these BMPs would
29 limit both the frequency and severity of potential releases of hazardous materials.

30 **CEQA Impact Determination**

31 Because Alternative 4 construction/demolition would be completed using standard
32 BMPs and in accordance with LAHD plans and programs, LAFD regulations, and all
33 hazardous waste laws and regulations, impacts relating to compliance with applicable
34 regulations and policies guiding development in the Port would be less than
35 significant under CEQA.

36 ***Mitigation Measures***

37 No mitigation is required.

38 ***Residual Impacts***

39 With no mitigation required, the residual impacts would be less than significant under
40 CEQA.

NEPA Impact Determination

Under this alternative, no development would occur within the in-water Project area (i.e., no dredging, filling of the Northwest Slip or new wharf construction). Therefore, there would be no federal action and an impact determination is not applicable.

Mitigation Measures

Due to No Federal Action, mitigation is not applicable. No mitigation is required.

Residual Impacts

No impact.

Impact RISK-5a: Tsunami-induced flooding would result in fuel releases from demolition/construction equipment or hazardous substances releases from containers, which in turn would result in risks to persons and/or the environment.

As discussed in section 3.5, there is the potential for a large tsunami to impact the Port. A large tsunami would likely lead to a fuel spill from demolition and/or construction equipment, as well as from containers of petroleum products and hazardous substances used during the demolition/construction period. Unfinished structures are especially vulnerable to damage from tsunamis during the construction period.

The Port is subject to diurnal tides, meaning two high tides and two low tides during a 24-hour day. The average of the lowest water level during low tide periods each day is typically set as a benchmark of 0 ft (0 m) and is defined as Mean Lower Low Water level (MLLW). For purposes of this discussion, all Alternative 4 structures and land surfaces are expressed as height above (or below) MLLW. The mean sea level (MSL) in the Port is +2.8 ft (0.86 m) above MLLW (NOAA 2005). This height reflects the arithmetic mean of hourly heights observed over the National Tidal Datum Epoch (19 years) and therefore reflects the mean of both high and low tides in the Port. The recently developed Port Complex model described in Section 3.5.2 predicts tsunami wave heights with respect to MSL, rather than MLLW, and therefore can be considered a reasonable average condition under which a tsunami might occur. The Port MSL of +2.82 ft (0.86 m) must be considered in comparing projected tsunami run-up (i.e., amount of wharf overtopping and flooding) to proposed wharf height and topographic elevations, which are measured with respect to MLLW.

A reasonable worst-case scenario for generation of a tsunami or seiche in the San Pedro Bay Ports include the recently developed Port Complex model, which predicts tsunami wave heights of 1.3 to 5.3 ft (0.4 to 1.6 m) above MSL at the Alternative 4 site, under both earthquake and landslide scenarios. Incorporating the Port MSL of +2.82 ft (0.86 m), the model predicts tsunami wave heights of 4.1 to 8.1 ft (0.8 to 2.4 m) above MLLW at the Alternative 4 site. Because the Alternative 4 site elevation ranges from 10 to 15 ft (3.0 to 4.6 m) above MLLW, localized tsunami-induced flooding would not occur.

1 While the analysis above considers a reasonable worst-case seismic scenario based
2 on a maximum seismic event, with respect to MSL, a theoretical maximum worst-
3 case wave action from a tsunami would result if the single highest tide predicted over
4 the next 40 years at the San Pedro Bay Ports was present at the time of the seismic
5 event. The single highest tide predicted over the next 40 years is 7.3 ft (2.2 m) above
6 MLLW. This condition is expected to occur less than 1 percent of the time over this
7 40-year period. If that very rare condition were to coincide with a maximum tsunami
8 event, the model predicts tsunami wave heights of 8.6 to 12.6 ft (2.6 to 3.8 m) above
9 MLLW at the Alternative 4 site. Because the Alternative 4 site elevation ranges from
10 10 to 15 ft (3.0 to 4.5 m) above MLLW, localized tsunami-induced flooding up to 2.6
11 ft (0.8 m) is possible. To determine the extent of potential impacts due to tsunami-
12 induced flooding, Port structural engineers have determined that Port reinforced
13 concrete or steel structures designed to meet California earthquake protocols
14 incorporated into MOTEMS would be expected to survive complete inundation in the
15 event of a tsunami (personal communication, Yin, P., P.E., Senior Structural
16 Engineer, LAHD 2006). However, substantial infrastructure damage and/or injury to
17 personnel would occur as a result of complete site inundation.

18 As previously discussed, there is a potential for tsunami-induced flooding under the
19 theoretical maximum worst-case scenario. However, the likelihood of a large
20 tsunami is very low during construction of Alternative 4 and the overall probability
21 of this worst-case scenario is less than one in a 100,000-year period.

22 The most likely worst-case tsunami scenario was based partially on a magnitude 7.6
23 earthquake on the offshore Santa Catalina Fault. The recurrence interval for a
24 magnitude 7.5 earthquake along an offshore fault in the Southern California Continental
25 Borderland is about 10,000 years. Similarly, the recurrence interval of a magnitude 7.0
26 earthquake is about 5,000 years and the recurrence interval of a magnitude 6.0
27 earthquake is about 500 years. However, there is no certainty that any of these
28 earthquake events would result in a tsunami, since only about 10 percent of earthquakes
29 worldwide result in a tsunami. In addition, available evidence indicates that
30 tsunamigenic landslides would be extremely infrequent and occur less often than large
31 earthquakes. This suggests recurrence intervals for such landslide events would be
32 longer than the 10,000-year recurrence interval estimated for a magnitude 7.5
33 earthquake (Moffatt and Nichol 2007). As noted above, the probability of the worst-
34 case combination of a large tsunami and extremely high tides would be less than once
35 in a 100,000-year period.

36 **CEQA Impact Determination**

37 Impacts due to seismically induced tsunamis and seiches are typical for the entire
38 California coastline and would not be increased by construction of Alternative 4.
39 However, because the Alternative 4 site elevation is located within 10 to 15 feet (3 to 4.6
40 m) above MLLW and projects in the construction phase are especially vulnerable to
41 tsunami damage due to the presence of unfinished structures, there is a substantial risk of
42 coastal flooding due to tsunamis and seiches, which in turn, could result in accidental
43 spills of petroleum products or hazardous substances. Because a major tsunami is not
44 expected during the life of Alternative 4, but could occur (see Section 3.5, Geology for
45 additional information on the probability of a major tsunami), the probability of a major
46 tsunami occurring is classified as “improbable” (less than once every 10,000 years). The

1 potential consequence of such an event is classified as “moderate,” resulting in a Risk
2 Code of 4 that is “acceptable.” The volume of spilled fuel is also expected to be
3 relatively low. While there will be fuel-containing equipment present during
4 construction, most equipment is equipped with watertight tanks, with the most likely
5 scenario being the infiltration of water into the tank and fuel combustion chambers and
6 very little fuel spilled. Thus, the volume spilled in the event of a tsunami would be less
7 than 10,000 gallons, which is considered “slight.” In light of such a low probability and
8 acceptable risk of a large tsunami, Alternative 4 impacts would be less than significant as
9 they pertain to hazardous materials spills under criterion **RISK-5**.

10 *Mitigation Measures*

11 No mitigation is required.

12 *Residual Impacts*

13 With no mitigation required, the residual impacts would be less than significant.

14 **NEPA Impact Determination**

15 Under this alternative, no development would occur within the in-water Project area
16 (i.e., no dredging, filling of the Northwest Slip or new wharf construction). Therefore,
17 there would be no federal action and an impact determination is not applicable.

18 *Mitigation Measures*

19 Due to No Federal Action, mitigation is not applicable. No mitigation is required.

20 *Residual Impacts*

21 No impact.

22 **Impact RISK-6a: A potential terrorist attack would result in adverse**
23 **consequences to areas near the Alternative 4 site during the construction**
24 **period.**

25 ***Risk of Terrorist Actions during Construction***

26 The probability of a terrorist attack on the Alternative 4 facilities is not likely to
27 appreciably change over the existing baseline during construction. It is possible that
28 the increase in construction vessel traffic in the vicinity of the Berths 136-147
29 Terminal could lead to a greater opportunity of a successful terrorist attack; however,
30 existing Port security measures would counter this potential increase in unauthorized
31 access to the terminal.

Consequences of Terrorist Attack

The Berths 136-147 Terminal will be fully operational during the construction period; therefore the risks associated with terrorism discussed in Section 3.7.2.4 will apply to the terminal during this period. The potential consequences of a terrorist action on a container terminal would be mainly environmental and economic. A terrorist action involving a container vessel while at berth may result in a fuel and/or commodity spill and its associated environmental damage. Within the Port, a terrorist action could block key waterways and result in economic disruption. Potential environmental damage would include fuel and/or commodity spills into the marine environment, with associated degradation of water quality and damage to marine biological resources. Container ships typically carry up to 5,000 barrels of fuel oil but would not be full when arriving at the port. These impacts would be limited to the area surrounding the point of attack and would be contained by the relevant oil spill response contractor. A potential fire associated with a terrorist attack could result in short-term impacts to local air quality.

The consequences associated with the smuggling of weapons of mass destruction would be substantial in terms of impacts to the environment and public health and safety. However, the consequences of a WMD attack would not be affected by the alternative. Furthermore, the likelihood of such an event would not be impacted by alternative-related throughput increases, but would be based on the terrorist's desired outcome and the ability of safeguards, unaffected by the Project, to thwart it. Cargo containers represent only one of many potential methods to smuggle weapons of mass destruction, and with current security initiatives (see Section 3.7.2.5) may be less plausible than other established smuggling routes (e.g., land-based ports of entry, cross border tunnels, illegal vessel transportation, etc.)

CEQA Impact Determination

Potential public safety consequences of a terrorist attack on the Berths 136-147 Terminal for Alternative 4 are considered moderate since, in the event of a successful attack, the potential for a small number of offsite injuries are possible mainly due to fire, which in turn would be a result of fuel spilled into Port waters. Potential thermal radiation and explosion overpressure levels would be limited to the immediate vicinity of the attack and would not overlap any existing, planned, or permitted vulnerable resources; nevertheless, the potential for limited public exposure along Port waterways is possible.

The risk of a terrorist attack is considered part of the baseline for the project. Terrorism risk associated with container terminals currently exists, and is not influenced by changes in container traffic volume. Currently, the Berths 136-147 Terminal handles approximately 3.1 percent of the national containerized cargo and 8.1 percent of the POLA/POLB cargo volume (based on MARAD 2005b; Parsons 2006). An increase in the volume of container vessels visiting the terminal would not change the probability or consequences of a terrorist attack on the Berths 136-147 Terminal since the terminal is already considered a potential economic target, as well as a potential mode to smuggle a weapon into the United States. In addition, the measures outlined in Section 3.7.2.5 would serve to reduce the potential for a successful terrorist attack on the Berths 136-147 facility as compared to project

1 baseline conditions (under which many of these measures had not yet been
2 implemented). These measures have since improved both terminal and cargo
3 security, and have resulted in enhanced cargo screening. Therefore, potential impacts
4 associated with a potential terrorist attack on the Berths 136-147 facility are
5 considered less than significant.

6 *Mitigation Measures*

7 As terrorism impacts are less than significant, no mitigation is required.

8 *Residual Impacts*

9 With no mitigation required, residual impacts would be less than significant.

10 **NEPA Impact Determination**

11 Under this alternative, no development would occur within the in-water Project area
12 (i.e., no dredging, filling of the Northwest Slip or new wharf construction). Therefore,
13 there would be no federal action and an impact determination is not applicable.

14 *Mitigation Measures*

15 Due to No Federal Action, mitigation is not applicable. No mitigation is required.

16 *Residual Impacts*

17 No impact.

18 **3.7.4.3.2.4.2 Operational Impacts**

19 **Impact RISK-1b: Berths 136-147 Terminal operations would not increase**
20 **the probable frequency and severity of consequences to people or**
21 **property as a result of accidental release or explosion of a hazardous**
22 **substance.**

23 Under Alternative 4, an Omni terminal would be constructed within the entire Berths
24 136-147 area. Construction of the Omni terminal would result in a maximum
25 throughput of 565,700 TEUs per year when optimized and functioning at maximum
26 capacity (year 2025). This alternative would result in 1,823,300 fewer TEUs per year
27 compared to the proposed Project, in addition to 326,200 fewer TEUs per year
28 compared to CEQA Baseline conditions. Thus, the number of hazardous materials
29 containers and the overall risk to the public would be substantially reduced compared
30 to the proposed Project and compared to CEQA Baseline conditions.

31 Throughput of 565,700 TEUs per year in association with Alternative 4, when
32 functioning at maximum capacity, would equate to a 37 percent decrease in
33 throughput capacity. Hazardous materials cargo associated with Alternative 4 would
34 be shipped, transported, handled, and stored in compliance with the USCG regulations,
35 fire department requirements, and Caltrans regulations. For example, as discussed in

1 Section 3.7.3.1, List of Regulations, the USCG maintains a HMSD, under the
2 jurisdiction of the federal Department of Homeland Security (33 CFR 126), which
3 develops standards and industry guidance to promote the safety of life and protection
4 of property and the environment during marine transportation of hazardous materials.

5 Among other requirements, Alternative 4 operations would conform to the USCG
6 requirement to provide a segregated cargo area for containerized hazardous materials.
7 Terminal cargo operations involving hazardous materials are also governed by the
8 LAFD in accordance with regulations of state and federal departments of
9 transportation (49 CFR 176). The transport of hazardous materials in containers on
10 the street and highway system is regulated by Caltrans procedures and the
11 Standardized Emergency Management System prescribed under Section 8607 of the
12 California Government Code. These safety regulations strictly govern the storage of
13 hazardous materials in containers (i.e., types of materials and size of packages
14 containing hazardous materials). Implementation of increased hazardous materials
15 inventory control and spill prevention controls associated with these regulations would
16 limit both the frequency and severity of potential releases of hazardous materials.

17 Terminal operations would be subject to safety regulations that govern the storage
18 and handling of hazardous materials, which would limit the severity and frequency of
19 potential releases of hazardous materials resulting in increased exposure of people to
20 health hazards (i.e., Port RMP, USCG and LAFD regulations and requirements, and
21 DOT regulations). For example, as discussed in Section 3.7.3.1, List of Regulations,
22 and summarized below, the USCG maintains a HMSD, under the jurisdiction of the
23 federal Department of Homeland Security (33 CFR 126), which develops standards
24 and industry guidance to promote the safety of life and protection of property and the
25 environment during marine transportation of hazardous materials. In addition, the
26 DOT Hazardous Materials Regulations (Title 49 CFR Parts 100-185) regulate almost
27 all aspects of terminal operations. Parts 172 (Emergency Response), 173 (Packaging
28 Requirements), 174 (Rail Transportation), 176 (Vessel Transportation), 177
29 (Highway Transportation), 178 (Packaging Specifications) and 180 (Packaging
30 Maintenance) would all apply to the alternative project activities.

31 Terminal maintenance activities would involve the use of hazardous materials such as
32 petroleum products, solvents, paints, and cleaners. Quantities of hazardous materials
33 that exceed the thresholds provided in Chapter 6.95 of the California Health and Safety
34 Code would be subject to an RRP and HMI. Implementation of increased inventory
35 accountability and spill prevention controls associated with this RRP and HMI would
36 limit both the frequency and severity of potential releases of hazardous materials.
37 Based on the limited volumes that could potentially spill, quantities of hazardous
38 materials utilized at Berths 136-147 that are below the thresholds of Chapter 6.95
39 would not likely result in a substantial release into the environment.

40 **CEQA Impact Determination**

41 Because projected terminal operations under Alternative 4 would accommodate
42 approximately a 37 percent decrease in containerized cargo compared to the CEQA
43 Baseline, the potential for an accidental release or explosion of hazardous materials
44 would also be expected to decrease proportionally. During the period 1997-2004 there
45 were 40 “hazardous material” spills directly associated with container terminals in the

1 Ports of Los Angeles and Long Beach. This equates to approximately five spills per
 2 year for the entire port complex. During this period, the total throughput of the
 3 container terminals was 76,874,841 TEU. Therefore, the probability of a spill at a
 4 container terminal can be estimated at 5.2×10^{-7} per TEU (40 spills divided by
 5 76,874,841 TEU). This spill probability conservatively represents the baseline
 6 hazardous material spill probability since it include materials that would not be
 7 considered a risk to public safety (e.g., perfume spills), but would still be considered an
 8 environmental hazard. The probability of spills associated with future operations would
 9 be based on the spill probability per TEU times the number of TEUs under the
 10 alternative project.

11 It should be noted that during this period there were no reported impacts to the public
 12 (injuries, fatalities and evacuations), with potential consequences limited to port
 13 workers (two worker injuries that were treated at the scene and 20 workers evaluated
 14 as a precaution).

15 Based on the Port’s accident history of containers containing hazardous materials,
 16 which includes 40 incidents over an eight year period, the frequency of project-
 17 related spills can be estimated as follows:

Table 3.7-19. Existing and Projected Cargo Throughput Volumes at Berths 136-147

<i>Operations</i>	<i>Overall Throughput (TEUs)1</i>	<i>Increase in TEUs (%)</i>	<i>Potential Spills (per year)</i>
POLA Baseline (2003)	4,977,818	NA	3.7
Project Baseline (2003)	891,976	NA	0.5
Alternative 4	565,700	-37%	0.3
<i>Note:</i> 1. TEUs = twenty-foot equivalent units			

18 Based on the projected increase in TEUs, the frequency of potential Alternative 4-
 19 related spills would increase to 0.3 from 0.5 spills per year, or about one spill every
 20 other year. This spill frequency would be classified as “periodic” (between once per
 21 year and once in 10 years). Because, based on past history, a slight possibility exists
 22 for injury and or property damage to occur during one of these frequent accidents, the
 23 consequence of such accidents is classified as “slight,” resulting in a Risk Code of 4
 24 that is “acceptable.” It should be noted that there were no impacts to the public from
 25 any of the hazardous materials spills that were reported during the 1997-2004 period.
 26 Compliance with applicable federal, state, and local laws and regulations governing
 27 the transport of hazardous materials and emergency response to hazardous material
 28 spills, as described above, would minimize the potentials for adverse public health
 29 impacts. Therefore, under CEQA, Alternative 4 operations would not substantially
 30 increase the probable frequency and severity of consequences to people or property
 31 as a result of an accidental release or explosion of a hazardous substance. Impacts
 32 would be less than significant under criterion **RISK-1**.

1 *Mitigation Measures*

2 No mitigation is required.

3 *Residual Impacts*

4 With no mitigation required, the residual impacts would be less than significant.

5 **NEPA Impact Determination**

6 Under this alternative, no development would occur within the in-water Project area
7 (i.e., no dredging, filling of the Northwest Slip or new wharf construction).
8 Therefore, there would be no federal action and an impact determination is not
9 applicable.

10 *Mitigation Measures*

11 Due to No Federal Action, mitigation is not applicable. No mitigation is required.

12 *Residual Impacts*

13 No impact.

14 **Impact RISK-2b: Alternative 4 operations would not substantially**
15 **increase the probable frequency and severity of consequences to**
16 **people or property from exposure to health hazards.**

17 Alternative 4 would include facilities that would potentially handle hazardous materials.
18 The handling and storing of hazardous materials would increase the probability of a local
19 accident involving a release, spill, fire or explosion, which is proportional to the size of
20 the terminal and its throughput as was addressed in Impact Risk 1b.

21 Because projected terminal operations at Berths 136-147 would accommodate
22 approximately a 168 percent increase in containerized cargo compared to the CEQA
23 Baseline, the potential for increased truck transportation-related accidents would also
24 occur. Potential project-related increases in truck trips could result in an increase in
25 vehicular accidents, injuries and fatalities. Therefore, potential impact of increased
26 truck traffic on regional injury and fatality rates have been evaluated.

27 According to an FMCSA detailed analysis (FMCSA 2001), the estimated non-
28 hazardous materials truck accident rate is more than twice the hazardous materials
29 truck accident rate. The non-hazardous materials truck accident rate was estimated to
30 be 0.73 accidents per million vehicle miles and the average hazardous materials truck
31 accident rate was estimated to be 0.32 accidents per million vehicle miles. The
32 hazardous material truck accident rate is not directly applicable to the alternative
33 project container trucks since they are generally limited to bulk hazardous material
34 carriers. Therefore, for this analysis, the higher accident rate associated with non-
35 hazardous material trucks was used.

1 Based on the NHTSA (DOT 2003), of the estimated 457,000 truck crashes in 2000
 2 (causing fatalities, injuries, or property damage), an estimated 1 percent produced
 3 fatalities and 22 percent produced injuries. The FARS and the TIFA survey were the
 4 sources of data for this analysis, which primarily examined fatalities associated with
 5 vehicle impact and trauma.

6 Based on these statistics and the projected truck trips for the existing facilities and
 7 alternative project, the potential rate of truck accidents, injuries and fatalities can be
 8 evaluated.

9 **CEQA Impact Determination**

10 Potential project-related truck accident rates can be estimated based on national
 11 average accident rates and the average number of miles per cargo truck trip. Based
 12 on the port’s air pollutant emission inventory, it was determined that the average
 13 truck trip was approximately 49 miles (Starcrest Consulting Group 2003). Given the
 14 annual number of truck trips, the average distance of each trip, and the published
 15 accident, injury and fatality rates, the following probabilities were estimated:

Table 3.7-20. Existing and Projected Truck Trips at Berths 136-147

<i>Operations</i>	<i>Annual Truck Trips</i>	<i>Increase (%)</i>	<i>Accident Rate (per year)</i>	<i>Injury Probability (per year)</i>	<i>Fatality Probability (per year)</i>
Baseline	1,197,589	NA	42.8	9.4	0.4
Alternative 4	653,837	-45%	23.4	5.1	0.2

16 Numerous truck accidents occur each year and are therefore considered a “frequent”
 17 event. Because the possibility exists for injury and/or fatality to occur during one of
 18 these frequent accidents as noted in Table 3.7-30, the potential consequence of such
 19 accidents is classified as “moderate” since the potential number of injuries would
 20 decrease to 5.1 from a baseline of 9.4, resulting in a Risk Code of 3 that is “acceptable
 21 with controls” and requires additional engineering or administrative controls.

22 The Port is currently developing a Port-wide TMP for roadways in and around its
 23 facilities. Present and future traffic improvement needs are being determined based on
 24 existing and projected traffic volumes. The results will be a TMP providing ideas on
 25 what to expect and how to prepare for the future volumes. Some of the transportation
 26 improvements already under consideration include: I-110/SR-47/Harbor Boulevard
 27 interchange improvements; Navy Way connector (grade separation) to westbound
 28 Seaside Ave.; south Wilmington grade separations; and additional traffic capacity
 29 analysis for the Vincent Thomas Bridge. In addition, the Port is working on several
 30 strategies to increase rail transport, which will reduce reliance on trucks. These projects
 31 would serve to reduce the frequency of truck accidents.

32 In addition, the Port is currently phasing out older trucks as part of the TMP, and the
 33 TWIC program will also help identify and exclude truck drivers that lack the proper
 34 licensing and training. The phasing out of older trucks would reduce the probability
 35 of accidents that occur as a result of mechanical failure by approximately 10 percent

1 (ADL 1990). In addition, proper driver training, or more specifically, the reduction
2 in the number of drivers that do not meet minimum training specifications, would
3 reduce potential accidents by approximately 30 percent. Since these programs will
4 be implemented prior to the alternative project expansion, the potential number of
5 injuries would be reduced to approximately 3.2, which would remain a consequence
6 classification to “moderate” and a Risk Code to 3 or less.

7 Therefore, under CEQA, Alternative 4 operations would not substantially increase
8 the probable frequency and severity of consequences to people from exposure to
9 health hazards and would meet criterion **RISK-2** and impacts would be considered
10 less than significant under criterion **RISK-2**.

11 *Mitigation Measure*

12 No mitigation is required.

13 *Residual Impacts*

14 With no mitigation required, the residual impacts would be less than significant.

15 **NEPA Impact Determination**

16 Under this alternative, no development would occur within the in-water Project area
17 (i.e., no dredging, filling of the Northwest Slip or new wharf construction).
18 Therefore, there would be no federal action and an impact determination is not
19 applicable.

20 *Mitigation Measures*

21 Due to No Federal Action, mitigation is not applicable. No mitigation is required.

22 *Residual Impacts*

23 No impact.

24 **Impact RISK-3b: Alternative 4 operations would not substantially**
25 **interfere with any existing emergency response plans or emergency**
26 **evacuation plans.**

27 Alternative 4 would consolidate the Berths 136-147 area into a single terminal,
28 optimize terminal operations by increasing backland capacity, and complete
29 transportation improvements. The Berths 136-147 Terminal would continue to
30 operate as a container terminal; therefore, proposed terminal operations would not
31 interfere with any existing contingency plans, since the current activities are
32 consistent with the contingency plans and the alternative project would not add any
33 additional activities that would be inconsistent with these plans. Proposed
34 transportation system improvements (i.e., widening of Harry Bridges Boulevard) would
35 reduce vehicular traffic delays, improving emergency response in the Project area. In
36 addition, existing oil spill contingency and emergency response plans for the site would
37 be revised to incorporate proposed facility and operation changes. Because existing

1 management plans are commonly revised to incorporate terminal operation changes,
2 conflicts with existing contingency and emergency response plans are not anticipated.

3 All Berths 136-147 facilities personnel, including dock laborers and equipment
4 operators, would be trained in emergency response and evacuation procedures. The site
5 would be secured, with access allowed only to authorized personnel. The LAFD and
6 Port Police would be able to provide adequate emergency response services to the site.
7 Additionally, Alternative 4 operations would also be subject to emergency response and
8 evacuation systems implemented by the LAFD, which would review all plans to ensure
9 that adequate access in the Project vicinity is maintained. All Alternative 4 contractors
10 would be required to adhere to plan requirements.

11 **CEQA Impact Determination**

12 Because the terminal would continue to be operated as a container terminal, proposed
13 road improvements would reduce traffic congestion, and Alternative 4 operations
14 would be subject to emergency response and evacuation systems implemented by the
15 LAFD, Alternative 4 operations would not interfere with any existing emergency
16 response or emergency evacuation plans or increase the risk of injury or death.
17 Therefore impacts would be less than significant under CEQA.

18 *Mitigation Measures*

19 No mitigation is required.

20 *Residual Impacts*

21 With no mitigation required, the residual impacts would be less than significant under
22 CEQA.

23 **NEPA Impact Determination**

24 Under this alternative, no development would occur within the in-water Project area
25 (i.e., no dredging, filling of the Northwest Slip or new wharf construction).
26 Therefore, there would be no federal action and an impact determination is not
27 applicable.

28 *Mitigation Measures*

29 Due to No Federal Action, mitigation is not applicable. No mitigation is required.

30 *Residual Impacts*

31 No impact.

32 **Impact RISK-4b: Alternative 4 operations would comply with applicable** 33 **regulations and policies guiding development within the Port.**

34 Alternative 4 operations would be subject to numerous regulations for operation of
35 the proposed facilities. LAHD has implemented various plans and programs to

1 ensure compliance with these regulations, which must be adhered to during operation
2 of this alternative. For example, as discussed in Section 3.7.3.1, List of Regulations,
3 the USCG maintains a HMSD, under the jurisdiction of the federal Department of
4 Homeland Security (33 CFR 126), which develops standards and industry guidance
5 to promote the safety of life and protection of property and the environment during
6 marine transportation of hazardous materials.

7 Among other requirements, Alternative 4 operations would conform to the USCG
8 requirement to provide a segregated cargo area for containerized hazardous materials.
9 Terminal cargo operations involving hazardous materials are also governed by the
10 LAFD in accordance with regulations of state and federal departments of
11 transportation (49 CFR 176). The transport of hazardous materials in containers on
12 the street and highway system is regulated by Caltrans procedures and the
13 Standardized Emergency Management System prescribed under Section 8607 of the
14 California Government Code. These safety regulations strictly govern the storage of
15 hazardous materials in containers (i.e., types of materials and size of packages
16 containing hazardous materials). In addition, any facility constructed at the site,
17 identified as either a hazardous cargo facility or a vulnerable resource, would be
18 required to conform to the RMP, which includes packaging constraints and the
19 provision of a separate storage area for hazardous cargo.

20 LAHD maintains compliance with these state and federal laws through a variety of
21 methods, including internal compliance reviews, preparation of regulatory plans, and
22 agency oversight. Most notably, the Port RMP implements development guidelines in
23 an effort to minimize the danger of accidents to vulnerable resources. This would be
24 achieved mainly through physical separation as well as through facility design features,
25 fire protection, and other risk management methods. There are two primary categories of
26 vulnerable resources, people, and facilities. People are further divided into subgroups.
27 The first subgroup is comprised of residences, recreational users, and visitors. Within
28 the Port setting, residences and recreational users are considered vulnerable resources.
29 The second subgroup is comprised of workers in high density (i.e., generally more than
30 10 people per acre, per employer).

31 Facilities that are vulnerable resources include Critical Regional Activities/Facilities and
32 High Value Facilities. Critical Regional Activities/Facilities are facilities in the Port that
33 are important to the local or regional economy, the national defense, or some major
34 aspect of commerce. These facilities typically have a large quantity of unique
35 equipment, a very large working population, and are critical to both the economy and to
36 national defense. Such facilities in the Port have been generally defined in the Port RMP
37 as the former Todd Shipyard, Fish Harbor, Badger Avenue Bridge, and Vincent Thomas
38 Bridge.

39 High Value Facilities are non-hazardous facilities, within and near the Ports, which
40 have very high economic value. These facilities include both facility improvements
41 and cargo in-place, such as container storage areas. However, the determination of a
42 vulnerable resource is made by the Port and LAFD on a case-by-case basis.
43 Although the Port generally considers container terminals to be High Value
44 Facilities, these types of facilities have never been considered vulnerable resources in
45 risk analyses completed by the Port and LAFD (personal communication, Dan Knott
46 2007). The Project would be located immediately adjacent to the ConocoPhillips

1 liquid bulk facility (Berths 148-149) and immediately across Slip 1 from several
2 other liquid bulk facilities (Berths 161-169), at a distance of approximately 400 to
3 800 feet. Because container terminals are not considered vulnerable resources, the
4 Project would not conflict with the RMP.

5 Alternative 4 plans and specifications will be reviewed by the LAFD for conformance to
6 the Los Angeles Municipal Fire Code, as a standard practice. Buildings will be equipped
7 with fire protection equipment as required by the Los Angeles Municipal Fire Code.
8 Access to all buildings and adequacy of road and fire lanes will be reviewed by the
9 LAFD to ensure that adequate access and firefighting features are provided. Alternative
10 4 plans would include an internal circulation system, code-required features, and other
11 firefighting design elements, as approved by the LAFD.

12 Operation of Alternative 4 would be required to comply with all existing hazardous
13 waste laws and regulations, including the federal RCRA and CERCLA, and CCR
14 Title 22 and Title 26. Alternative 4 operations would comply with these laws and
15 regulations, which would ensure that potential hazardous materials handling would
16 occur in an acceptable manner.

17 **CEQA Impact Determination**

18 The terminal would not conflict with RMP guidelines. Alternative 4 plans and
19 specifications will be reviewed by the LAFD for conformance to the Los Angeles
20 Municipal Fire Code, and operation of Alternative 4 would be required to comply
21 with all existing hazardous waste laws and regulations. Therefore, under CEQA,
22 Alternative 4 operations would comply with applicable regulations and policies
23 guiding development within the Port. Impacts would be less than significant.

24 *Mitigation Measures*

25 No mitigation is required.

26 *Residual Impacts*

27 With no mitigation required, the residual impacts would be less than significant.

28 **NEPA Impact Determination**

29 Under this alternative, no development would occur within the in-water Project area
30 (i.e., no dredging, filling of the Northwest Slip or new wharf construction). Therefore,
31 there would be no federal action and an impact determination is not applicable.

32 *Mitigation Measures*

33 Due to No Federal Action, mitigation is not applicable. No mitigation is required.

34 *Residual Impacts*

35 No impact.

Impact RISK-5b: Tsunami-induced flooding would result in fuel releases from ships or hazardous substances releases from containers, which in turn would result in risks to persons and/or the environment.

As discussed in section 3.5, there is the potential for a large tsunami to impact the Port. A large tsunami would likely lead to a fuel spill if a moored vessel is present. Although crude oil tankers would not moor at Berths 136-147, each ship contains large quantities of fuel oil. While in transit, the hazards posed to tankers are insignificant, and in most cases, imperceptible. However, while docked, a tsunami striking the Port could cause significant ship movement and even a hull breach if the ship is pushed against the wharf.

The Port is subject to diurnal tides, meaning two high tides and two low tides during a 24-hour day. The average of the lowest water level during low tide periods each day is typically set as a benchmark of 0 ft (0 m) and is defined as Mean Lower Low Water level (MLLW). For purposes of this discussion, all proposed Project structures and land surfaces are expressed as height above (or below) MLLW. The mean sea level (MSL) in the Port is +2.8 ft (0.86 m) above MLLW (NOAA 2005). This height reflects the arithmetic mean of hourly heights observed over the National Tidal Datum Epoch (19 years) and therefore reflects the mean of both high and low tides in the Port. The recently developed Port Complex model described in Section 3.5.2 predicts tsunami wave heights with respect to MSL, rather than MLLW, and therefore can be considered a reasonable average condition under which a tsunami might occur. The Port MSL of +2.82 ft (0.86 m) must be considered in comparing projected tsunami run-up (i.e., amount of wharf overtopping and flooding) to proposed wharf height and topographic elevations, which are measured with respect to MLLW.

A reasonable worst-case scenario for generation of a tsunami or seiche in the San Pedro Bay Ports include the recently developed Port Complex model, which predicts tsunami wave heights of 1.3 to 5.3 ft (0.4 to 1.6 m) above MSL at the proposed Project site, under both earthquake and landslide scenarios. Incorporating the Port MSL of +2.82 ft (0.86 m), the model predicts tsunami wave heights of 4.1 to 8.1 ft (0.8 to 2.4 m) above MLLW at the proposed Project site. Because the proposed Project site elevation ranges from 10 to 15 ft (3.0 to 4.6 m) above MLLW, localized tsunami-induced flooding would not occur.

While the analysis above considers a reasonable worst-case seismic scenario based on a maximum seismic event, with respect to MSL, a theoretical maximum worst-case wave action from a tsunami would result if the single highest tide predicted over the next 40 years at the San Pedro Bay Ports was present at the time of the seismic event. The single highest tide predicted over the next 40 years is 7.3 ft (2.2 m) above MLLW. This condition is expected to occur less than 1 percent of the time over this 40-year period. If that very rare condition were to coincide with a maximum tsunami event, the model predicts tsunami wave heights of 8.6 to 12.6 ft (2.6 to 3.8 m) above MLLW at the proposed Project site. Because the proposed Project site elevation ranges from 10 to 15 ft (3.0 to 4.5 m) above MLLW, localized tsunami-induced flooding up to 2.6 ft (0.8 m) is possible. To determine the extent of potential impacts due to tsunami-induced flooding, Port structural engineers have determined that Port reinforced concrete or steel structures designed to meet California earthquake protocols incorporated into MOTEMS would be expected to survive complete inundation in the event of a tsunami (personal communication, Yin, P., P.E., Senior

1 Structural Engineer, LAHD 2006). However, substantial infrastructure damage
2 and/or injury to personnel would occur as a result of complete site inundation.

3 As previously discussed, there is a potential for tsunami-induced flooding under the
4 theoretical maximum worst-case scenario. However, the likelihood of a large
5 tsunami is very low during operation of the proposed Project and the overall
6 probability of this worst-case scenario is less than one in a 100,000 year period.

7 The most likely worst-case tsunami scenario was based partially on a magnitude 7.6
8 earthquake on the offshore Santa Catalina Fault. The recurrence interval for a
9 magnitude 7.5 earthquake along an offshore fault in the Southern California
10 Continental Borderland is about 10,000 years. Similarly, the recurrence interval of a
11 magnitude 7.0 earthquake is about 5,000 years and the recurrence interval of a
12 magnitude 6.0 earthquake is about 500 years. However, there is no certainty that any
13 of these earthquake events would result in a tsunami, since only about 10 percent of
14 earthquakes worldwide result in a tsunami. In addition, available evidence indicates
15 that tsunamigenic landslides would be extremely infrequent and occur less often than
16 large earthquakes. This suggests recurrence intervals for such landslide events would
17 be longer than the 10,000-year recurrence interval estimated for a magnitude 7.5
18 earthquake (Moffatt and Nichol 2007). As noted above, the probability of the worst-
19 case combination of a large tsunami and extremely high tides would be less than once
20 in a 100,000-year period.

21 Containers of hazardous substances on ships or on berths could similarly be damaged
22 as a result of a large tsunami. Such damage would result in releases of both
23 hazardous and non-hazardous cargo to the environment, adversely impacting persons
24 and/or the marine waters. However, containers carrying hazardous cargo would not
25 necessarily release their contents in the event of a large tsunami. The DOT
26 regulations (49 CFR Parts 172-180) covering hazardous material packaging and
27 transportation would minimize potential release volumes since packages must meet
28 minimum integrity specifications and size limitations.

29 The owner or operators of tanker vessels are required to have an approved Tank Vessel
30 Response Plan on board and a qualified individual within the U.S. with full authority to
31 implement removal actions in the event of an oil spill incident, and to contract with the
32 spill response organizations to carry out cleanup activities in case of a spill. The
33 existing oil spill response capabilities in the POLA/POLB are sufficient to isolate spills
34 with containment booms and recover the maximum possible spill from an oil tanker
35 within the Port.

36 Various studies have shown that double-hull tank vessels have lower probability of
37 releases when tanker vessels are involved in accidents. Because of these studies, the
38 USCG issued regulations addressing double-hull requirements for tanker vessels. The
39 regulations establish a timeline for eliminating single-hull vessels from operating in the
40 navigable waters or the EEZ of the U.S. after January 1, 2010 and double-bottom or
41 double-sided vessels by January 1, 2015. Only vessels equipped with a double hull, or
42 with an approved double containment system will be allowed to operate after those
43 times. It is unlikely that single-hull vessels will utilize the Alternative 4 terminal
44 facilities given the current schedule and the planned phase-out of these vessels.

1 **CEQA Impact Determination**

2 Impacts due to seismically induced tsunamis and seiches are typical for the entire
3 California coastline and would not be increased by construction of Alternative 4.
4 However, because the Alternative 4 elevation is located within 10 to 15 feet (3 to 4.6 m)
5 above MLLW and projects in the construction phase are especially vulnerable to
6 tsunami damage due to the presence of unfinished structures, there is a substantial risk
7 of coastal flooding due to tsunamis and seiches, which in turn, could result in accidental
8 spills of petroleum products or hazardous substances. Because a major tsunami is not
9 expected during the life of Alternative 4, but could occur (see Section 3.5, Geology for
10 additional information on the probability of a major tsunami), the probability of a major
11 tsunami occurring is classified as “improbable” (less than once every 10,000 years).
12 The potential consequence of such an event is classified as “moderate,” resulting in a
13 Risk Code of 4 that is “acceptable.” The volume of spilled fuel is also expected to be
14 relatively low. While there will be fuel containing equipment present during
15 construction, most equipment is equipped with watertight tanks, with the main problem
16 being the infiltration of water into the tank and fuel combustion chambers. Thus, the
17 volume spilled in the event of a tsunami would be less than 10,000 gallons, which is
18 considered minor. In light of such a low probability and acceptable risk of a large
19 tsunami, Alternative 4 impacts would be less than significant as they pertain to
20 hazardous materials spills under criterion **RISK-5**.

21 *Mitigation Measures*

22 No mitigation is required.

23 *Residual Impacts*

24 With no mitigation required, the residual impacts would be less than significant.

25 **NEPA Impact Determination**

26 Under this alternative, no development would occur within the in-water Project area
27 (i.e., no dredging, filling of the Northwest Slip or new wharf construction). Therefore,
28 there would be no federal action and an impact determination is not applicable.

29 *Mitigation Measures*

30 Due to No Federal Action, mitigation is not applicable. No mitigation is required.

31 *Residual Impacts*

32 No impact.

33 **Impact RISK-6b: A potential terrorist attack would result in adverse**
34 **consequences to areas near the Alternative 4 site during the operations**
35 **period.**

Risk of Terrorist Actions associated with Operations

The probability of a terrorist attack on the alternative project facilities is not likely to appreciably change over the existing baseline. It is possible that the increase in vessel traffic in the vicinity of the Berths 136-147 Terminal could lead to a greater opportunity of a successful terrorist attack; however, existing Port security measures would counter this potential increase in unauthorized access to the terminal.

Consequences of Terrorist Attack

The risks associated with terrorism discussed in Section 3.7.2.4 would apply to the terminal during operations. The potential consequences of a terrorist action on a container terminal would be mainly environmental and economic. A terrorist action involving a container vessel while at berth may result in a fuel and/or commodity spill and its associated environmental damage. Within the Port, a terrorist action could block key waterways and result in economic disruption. Potential environmental damage would include fuel and/or commodity spills into the marine environment, with associated degradation of water quality and damage to marine biological resources. Container ships typically carry up to 5,000 barrels of fuel oil but would not be full when arriving at the port. These impacts would be limited to the area surrounding the point of attack and would be contained by the relevant oil spill response contractor. A potential fire associated with a terrorist attack could result in short-term impacts to local air quality.

The consequences associated with the smuggling of weapons of mass destruction would be substantial in terms of impacts to the environment and public health and safety. However, the consequences of a WMD attack would not be affected by the alternative. Furthermore, the likelihood of such an event would not be impacted by alternative-related infrastructure or throughput increases, but would depend on the terrorist's desired outcome and the ability of safeguards, unaffected by the alternative, to thwart it. Cargo containers represent only one of many potential methods to smuggle weapons of mass destruction, and with current security initiatives (see Section 3.7.2.5) may be less plausible than other established smuggling routes (e.g., land-based ports of entry, cross border tunnels, illegal vessel transportation, etc.).

CEQA Impact Determination

Potential public safety consequences of a terrorist attack on the Berths 136-147 Terminal for the alternative project are considered negligible since, in the event of a successful attack, the potential for a small number of offsite injuries are possible mainly due to fire, which in turn would be a result of fuel spilled into Port waters. Potential thermal radiation and explosion overpressure levels would be limited to the immediate vicinity of the attack and would not overlap any existing, planned, or permitted vulnerable resources; nevertheless, the potential for limited public exposure along Port waterways is possible.

The risk of a terrorist attack is considered part of the baseline for the project alternative. Terrorism risk associated with container terminals currently exists, and is not influenced by changes in container traffic volume. Currently, the Berths 136-147 Terminal handles approximately 3.1 percent of the national containerized cargo and 8.5 percent

1 of the POLA/POLB cargo volume (based on MARAD 2005b; Parsons 2006). With
2 the implementation of the alternative, and compared to regional and national growth
3 projections, the relative importance of the project will decrease to 0.7 percent of
4 national containerized cargo throughput and decrease to 1.3 of the POLA/POLB
5 cargo volume (based on projections in MARAD 2005b; Parsons 2006). Overall,
6 growth at the Berths 136-147 Terminal would not increase disproportionately as
7 compared to regional (POLA/POLB) and national container terminals growth, and
8 would, therefore, not change the relative importance of the terminal as a terrorist target.

9 An increase in the volume of container vessels visiting the terminal would not change the
10 probability or consequences of a terrorist attack on the Berths 136-147 Terminal since
11 the terminal is already considered a potential economic target, as well as a potential
12 mode to smuggle a weapon into the United States. In addition, the measures outlined in
13 Section 3.7.2.5 would serve to reduce the potential for a successful terrorist attack on the
14 Berths 136-147 facility as compared to project baseline conditions (under which many
15 of these measures had not yet been implemented). These measures have since improved
16 both terminal and cargo security, and have resulted in enhanced cargo screening.
17 Therefore, potential impacts associated with a potential terrorist attack on the Berths
18 136-147 facility are considered less than significant.

19 *Mitigation Measures*

20 As terrorism impacts are less than significant, no mitigation is required.

21 *Residual Impacts*

22 With no mitigation required, residual impacts would be less than significant.

23 **NEPA Impact Determination**

24 Under this alternative, no development would occur within the in-water Project area
25 (i.e., no dredging, filling of the Northwest Slip or new wharf construction).
26 Therefore, there would be no federal action and an impact determination is not
27 applicable.

28 *Mitigation Measures*

29 Due to No Federal Action, mitigation is not applicable. No mitigation is required.

30 *Residual Impacts*

31 No impact.

32 **3.7.4.3.2.5 Alternative 5 – Landside Terminal Improvements**

33 The Landside Terminal Improvements alternative (Alternative 5) comprises only the
34 upland components of the proposed Project, including new terminal buildings, new
35 truck gates, an on-dock rail yard on the site of the Pier A rail yard, the Harry Bridges
36 Buffer Area and roadway widening, and the paving, fencing, utilities, and lighting

necessary for the reconfigured terminal. The Pier A rail yard would be relocated as in the proposed Project, and PHL's operations transferred to the new rail yard. The new terminal's area would be 190 acres because it would include the 5-ac fill placed by the Channel Deepening project and land required to build the on-dock rail yard and new terminal buildings.

In Alternative 5 there would be no wharf upgrades, no new wharves or container cranes, no dredging to deepen berths, and no 10-acre fill in the Northwest Slip. Because there would be no in-water work and thus no need for an Army Corps of Engineers permit, this alternative also corresponds to the No Federal Action alternative. There would be no significance determinations under NEPA for this alternative.

3.7.4.3.2.5.1 Construction Impacts

Impact RISK-1a: Construction/demolition activities would not substantially increase the probable frequency and severity of consequences to people or property as a result of accidental release or explosion of a hazardous substance.

Construction equipment could spill oil, gas, or fluids during normal usage or during refueling, resulting in potential health and safety impacts to not only construction personnel, but to people and property occupying operational portions of the project area, as the Berths 136-147 Terminal would be operating during construction activities. BMPs and Los Angeles Municipal Code regulations (Chapter 5, Section 57, Division 4 and 5; Chapter 6, Article 4) would govern construction and demolition activities. Federal and state regulations that govern the storage of hazardous materials in containers (i.e., the types of materials and the size of packages containing hazardous materials) and the separation of containers holding hazardous materials, would limit the potential adverse impacts of contamination to a relatively small area. In addition, standard BMPs would be used during construction and demolition activities to minimize runoff of contaminants, in compliance with the State General Permit for Storm Water Discharges Associated with Construction Activity (Water Quality Order 99-08-DWQ) and Project-specific SWPPP (see Section 3.13, Water Quality, Sediments, and Oceanography for more information).

CEQA Impact Determination

Implementation of construction and demolition standards, including BMPs, would minimize the potential for an accidental release of petroleum products and/or hazardous materials and/or explosion during construction/demolition activities at Berths 136-147. Because construction/demolition related spills are not uncommon, the probability of a spill occurring is classified as "frequent" (more than once a year). However, because such spills are typically short-term and localized, mainly due to the fact that the volume in any single vehicle is generally less than 50 gallons and fuel trucks are limited to 10,000 gallons or less, the potential consequence of such accidents is classified as "slight" resulting in a Risk Code of 4 that is "acceptable." Therefore, under CEQA, Alternative 5 construction and demolition activities would not substantially increase the probable frequency and severity of consequences to people or property as a result of an

1 accidental release or explosion of a hazardous substance. Based on criterion **RISK-1**,
2 impacts would be less than significant.

3 *Mitigation Measures*

4 No mitigation is required.

5 *Residual Impacts*

6 With no mitigation required, the residual impacts would be less than significant.

7 **NEPA Impact Determination**

8 Under this alternative, no development would occur within the in-water Project area
9 (i.e., no dredging, filling of the Northwest Slip or new wharf construction). Therefore,
10 there would be no federal action and an impact determination is not applicable.

11 *Mitigation Measures*

12 Due to No Federal Action, mitigation is not applicable. No mitigation is required.

13 *Residual Impacts*

14 No impact.

15 **Impact RISK-2a: Construction/demolition activities would not**
16 **substantially increase the probable frequency and severity of**
17 **consequences to people from exposure to health hazards.**

18 Risk of upset impacts during construction would be reduced compared to those
19 described for the proposed Project. Under this alternative, the proposed 10-acre
20 Northwest Slip would not be filled and the 400-foot adjacent wharf would not be
21 constructed. Consequently, the potential for construction equipment to spill oil, gas, or
22 fluids during normal usage or during refueling would be reduced. Therefore,
23 Alternative 5 would reduce the potential for an accidental release of hazardous
24 materials and/or contamination of soil or water and would reduce the potential for an
25 accidental release from a fire or explosion during construction activities.

26 Construction and demolition activities would be conducted using BMPs and in
27 accordance with the Los Angeles Municipal Code (Chapter 5, Section 57, Division 4
28 and 5; Chapter 6, Article 4). Quantities of hazardous materials that exceed the
29 thresholds provided in Chapter 6.95 of the California Health and Safety Code would be
30 subject to an RRP and HMI. Implementation of increased inventory accountability and
31 spill prevention controls associated with this RRP and HMI, such as limiting the types of
32 materials stored and size of packages containing hazardous materials, would limit both
33 the frequency and severity of potential releases of hazardous materials, thus minimizing
34 potential health hazards and/or contamination of soil or water during
35 construction/demolition activities. These measures reduce the frequency and
36 consequences of spills by requiring proper packaging for the material being shipped,
37 limits on package size, and thus potential spill size, as well as proper response measures

1 for the materials being handled. Impacts from contamination of soil or water during
2 construction/demolition activities would apply to not only construction personnel, but to
3 people and property occupying operational portions of the Project area, as Berths 136-
4 147 Terminal would be operating during construction activities.

5 Near-surface contaminated soil may be encountered during demolition of the Pier A
6 rail yard, resulting in potential health hazards to demolition and/or construction
7 personnel. See Section 3.6, Groundwater and Soils for more information.

8 **CEQA Impact Determination**

9 Several standard policies regulate the storage of hazardous materials including the
10 types of materials, size of packages containing hazardous materials, and the
11 separation of containers containing hazardous materials. These measures reduce the
12 frequency and consequences of spills by requiring proper packaging for the material
13 being shipped, limits on package size, and thus potential spill size, as well as proper
14 response measures for the materials being handled. Implementation of these
15 preventative measures would minimize the potential for spills to impact members of
16 the public and limit the adverse impacts of contamination to a relatively small area.
17 Because construction/demolition related spills are not uncommon, the probability of a
18 spill occurring is classified as “frequent” (more than once a year). However, because
19 such spills are typically short-term and localized, the potential consequence of such
20 accidents is classified as “slight” resulting in a Risk Code of 4 that is “acceptable.”
21 Therefore, under CEQA, Alternative 5 construction/demolition activities at Berths
22 136-147 would not substantially increase the probable frequency and severity of
23 consequences to people from exposure to health hazards. Based on risk criterion
24 **RISK-2**, impacts would be less than significant.

25 *Mitigation Measures*

26 No mitigation is required.

27 *Residual Impacts*

28 With no mitigation required, the residual impacts would be less than significant.

29 **NEPA Impact Determination**

30 Under this alternative, no development would occur within the in-water Project area
31 (i.e., no dredging, filling of the Northwest Slip or new wharf construction).
32 Therefore, there would be no federal action and an impact determination is not
33 applicable.

34 *Mitigation Measures*

35 Due to No Federal Action, mitigation is not applicable. No mitigation is required.

36 *Residual Impacts*

37 No impact.

1 **Impact RISK-3a: Construction/demolition activities would not**
2 **substantially interfere with an existing emergency response or**
3 **evacuation plan or increase the risk of injury or death.**

4 Emergency response and evacuation planning is the responsibility of the LAPD, LAFD,
5 Port Police, and USCG. Construction and demolition activities would be subject to
6 emergency response and evacuation systems implemented by LAFD. During
7 construction/demolition activities, the LAFD would require that adequate vehicular
8 access to the site be provided and maintained. Prior to commencement of
9 construction/demolition activities, all plans would be reviewed by the LAFD to ensure
10 adequate access is maintained throughout construction/demolition.

11 **CEQA Impact Determination**

12 Alternative 5 contractors would be required to adhere to all LAFD emergency
13 response and evacuation regulations, ensuring compliance with existing emergency
14 response plans. Therefore, under CEQA construction/demolition activities associated
15 with Alternative 5 would not substantially interfere with an existing emergency
16 response or evacuation plan or increase risk of injury or death. Impacts would be less
17 than significant.

18 *Mitigation Measures*

19 No mitigation is required.

20 *Residual Impacts*

21 With no mitigation required, the residual impacts would be less than significant.

22 **NEPA Impact Determination**

23 Under this alternative, no development would occur within the in-water Project area
24 (i.e., no dredging, filling of the Northwest Slip or new wharf construction).
25 Therefore, there would be no federal action and an impact determination is not
26 applicable.

27 *Mitigation Measures*

28 Due to No Federal Action, mitigation is not applicable. No mitigation is required.

29 *Residual Impacts*

30 No impact.

31 **Impact RISK-4a: Alternative 5 construction/demolition would comply**
32 **with applicable regulations and policies guiding development within the**
33 **Port.**

34 As described in Section 3.7.3.1, List of Regulations, the Alternative 5 would be subject
35 to numerous regulations for development and operation of the proposed facilities. For

1 example, construction and demolition would be completed in accordance with RCRA,
2 HSWA, CERCLA, CCR Title 22 and Title 26, and the California Hazardous Waste
3 Control Law, which would govern proper containment, spill control, and disposal of
4 hazardous waste generated during demolition and construction activities.
5 Implementation of increased inventory accountability, spill prevention controls, and
6 waste disposal controls associated with these regulations would limit both the frequency
7 and severity of potential releases of hazardous materials.

8 Potential releases of hazardous substances during demolition and/or construction would
9 be addressed through the federal Emergency Planning and Right-To-Know Act, which
10 is administered in California by the SERC, and the Hazardous Material Release
11 Response Plans and Inventory Law. In addition, demolition and construction would be
12 completed in accordance with the Los Angeles Municipal Fire Code, which regulates
13 the construction of buildings and other structures used to store flammable hazardous
14 materials, and the Los Angeles Municipal Public Property Code, which regulates the
15 discharge of materials into the sanitary sewer and storm drain. The latter requires the
16 construction of spill-containment structures to prevent the entry of forbidden materials,
17 such as hazardous materials, into sanitary sewers and storm drains. LAHD maintains
18 compliance with these federal, state, and local laws through a variety of methods,
19 including internal compliance reviews, preparation of regulatory plans, and agency
20 oversight. LAHD has implemented various plans and programs to ensure compliance
21 with these regulations. These regulations must be adhered to during design and
22 construction of Alternative 5. Implementation of increased spill prevention controls,
23 spill release notification requirements, and waste disposal controls associated with these
24 regulations would limit both the frequency and severity of potential releases of
25 hazardous materials.

26 Construction/demolition activities would be conducted using BMPs in accordance with
27 City guidelines, as detailed in the Development Best Management Practices Handbook
28 (City of Los Angeles 2002a). Applicable BMPs include, but are not limited to, vehicle
29 and equipment fueling and maintenance; material delivery, storage, and use; spill
30 prevention and control; solid and hazardous waste management; and contaminated soil
31 management. Alternative 5 plans and specifications will be reviewed by the LAFD for
32 conformance to the Los Angeles Municipal Fire Code, as a standard practice.
33 Implementation of increased spill prevention controls associated with these BMPs would
34 limit both the frequency and severity of potential releases of hazardous materials.

35 **CEQA Impact Determination**

36 Because Alternative 5 construction/demolition would be completed using standard
37 BMPs and in accordance with LAHD plans and programs, LAFD regulations, and all
38 hazardous waste laws and regulations, impacts relating to compliance with applicable
39 regulations and policies guiding development in the Port would be less than
40 significant under CEQA under criterion **RISK-4**.

41 ***Mitigation Measures***

42 No mitigation is required.

1 *Residual Impacts*

2 With no mitigation required, the residual impacts would be less than significant under
3 CEQA.

4 **NEPA Impact Determination**

5 Under this alternative, no development would occur within the in-water Project area
6 (i.e., no dredging, filling of the Northwest Slip or new wharf construction).
7 Therefore, there would be no federal action and an impact determination is not
8 applicable.

9 *Mitigation Measures*

10 Due to No Federal Action, mitigation is not applicable. No mitigation is required.

11 *Residual Impacts*

12 No impact.

13 **Impact RISK-5a: Tsunami-induced flooding would result in fuel releases**
14 **from demolition/construction equipment or hazardous substances**
15 **releases from containers, which in turn would result in risks to persons**
16 **and/or the environment.**

17 As discussed in section 3.5, there is the potential for a large tsunami to impact the Port.
18 A large tsunami would likely lead to a fuel spill from demolition and/or construction
19 equipment, as well as from containers of petroleum products and hazardous substances
20 used during the demolition/construction period. Unfinished structures are especially
21 vulnerable to damage from tsunamis during the construction period.

22 The Port is subject to diurnal tides, meaning two high tides and two low tides during a
23 24-hour day. The average of the lowest water level during low tide periods each day is
24 typically set as a benchmark of 0 ft (0 m) and is defined as Mean Lower Low Water
25 level (MLLW). For purposes of this discussion, all Alternative 5 structures and land
26 surfaces are expressed as height above (or below) MLLW. The mean sea level (MSL)
27 in the Port is +2.8 ft (0.86 m) above MLLW (NOAA 2005). This height reflects the
28 arithmetic mean of hourly heights observed over the National Tidal Datum Epoch (19
29 years) and therefore reflects the mean of both high and low tides in the Port. The
30 recently developed Port Complex model described in Section 3.5.2 predicts tsunami
31 wave heights with respect to MSL, rather than MLLW, and therefore can be considered
32 a reasonable average condition under which a tsunami might occur. The Port MSL of
33 +2.82 ft (0.86 m) must be considered in comparing projected tsunami run-up (i.e.,
34 amount of wharf overtopping and flooding) to proposed wharf height and topographic
35 elevations, which are measured with respect to MLLW.

36 A reasonable worst-case scenario for generation of a tsunami or seiche in the San
37 Pedro Bay Ports include the recently developed Port Complex model, which predicts
38 tsunami wave heights of 1.3 to 5.3 ft (0.4 to 1.6 m) above MSL at the Alternative 5
39 site, under both earthquake and landslide scenarios. Incorporating the Port MSL of

1 +2.82 ft (0.86 m), the model predicts tsunami wave heights of 4.1 to 8.1 ft (0.8 to 2.4
2 m) above MLLW at the Alternative 5 site. Because the Alternative 5 site elevation
3 ranges from 10 to 15 ft (3.0 to 4.6 m) above MLLW, localized tsunami-induced
4 flooding would not occur.

5 While the analysis above considers a reasonable worst-case seismic scenario based
6 on a maximum seismic event, with respect to MSL, a theoretical maximum worst-
7 case wave action from a tsunami would result if the single highest tide predicted over
8 the next 40 years at the San Pedro Bay Ports was present at the time of the seismic
9 event. The single highest tide predicted over the next 40 years is 7.3 ft (2.2 m) above
10 MLLW. This condition is expected to occur less than 1 percent of the time over this
11 40-year period. If that very rare condition were to coincide with a maximum tsunami
12 event, the model predicts tsunami wave heights of 8.6 to 12.6 ft (2.6 to 3.8 m) above
13 MLLW at the Alternative 5 site. Because the Alternative 5 site elevation ranges from
14 10 to 15 ft (3.0 to 4.5 m) above MLLW, localized tsunami-induced flooding up to 2.6
15 ft (0.8 m) is possible. To determine the extent of potential impacts due to tsunami-
16 induced flooding, Port structural engineers have determined that Port reinforced
17 concrete or steel structures designed to meet California earthquake protocols
18 incorporated into MOTEMS would be expected to survive complete inundation in the
19 event of a tsunami (personal communication, Yin, P., P.E., Senior Structural
20 Engineer, LAHD 2006). However, substantial infrastructure damage and/or injury to
21 personnel would occur as a result of complete site inundation.

22 As previously discussed, there is a potential for tsunami-induced flooding under the
23 theoretical maximum worst-case scenario. However, the likelihood of a large
24 tsunami is very low during construction of Alternative 5 and the overall probability
25 of this worst-case scenario is less than one in a 100,000-year period.

26 The most likely worst-case tsunami scenario was based partially on a magnitude 7.6
27 earthquake on the offshore Santa Catalina Fault. The recurrence interval for a
28 magnitude 7.5 earthquake along an offshore fault in the Southern California
29 Continental Borderland is about 10,000 years. Similarly, the recurrence interval of a
30 magnitude 7.0 earthquake is about 5,000 years and the recurrence interval of a
31 magnitude 6.0 earthquake is about 500 years. However, there is no certainty that any
32 of these earthquake events would result in a tsunami, since only about 10 percent of
33 earthquakes worldwide result in a tsunami. In addition, available evidence indicates
34 that tsunamigenic landslides would be extremely infrequent and occur less often than
35 large earthquakes. This suggests recurrence intervals for such landslide events would
36 be longer than the 10,000-year recurrence interval estimated for a magnitude 7.5
37 earthquake (Moffatt and Nichol 2007). As noted above, the probability of the worst-
38 case combination of a large tsunami and extremely high tides would be less than once
39 in a 100,000-year period.

40 **CEQA Impact Determination**

41 Impacts due to seismically induced tsunamis and seiches are typical for the entire
42 California coastline and would not be increased by construction of Alternative 5.
43 However, because the Alternative 5 site elevation is located within 10 to 15 feet (3 to 4.6
44 m) above MLLW and projects in the construction phase are especially vulnerable to
45 tsunami damage due to the presence of unfinished structures, there is a substantial risk of

1 coastal flooding due to tsunamis and seiches, which in turn, could result in accidental
2 spills of petroleum products or hazardous substances. Because a major tsunami is not
3 expected during the life of Alternative 5, but could occur (see Section 3.5, Geology for
4 additional information on the probability of a major tsunami), the probability of a major
5 tsunami occurring is classified as “improbable” (less than once every 10,000 years). The
6 potential consequence of such an event is classified as “moderate,” resulting in a Risk
7 Code of 4 that is “acceptable.” The volume of spilled fuel is also expected to be
8 relatively low. While there will be fuel-containing equipment present during
9 construction, most equipment is equipped with watertight tanks, with the most likely
10 scenario being the infiltration of water into the tank and fuel combustion chambers and
11 very little fuel spilled. Thus, the volume spilled in the event of a tsunami would be less
12 than 10,000 gallons, which is considered “slight.” In light of such a low probability and
13 acceptable risk of a large tsunami, Alternative 5 impacts would be less than significant as
14 they pertain to hazardous materials spills under criterion **RISK-5**.

15 *Mitigation Measures*

16 No mitigation is required.

17 *Residual Impacts*

18 With no mitigation required, the residual impacts would be less than significant.

19 **NEPA Impact Determination**

20 Under this alternative, no development would occur within the in-water Project area
21 (i.e., no dredging, filling of the Northwest Slip or new wharf construction). Therefore,
22 there would be no federal action and an impact determination is not applicable.

23 *Mitigation Measures*

24 Due to No Federal Action, mitigation is not applicable. No mitigation is required.

25 *Residual Impacts*

26 No impact.

27 **Impact RISK-6a: A potential terrorist attack would result in adverse**
28 **consequences to areas near the Alternative 5 site during the construction**
29 **period.**

30 ***Risk of Terrorist Actions during Construction***

31 The probability of a terrorist attack on the Alternative 5 facilities is not likely to
32 appreciably change over the existing baseline during construction. It is possible that
33 the increase in construction vessel traffic in the vicinity of the Berths 136-147
34 Terminal could lead to a greater opportunity of a successful terrorist attack; however,
35 existing Port security measures would counter this potential increase in unauthorized
36 access to the terminal.

Consequences of Terrorist Attack

The Berths 136-147 Terminal will be fully operational during the construction period; therefore the risks associated with terrorism discussed in Section 3.7.2.4 will apply to the terminal during this period. The potential consequences of a terrorist action on a container terminal would be mainly environmental and economic. A terrorist action involving a container vessel while at berth may result in a fuel and/or commodity spill and its associated environmental damage. Within the Port, a terrorist action could block key waterways and result in economic disruption. Potential environmental damage would include fuel and/or commodity spills into the marine environment, with associated degradation of water quality and damage to marine biological resources. Container ships typically carry up to 5,000 barrels of fuel oil but would not be full when arriving at the port. These impacts would be limited to the area surrounding the point of attack and would be contained by the relevant oil spill response contractor. A potential fire associated with a terrorist attack could result in short-term impacts to local air quality.

The consequences associated with the smuggling of weapons of mass destruction would be substantial in terms of impacts to the environment and public health and safety. However, the consequences of a WMD attack would not be affected by the alternative. The likelihood of such an event would not be impacted by alternative-related throughput increases, but would depend on the terrorist's desired outcome and the ability of safeguards, unaffected by the alternative, to thwart it. Cargo containers represent only one of many potential methods to smuggle weapons of mass destruction, and with current security initiatives (see Section 3.7.2.5) may be less plausible than other established smuggling routes (e.g., land-based ports of entry, cross border tunnels, illegal vessel transportation, etc.).

CEQA Impact Determination

Potential public safety consequences of a terrorist attack on the Berths 136-147 Terminal for Alternative 5 are considered negligible since, in the event of a successful attack, the potential for a small number of offsite injuries are possible mainly due to fire, which in turn would be a result of fuel spilled into Port waters. Potential thermal radiation and explosion overpressure levels would be limited to the immediate vicinity of the attack and would not overlap any existing, planned, or permitted vulnerable resources; nevertheless, the potential for limited public exposure along Port waterways is possible.

The risk of a terrorist attack is considered part of the baseline for the project. Terrorism risk associated with container terminals currently exists, and is not influenced by changes in container traffic volume. Currently, the Berths 136-147 Terminal handles approximately 3.1 percent of the national containerized cargo and 8.1 percent of the POLA/POLB cargo volume (based on MARAD 2005b; Parsons 2006). An increase in the volume of container vessels visiting the terminal would not change the probability or consequences of a terrorist attack on the Berths 136-147 Terminal since the terminal is already considered a potential economic target, as well as a potential mode to smuggle a weapon into the United States. In addition, the measures outlined in Section 3.7.2.5 would serve to reduce the potential for a successful terrorist attack on the Berths 136-147 facility as compared to project baseline conditions (under which many of these measures had not yet been implemented). These measures have since improved both

1 terminal and cargo security, and have resulted in enhanced cargo screening. Therefore,
2 potential impacts associated with a potential terrorist attack on the Berths 136-147
3 facility are considered less than significant.

4 *Mitigation Measures*

5 As terrorism impacts are less than significant, no mitigation is required.

6 *Residual Impacts*

7 With no mitigation required, residual impacts would be less than significant.

8 **NEPA Impact Determination**

9 Under this alternative, no development would occur within the in-water Project area
10 (i.e., no dredging, filling of the Northwest Slip or new wharf construction). Therefore,
11 there would be no federal action and an impact determination is not applicable.

12 *Mitigation Measures*

13 Due to No Federal Action, mitigation is not applicable. No mitigation is required.

14 *Residual Impacts*

15 No impact.

16 **3.7.4.3.2.5.2 Operational Impacts**

17 **Impact RISK-1b: Berths 136-147 Terminal operations would not**
18 **increase the probable frequency and severity of consequences to**
19 **people or property as a result of accidental release or explosion of a**
20 **hazardous substance.**

21 Under Alternative 5, Berths 136-147 Terminal operations would handle a maximum
22 throughput of 1,697,000 TEUs per year when optimized and functioning at maximum
23 capacity (year 2025). This alternative would result in 692,000 fewer TEUs per year
24 compared to the proposed Project. Thus, the number of hazardous materials containers
25 and the overall risk to the public would be reduced compared to the proposed Project.

26 Terminal operations would be subject to safety regulations that govern the storage
27 and handling of hazardous materials, which would limit the severity and frequency of
28 potential releases of hazardous materials resulting in increased exposure of people to
29 health hazards (i.e., Port RMP, USCG and LAFD regulations and requirements, and
30 DOT regulations). For example, as discussed in Section 3.7.3.1, List of Regulations,
31 and summarized below, the USCG maintains a HMSD, under the jurisdiction of the
32 federal Department of Homeland Security (33 CFR 126), which develops standards
33 and industry guidance to promote the safety of life and protection of property and the
34 environment during marine transportation of hazardous materials. In addition, the
35 DOT Hazardous Materials Regulations (Title 49 CFR Parts 100-185) regulate almost

1 all aspects of terminal operations. Parts 172 (Emergency Response), 173 (Packaging
2 Requirements), 174 (Rail Transportation), 176 (Vessel Transportation), 177
3 (Highway Transportation), 178 (Packaging Specifications) and 180 (Packaging
4 Maintenance) would all apply to the alternative project activities.

5 Hazardous materials cargo associated with the Alternative 5 would be shipped,
6 transported, handled, and stored in compliance with the USCG regulations, fire
7 department requirements, and Caltrans regulations. For example, as discussed in
8 Section 3.7.3.1, List of Regulations, the USCG maintains a HMSD, under the
9 jurisdiction of the federal Department of Homeland Security (33 CFR 126), which
10 develops standards and industry guidance to promote the safety of life and protection
11 of property and the environment during marine transportation of hazardous materials.
12 Among other requirements, Alternative 5 would conform to the USCG requirement to
13 provide a segregated cargo area for containerized hazardous materials. Terminal cargo
14 operations involving hazardous materials are also governed by the LAFD in
15 accordance with regulations of state and federal departments of transportation
16 (49 CFR 176). The transport of hazardous materials in containers on the street and
17 highway system is regulated by Caltrans procedures and the Standardized Emergency
18 Management System prescribed under Section 8607 of the California Government
19 Code. These safety regulations strictly govern the storage of hazardous materials in
20 containers (i.e., types of materials and size of packages containing hazardous materials).
21 Implementation of increased hazardous materials inventory control and spill prevention
22 controls associated with these regulations would limit both the frequency and severity
23 of potential releases of hazardous materials.

24 Terminal maintenance activities would involve the use of hazardous materials such as
25 petroleum products, solvents, paints, and cleaners. Quantities of hazardous materials that
26 exceed the thresholds provided in Chapter 6.95 of the California Health and Safety Code
27 would be subject to an RRP and HMI. Implementation of increased inventory
28 accountability and spill prevention controls associated with this RRP and HMI would
29 limit both the frequency and severity of potential releases of hazardous materials. Based
30 on the limited volumes that could potentially spill, quantities of hazardous materials
31 utilized at Berths 136-147 that are below the thresholds of Chapter 6.95 would not likely
32 result in a substantial release into the environment.

33 **CEQA Impact Determination**

34 Because projected terminal operations at Berths 136-147 would accommodate
35 approximately a 90 percent increase in containerized cargo compared to the CEQA
36 Baseline, the potential for an accidental release or explosion of hazardous materials
37 would also be expected to increase proportionally. During the period 1997-2004
38 there were 40 “hazardous material” spills directly associated with container terminals
39 in the Ports of Los Angeles and Long Beach. This equates to approximately five
40 spills per year for the entire port complex. During this period, the total throughput of
41 the container terminals was 76,874,841 TEU. Therefore, the probability of a spill at
42 a container terminal can be estimated at 5.2×10^{-7} per TEU (40 spills divided by
43 76,874,841 TEU). This spill probability conservatively represents the baseline
44 hazardous material spill probability since it include materials that would not be
45 considered a risk to public safety (e.g., perfume spills), but would still be considered
46 an environmental hazard. The probability of spills associated with future operations

1 would be based on the spill probability per TEU times the number of TEUs under
 2 Alternative 5.

3 It should be noted that during this period there were no reported impacts to the public
 4 (injuries, fatalities and evacuations), with potential consequences limited to port
 5 workers (two worker injuries that were treated at the scene and 20 workers evaluated
 6 as a precaution).

7 Based on the Port’s accident history of containers containing hazardous materials,
 8 which includes 40 incidents over an eight year period, the frequency of project-
 9 related spills can be estimated as follows:

Table 3.7-21. Existing and Projected Cargo Throughput Volumes at Berths 136-147

<i>Operations</i>	<i>Overall Throughput (TEUs)¹</i>	<i>Increase in TEU (%)</i>	<i>Potential Spills (per year)</i>
POLA Baseline (2003)	4,977,818	NA	3.7
Project Baseline (2003)	891,976	NA	0.5
Alternative 5	1,697,000	90%	0.9
<i>Note: 1. TEUs = twenty-foot equivalent units</i>			

10 Based on the projected increase in TEUs, the frequency of potential Alternative 5-
 11 related spills would increase to 0.9 from 0.5 spills per year, or about one spill per
 12 year. This spill frequency would be classified as “periodic” (between once per year
 13 and once in 10 years). Because, based on past history, a slight possibility exists for
 14 injury and or property damage to occur during one of these frequent accidents, the
 15 consequence of such accidents is classified as “slight,” resulting in a Risk Code of 4
 16 that is “acceptable.” It should be noted that there were no impacts to the public from
 17 any of the hazardous materials spills that were reported during the 1997-2004 period.
 18 Compliance with applicable federal, state, and local laws and regulations governing
 19 the transport of hazardous materials and emergency response to hazardous material
 20 spills, as described above, would minimize the potentials for adverse public health
 21 impacts. Therefore, under CEQA, Alternative 5 operations would not substantially
 22 increase the probable frequency and severity of consequences to people or property
 23 as a result of an accidental release or explosion of a hazardous substance. Impacts
 24 would be less than significant under criterion **RISK-1**.

25 **Mitigation Measures**

26 No mitigation is required.

27 **Residual Impacts**

28 With no mitigation required, the residual impacts would be less than significant.

NEPA Impact Determination

Under this alternative, no development would occur within the in-water Project area (i.e., no dredging, filling of the Northwest Slip or new wharf construction). Therefore, there would be no federal action and an impact determination is not applicable.

Mitigation Measures

Due to No Federal Action, mitigation is not applicable. No mitigation is required.

Residual Impacts

No impact.

Impact RISK-2b: Alternative 5 operations would not substantially increase the probable frequency and severity of consequences to people or property from exposure to health hazards.

Under Alternative 5, Berths 136-147 Terminal operations would handle a maximum throughput of 1,697,000 TEUs per year when optimized and functioning at maximum capacity (year 2025). This alternative would result in 692,000 fewer TEUs per year compared to the proposed Project. Because projected terminal operations at Berths 136-147 would accommodate approximately 692,000 fewer TEUs per year compared to the proposed Project, the number of hazardous materials containers and the overall health risk to people or property would be reduced proportionally.

Because projected terminal operations at Berths 136-147 would accommodate approximately a 90 percent increase in containerized cargo compared to the CEQA Baseline, the potential for increased truck transportation-related accidents would also occur. Potential Alternative 5-related increases in truck trips could result in an increase in vehicular accidents, injuries and fatalities. Therefore, potential impacts of increased truck traffic on regional injury and fatality rates have been evaluated.

According to an FMCSA detailed analysis (FMCSA 2001), the estimated non-hazardous materials truck accident rate is more than twice the hazardous materials truck accident rate. The non-hazardous materials truck accident rate was estimated to be 0.73 accidents per million vehicle miles and the average hazardous materials truck accident rate was estimated to be 0.32 accidents per million vehicle miles. The hazardous material truck accident rate is not directly applicable to existing terminal container trucks since they are generally limited to bulk hazardous material carriers. Therefore, for this analysis, the higher accident rate associated with non-hazardous material trucks was used.

Based on the NHTSA (DOT 2003), of the estimated 457,000 truck crashes in 2000 (causing fatalities, injuries, or property damage), an estimated 1 percent produced fatalities and 22 percent produced injuries. The FARS and the TIFA survey were the sources of data for this analysis, which primarily examined fatalities associated with vehicle impact and trauma.

1 Based on these statistics and the projected truck trips for the existing facilities and
 2 future operations under the Alternative 5, the potential rate of truck accidents,
 3 injuries and fatalities can be evaluated.

4 **CEQA Impact Determination**

5 Potential Alternative 5-related truck accident rates can be estimated based on national
 6 average accident rates and the average number of miles per cargo truck trip. Based
 7 on the port’s air pollutant emission inventory, it was determined that the average
 8 truck trip was approximately 49 miles (Starcrest Consulting Group 2003). Given the
 9 annual number of truck trips, the average distance of each trip, and the published
 10 accident, injury and fatality rates, the following probabilities were estimated:

Table 3.7-22. Existing and Projected Truck Trips at Berths 136-147

<i>Operations</i>	<i>Annual Truck Trips</i>	<i>Increase (%)</i>	<i>Accident Rate (per year)</i>	<i>Injury Probability (per year)</i>	<i>Fatality Probability (per year)</i>
Baseline (2003)	1,197,589	NA	42.8	9.4	0.4
Alternative 5	1,879,127	57%	67.1	14.8	0.7

11 Because the occurrence of truck accidents associated with Berth 136-147 occur at a
 12 frequency greater than one per year, truck accidents are considered a “frequent”
 13 event. Because the possibility exists for injury and/or fatality to occur during one of
 14 these frequent accidents as noted in Table 3.7-22, the consequence of such accidents
 15 is classified as “severe” since the number of injuries would increase to 14.8 from a
 16 baseline of 9.4, resulting in a Risk Code of 2 that is “undesirable” and requires
 17 additional engineering or administrative controls.

18 The Port is currently developing a Port-wide TMP for roadways in and around its
 19 facilities. Present and future traffic improvement needs are being determined based on
 20 existing and projected traffic volumes. The results will be a TMP providing ideas on
 21 what to expect and how to prepare for the future volumes. Some of the transportation
 22 improvements already under consideration include: I-110/SR-47/Harbor Boulevard
 23 interchange improvements; Navy Way connector (grade separation) to westbound
 24 Seaside Ave.; south Wilmington grade separations; and additional traffic capacity
 25 analysis for the Vincent Thomas Bridge. In addition, the Port is working on several
 26 strategies to increase rail transport, which will reduce reliance on trucks. These projects
 27 would serve to reduce the frequency of truck accidents.

28 In addition, the Port is currently phasing out older trucks as part of the TMP, and the
 29 TWIC program will also help identify and exclude truck drivers that lack the proper
 30 licensing and training. The phasing out of older trucks would reduce the probability
 31 of accidents that occur as a result of mechanical failure by approximately 10 percent
 32 (ADL 1990). In addition, proper driver training, or more specifically, the reduction
 33 in the number of drivers that do not meet minimum training specifications, would
 34 reduce potential accidents by approximately 30 percent. The potential number of
 35 injuries would be reduced to approximately 9.3, which would reduce the
 36 consequence classification to “moderate” and a Risk Code to 3 or less, as required by
 37 under Risk Code 2.

1 Therefore, under CEQA, Alternative 5 operations would not substantially increase
2 the probable frequency and severity of consequences to people from exposure to
3 health hazards and would meet criterion **RISK-2** and impacts would be considered
4 less than significant under criterion **RISK-2**.

5 *Mitigation Measure*

6 No mitigation is required.

7 *Residual Impacts*

8 With no mitigation required, the residual impacts would be less than significant.

9 **NEPA Impact Determination**

10 Under this alternative, no development would occur within the in-water Project area (i.e.,
11 no dredging, filling of the Northwest Slip or new wharf construction). Therefore, there
12 would be no federal action and an impact determination is not applicable.

13 *Mitigation Measures*

14 Due to No Federal Action, mitigation is not applicable. No mitigation is required.

15 *Residual Impacts*

16 No impact.

17 **Impact RISK-3b: Alternative 5 operations would not substantially**
18 **interfere with any existing emergency response plans or emergency**
19 **evacuation plans.**

20 Under Alternative 5, The Berths 136-147 Terminal would continue to operate as a
21 container terminal; therefore, proposed terminal operations would not interfere with
22 any existing contingency plans, since the current activities are consistent with the
23 contingency plans and the alternative project would not add any additional activities
24 that would be inconsistent with these plans. All Berths 136-147 facilities personnel,
25 including dock laborers and equipment operators, would be trained in emergency
26 response and evacuation procedures. The Project site would be secured, with access
27 allowed only to authorized personnel. The LAFD and Port Police would be able to
28 provide adequate emergency response services to the Project site. Additionally,
29 Alternative 5 operations would be subject to emergency response and evacuation
30 systems implemented by the LAFD, which would review all plans to ensure that
31 adequate access in the Project vicinity is maintained. All contractors would be required
32 to adhere to plan requirements.

33 **CEQA Impact Determination**

34 Because the terminal would continue to be operated as a container terminal, Alternative
35 5 operations would continue to be subject to emergency response and evacuation

1 systems implemented by the LAFD. Alternative 5 operations would not interfere with
2 any existing emergency response or emergency evacuation plans or increase the risk of
3 injury or death. Therefore impacts would be less than significant under CEQA.

4 *Mitigation Measures*

5 No mitigation is required.

6 *Residual Impacts*

7 With no mitigation required, the residual impacts would be less than significant under
8 CEQA.

9 **NEPA Impact Determination**

10 Under this alternative, no development would occur within the in-water Project area
11 (i.e., no dredging, filling of the Northwest Slip or new wharf construction). Therefore,
12 there would be no federal action and an impact determination is not applicable.

13 *Mitigation Measures*

14 Due to No Federal Action, mitigation is not applicable. No mitigation is required.

15 *Residual Impacts*

16 No impact.

17 **Impact RISK-4b: Alternative 5 operations would comply with applicable**
18 **regulations and policies guiding development within the Port.**

19 Alternative 5 operations would be subject to numerous regulations. LAHD has
20 implemented various plans and programs to ensure compliance with these
21 regulations, which must be adhered to during Alternative 5 operations. For example,
22 as discussed in Section 3.7.3.1, List of Regulations, the USCG maintains a HMSD,
23 under the jurisdiction of the federal Department of Homeland Security (33 CFR 126),
24 which develops standards and industry guidance to promote the safety of life and
25 protection of property and the environment during marine transportation of hazardous
26 materials.

27 Among other requirements, Alternative 5 operations would conform to the USCG
28 requirement to provide a segregated cargo area for containerized hazardous materials.
29 Terminal cargo operations involving hazardous materials are also governed by the LAFD
30 in accordance with regulations of state and federal departments of transportation
31 (49 CFR 176). The transport of hazardous materials in containers on the street and
32 highway system is regulated by Caltrans procedures and the Standardized Emergency
33 Management System, prescribed under Section 8607 of the California Government
34 Code. These safety regulations strictly govern the storage of hazardous materials in
35 containers (i.e., types of materials and size of packages containing hazardous materials).
36 Any facilities identified as either a hazardous cargo facility or a vulnerable resource

1 would be required to conform to the RMP, which includes packaging constraints and the
2 provision of a separate storage area for hazardous cargo.

3 LAHD maintains compliance with these state and federal laws through a variety of
4 methods, including internal compliance reviews, preparation of regulatory plans, and
5 agency oversight. Most notably, the Port RMP implements development guidelines in
6 an effort to minimize the danger of accidents to vulnerable resources. This would be
7 achieved mainly through physical separation as well as through facility design features,
8 fire protection, and other risk management methods. There are two primary categories of
9 vulnerable resources, people, and facilities. People are further divided into subgroups.
10 The first subgroup is comprised of residences, recreational users, and visitors. Within
11 the Port setting, residences and recreational users are considered vulnerable resources.
12 The second subgroup is comprised of workers in high density (i.e., generally more than
13 10 people per acre, per employer).

14 Facilities that are vulnerable resources include Critical Regional Activities/Facilities and
15 High Value Facilities. Critical Regional Activities/Facilities are facilities in the Port that
16 are important to the local or regional economy, the national defense, or some major
17 aspect of commerce. These facilities typically have a large quantity of unique
18 equipment, a very large working population, and are critical to both the economy and to
19 national defense. Such facilities in the Port have been generally defined in the Port RMP
20 as the former Todd Shipyard, Fish Harbor, Badger Avenue Bridge, and Vincent Thomas
21 Bridge.

22 High Value Facilities are non-hazardous facilities, within and near the Ports, which
23 have very high economic value. These facilities include both facility improvements and
24 cargo in-place, such as container storage areas. However, the determination of a
25 vulnerable resource is made by the Port and LAFD on a case-by-case basis. Although
26 the Port generally considers container terminals to be High Value Facilities, these types
27 of facilities have never been considered vulnerable resources in risk analyses completed
28 by the Port and LAFD (personal communication, Dan Knott 2007). Alternative 5
29 would be located immediately adjacent to the ConocoPhillips liquid bulk facility
30 (Berths 148-149) and immediately across Slip 1 from several other liquid bulk facilities
31 (Berths 161-169), at a distance of approximately 400 to 800 feet. Because container
32 terminals are not considered vulnerable resources, this alternative would not conflict
33 with the RMP.

34 Plans and specifications of existing facilities have been reviewed by the LAFD for
35 conformance to the Los Angeles Municipal Fire Code, as a standard practice.
36 Buildings have been equipped with fire protection equipment as required by the
37 Los Angeles Municipal Fire Code. Access to all buildings and adequacy of road and
38 fire lanes have been reviewed by the LAFD to ensure that adequate access and
39 firefighting features are provided.

40 Operation of Alternative 5 would be required to comply with all existing hazardous
41 waste laws and regulations, including the federal RCRA and CERCLA, and CCR
42 Title 22 and Title 26. Alternative 5 operations would comply with these laws and
43 regulations, which would ensure that potential hazardous materials handling would
44 occur in an acceptable manner.

1 **CEQA Impact Determination**

2 Alternative 5 operations would not conflict with RMP guidelines or the Los Angeles
3 Municipal Fire Code and would be required to comply with all existing hazardous
4 waste laws and regulations. Therefore, under CEQA, Alternative 5 operations would
5 comply with applicable regulations and policies guiding development within the Port.
6 Impacts would be less than significant.

7 *Mitigation Measures*

8 No mitigation is required.

9 *Residual Impacts*

10 With no mitigation required, the residual impacts would be less than significant.

11 **NEPA Impact Determination**

12 Under this alternative, no development would occur within the in-water Project area
13 (i.e., no dredging, filling of the Northwest Slip or new wharf construction).
14 Therefore, there would be no federal action and an impact determination is not
15 applicable.

16 *Mitigation Measures*

17 Due to No Federal Action, mitigation is not applicable. No mitigation is required.

18 *Residual Impacts*

19 No impact.

20 **Impact RISK-5b: Tsunami-induced flooding would result in fuel**
21 **releases from ships or hazardous substances releases from containers,**
22 **which in turn would result in risks to persons and/or the environment.**

23 As discussed in Section 3.5, there is the potential for a large tsunami to impact the Port.
24 A large tsunami would likely lead to a fuel spill if a moored vessel is present. Although
25 crude oil tankers would not moor at Berths 136-147, each ship contains large quantities
26 of fuel oil. While in transit, the hazards posed to tankers are insignificant, and in most
27 cases, imperceptible. However, while docked, a tsunami striking the Port could cause
28 significant ship movement and even a hull breach if the ship is pushed against the wharf.

29 The Port is subject to diurnal tides, meaning two high tides and two low tides during a
30 24-hour day. The average of the lowest water level during low tide periods each day is
31 typically set as a benchmark of 0 ft (0 m) and is defined as Mean Lower Low Water
32 level (MLLW). For purposes of this discussion, all proposed Project structures and
33 land surfaces are expressed as height above (or below) MLLW. The mean sea level
34 (MSL) in the Port is +2.8 ft (0.86 m) above MLLW (NOAA 2005). This height reflects
35 the arithmetic mean of hourly heights observed over the National Tidal Datum Epoch
36 (19 years) and therefore reflects the mean of both high and low tides in the Port. The

1 recently developed Port Complex model described in Section 3.5.2 predicts tsunami
2 wave heights with respect to MSL, rather than MLLW, and therefore can be considered
3 a reasonable average condition under which a tsunami might occur. The Port MSL of
4 +2.82 ft (0.86 m) must be considered in comparing projected tsunami run-up (i.e.,
5 amount of wharf overtopping and flooding) to proposed wharf height and topographic
6 elevations, which are measured with respect to MLLW.

7 A reasonable worst-case scenario for generation of a tsunami or seiche in the San
8 Pedro Bay Ports include the recently developed Port Complex model, which predicts
9 tsunami wave heights of 1.3 to 5.3 ft (0.4 to 1.6 m) above MSL at the proposed
10 Project site, under both earthquake and landslide scenarios. Incorporating the Port
11 MSL of +2.82 ft (0.86 m), the model predicts tsunami wave heights of 4.1 to 8.1 ft
12 (0.8 to 2.4 m) above MLLW at the proposed Project site. Because the proposed
13 Project site elevation ranges from 10 to 15 ft (3.0 to 4.6 m) above MLLW, localized
14 tsunami-induced flooding would not occur.

15 While the analysis above considers a reasonable worst-case seismic scenario based
16 on a maximum seismic event, with respect to MSL, a theoretical maximum worst-
17 case wave action from a tsunami would result if the single highest tide predicted over
18 the next 40 years at the San Pedro Bay Ports was present at the time of the seismic
19 event. The single highest tide predicted over the next 40 years is 7.3 ft (2.2 m) above
20 MLLW. This condition is expected to occur less than 1 percent of the time over this
21 40-year period. If that very rare condition were to coincide with a maximum tsunami
22 event, the model predicts tsunami wave heights of 8.6 to 12.6 ft (2.6 to 3.8 m) above
23 MLLW at the proposed Project site. Because the proposed Project site elevation
24 ranges from 10 to 15 ft (3.0 to 4.5 m) above MLLW, localized tsunami-induced
25 flooding up to 2.6 ft (0.8 m) is possible. To determine the extent of potential impacts
26 due to tsunami-induced flooding, Port structural engineers have determined that Port
27 reinforced concrete or steel structures designed to meet California earthquake
28 protocols incorporated into MOTEMS would be expected to survive complete
29 inundation in the event of a tsunami (personal communication, Yin, P., P.E., Senior
30 Structural Engineer, LAHD 2006). However, substantial infrastructure damage
31 and/or injury to personnel would occur as a result of complete site inundation.

32 As previously discussed, there is a potential for tsunami-induced flooding under the
33 theoretical maximum worst-case scenario. However, the likelihood of a large
34 tsunami is very low during operation of the proposed Project and the overall
35 probability of this worst-case scenario is less than one in a 100,000 year period.

36 The most likely worst-case tsunami scenario was based partially on a magnitude 7.6
37 earthquake on the offshore Santa Catalina Fault. The recurrence interval for a
38 magnitude 7.5 earthquake along an offshore fault in the Southern California
39 Continental Borderland is about 10,000 years. Similarly, the recurrence interval of a
40 magnitude 7.0 earthquake is about 5,000 years and the recurrence interval of a
41 magnitude 6.0 earthquake is about 500 years. However, there is no certainty that any
42 of these earthquake events would result in a tsunami, since only about 10 percent of
43 earthquakes worldwide result in a tsunami. In addition, available evidence indicates
44 that tsunamigenic landslides would be extremely infrequent and occur less often than
45 large earthquakes. This suggests recurrence intervals for such landslide events would
46 be longer than the 10,000-year recurrence interval estimated for a magnitude 7.5

1 earthquake (Moffatt and Nichol 2007). As noted above, the probability of the worst-
2 case combination of a large tsunami and extremely high tides would be less than once
3 in a 100,000-year period.

4 Containers of hazardous substances on ships or on berths could similarly be damaged
5 as a result of a large tsunami. Such damage would result in releases of both
6 hazardous and non-hazardous cargo to the environment, adversely impacting persons
7 and/or the marine waters. However, containers carrying hazardous cargo would not
8 necessarily release their contents in the event of a large tsunami. The DOT
9 regulations (49 CFR Parts 172-180) covering hazardous material packaging and
10 transportation would minimize potential release volumes since packages must meet
11 minimum integrity specifications and size limitations.

12 The owner or operators of tanker vessels are required to have an approved Tank Vessel
13 Response Plan on board and a qualified individual within the U.S. with full authority to
14 implement removal actions in the event of an oil spill incident, and to contract with the
15 spill response organizations to carry out cleanup activities in case of a spill. The
16 existing oil spill response capabilities in the POLA/POLB are sufficient to isolate spills
17 with containment booms and recover the maximum possible spill from an oil tanker
18 within the Port.

19 Various studies have shown that double-hull tank vessels have lower probability of
20 releases when tanker vessels are involved in accidents. Because of these studies, the
21 USCG issued regulations addressing double-hull requirements for tanker vessels.
22 The regulations establish a timeline for eliminating single-hull vessels from operating
23 in the navigable waters or the EEZ of the U.S. after January 1, 2010 and double-
24 bottom or double-sided vessels by January 1, 2015. Only vessels equipped with a
25 double hull, or with an approved double containment system will be allowed to
26 operate after those times.

27 **CEQA Impact Determination**

28 Because projected terminal operations at Berths 136-147 would accommodate
29 approximately 692,000 fewer TEUs per year compared to the proposed Project, the
30 number of hazardous materials containers and ship calls subject to accidental release
31 or explosion of hazardous materials would also be expected to decrease. Impacts due
32 to seismically induced tsunamis and seiches are typical for the entire California
33 coastline and would not be increased by Alternative 5 operations. However, because
34 the Project site elevation is located within 10 to 15 feet (3 to 4.6 m) above MLLW,
35 there is a substantial risk of coastal flooding due to tsunamis and seiches, which in
36 turn, could result in accidental spills of petroleum products or hazardous substances.
37 Because a major tsunami is not expected during the life of Alternative 5, but could occur
38 (see Section 3.5, Geology for additional information on the probability of a major
39 tsunami), the probability of a major tsunami occurring is classified as “improbable” (less
40 than once every 10,000 years). The consequence of such an event is classified as
41 “moderate,” resulting in a Risk Code of 4 that is “acceptable.” The volume of spilled
42 fuel is also expected to be relatively low since all fuel storage containers at the project
43 site would be quite small in comparison to the significance criteria volumes. While there
44 will be fuel-containing equipment present during construction, most equipment is
45 equipped with watertight tanks, with the most likely scenario being the infiltration of

1 water into the tank and fuel combustion chambers and very little fuel spilled. Thus, the
2 volume spilled in the event of a tsunami would be less than 10,000 gallons, which is
3 considered “slight.” In light of such a low probability and acceptable risk of a large
4 tsunami, Alternative 5 impacts would be less than significant as they pertain to hazardous
5 materials spills under criterion **RISK-5**.

6 *Mitigation Measures*

7 No mitigation is required.

8 *Residual Impacts*

9 With no mitigation required, the residual impacts would be less than significant.

10 **NEPA Impact Determination**

11 Under this alternative, no development would occur within the in-water Project area
12 (i.e., no dredging, filling of the Northwest Slip or new wharf construction). Therefore,
13 there would be no federal action and an impact determination is not applicable.

14 *Mitigation Measures*

15 Due to No Federal Action, mitigation is not applicable. No mitigation is required.

16 *Residual Impacts*

17 No impact.

18 **Impact RISK-6b: A potential terrorist attack would result in adverse**
19 **consequences to areas near the Alternative 5 site during the operations**
20 **period.**

21 ***Risk of Terrorist Actions associated with Operations***

22 The probability of a terrorist attack on the alternative project facilities is not likely to
23 appreciably change over the existing baseline. It is possible that the increase in
24 vessel traffic in the vicinity of the Berths 136-147 Terminal could lead to a greater
25 opportunity of a successful terrorist attack; however, existing Port security measures
26 would counter this potential increase in unauthorized access to the terminal.

27 The risks associated with terrorism discussed in Section 3.7.2.4 would apply to the
28 terminal during operations. The potential consequences of a terrorist action on a
29 container terminal would be mainly environmental and economic. A terrorist action
30 involving a container vessel while at berth may result in a fuel and/or commodity spill
31 and its associated environmental damage. Within the Port, a terrorist action could block
32 key waterways and result in economic disruption. Potential environmental damage
33 would include fuel and/or commodity spills into the marine environment, with associated
34 degradation of water quality and damage to marine biological resources. Container ships
35 typically carry up to 5,000 barrels of fuel oil but would not be full when arriving at the

1 port. These impacts would be limited to the area surrounding the point of attack and
2 would be contained by the relevant oil spill response contractor. A potential fire
3 associated with a terrorist attack could result in short-term impacts to local air quality.

4 The consequences associated with the smuggling of weapons of mass destruction
5 would be substantial in terms of impacts to the environment and public health and
6 safety. However, the consequences of a WMD attack would not be affected by the
7 alternative. Furthermore, the likelihood of such an event would not be impacted by
8 alternative-related infrastructure or throughput increases, but would depend on the
9 terrorist's desired outcome and the ability of safeguards, unaffected by the
10 alternative, to thwart it. Cargo containers represent only one of many potential
11 methods to smuggle weapons of mass destruction, and with current security
12 initiatives (see Section 3.7.2.5) may be less plausible than other established
13 smuggling routes (e.g., land-based ports of entry, cross border tunnels, illegal vessel
14 transportation, etc.).

15 **CEQA Impact Determination**

16 Potential public safety consequences of a terrorist attack on the Berths 136-147
17 Terminal for the alternative project are considered negligible since, in the event of a
18 successful attack, the potential for a small number of offsite injuries are possible
19 mainly due to fire, which in turn would be a result of fuel spilled into Port waters.
20 Potential thermal radiation and explosion overpressure levels would be limited to the
21 immediate vicinity of the attack and would not overlap any existing, planned, or
22 permitted vulnerable resources; nevertheless, the potential for limited public exposure
23 along Port waterways is possible.

24 The risk of a terrorist attack is considered part of the baseline for the project alternative.
25 Terrorism risk associated with container terminals currently exists, and is not influenced
26 by changes in container traffic volume. Currently, the Berths 136-147 Terminal
27 handles approximately 3.1 percent of the national containerized cargo and 8.5 percent
28 of the POLA/POLB cargo volume (based on MARAD 2005b; Parsons 2006). With
29 the implementation of the alternative, and compared to regional and national growth
30 projections, the relative importance of the project will decrease to 2.2 percent of
31 national containerized cargo throughput and decrease to 4.0 of the POLA/POLB
32 cargo volume (based on projections in MARAD 2005b; Parsons 2006). Overall,
33 growth at the Berths 136-147 Terminal would not increase disproportionately as
34 compared to regional (POLA/POLB) and national container terminals growth, and
35 would, therefore, not change the relative importance of the terminal as a terrorist target.

36 An increase in the volume of container vessels visiting the terminal would not change
37 the probability or consequences of a terrorist attack on the Berths 136-147 Terminal
38 since the terminal is already considered a potential economic target, as well as a
39 potential mode to smuggle a weapon into the United States. In addition, the measures
40 outlined in Section 3.7.2.5 would serve to reduce the potential for a successful terrorist
41 attack on the Berths 136-147 facility as compared to project baseline conditions (under
42 which many of these measures had not yet been implemented). These measures have
43 since improved both terminal and cargo security, and have resulted in enhanced cargo
44 screening. Therefore, potential impacts associated with a potential terrorist attack on
45 the Berths 136-147 facility are considered less than significant.

1 *Mitigation Measures*

2 As terrorism impacts are less than significant, no mitigation is required.

3 *Residual Impacts*

4 With no mitigation required, residual impacts would be less than significant.

5 **NEPA Impact Determination**

6 Under this alternative, no development would occur within the in-water Project area
7 (i.e., no dredging, filling of the Northwest Slip or new wharf construction). Therefore,
8 there would be no federal action and an impact determination is not applicable.

9 *Mitigation Measures*

10 Due to No Federal Action, mitigation is not applicable. No mitigation is required.

11 *Residual Impacts*

12 No impact.

13 **3.7.4.3.3 Summary of Impact Determinations**

14 The following Table 3.7-23 summarizes the CEQA and NEPA impact determinations
15 of the proposed Project and its Alternatives related to Hazards and Hazardous
16 Materials, as described in the detailed discussion in Sections 3.7.4.3.1 and 3.7.4.3.2.
17 This table is meant to allow easy comparison between the potential impacts of the
18 Project and its Alternatives with respect to this resource. Identified potential impacts
19 may be based on federal, state, or City of Los Angeles significance criteria, Port
20 criteria, and the scientific judgment of the report preparers.

21 For each type of potential impact, the table describes the impact, notes the CEQA and
22 NEPA impact determinations, describes any applicable mitigation measures, and notes
23 the residual impacts (i.e.: the impact remaining after mitigation). All impacts, whether
24 significant or not, are included in this table. Note that impact descriptions for each of
25 the Alternatives are the same as for the proposed Project, unless otherwise noted.

26 **3.7.4.4 Mitigation Monitoring**

27 No mitigation monitoring is required.

28 **3.7.5 Significant Unavoidable Impacts**

29 There are no significant unavoidable impacts associated with hazards and hazardous
30 materials.

Table 3.7-23: Summary Matrix of Potential Impacts and Mitigation Measures for Hazards and Hazardous Materials Associated with the Proposed Project and Alternatives

<i>Alternative</i>	<i>Environmental Impacts*</i>	<i>Impact Determination</i>	<i>Mitigation Measures</i>	<i>Impacts after Mitigation</i>
3.7 Hazards and Hazardous Materials				
Proposed Project	RISK-1a: Phase I/II construction/demolition activities would not substantially increase the probable frequency and severity of consequences to people or property as a result of accidental release or explosion of a hazardous substance.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-2a: Phase I/II construction/demolition activities would not substantially increase the probable frequency and severity of consequences to people from exposure to health hazards.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-3a: Phase I/II construction/demolition activities would not substantially interfere with an existing emergency response or evacuation plan, thereby increasing risk of injury or death.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-4a: The proposed Project would comply with applicable regulations and policies guiding development within the Port.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-5a: Tsunami-induced flooding would result in fuel releases from demolition/construction equipment or hazardous substances releases from containers, which in turn would result in risks to persons and/or the environment.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-6a: A potential terrorist attack would result in adverse consequences to areas near the proposed Project site during the construction period.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-1b: Berths 136-147 Terminal operations would not increase the probable frequency and severity of consequences to people or property as a result of accidental release or explosion of a hazardous substance.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact

Table 3.7-23: Summary Matrix of Potential Impacts and Mitigation Measures for Hazards and Hazardous Materials Associated with the Proposed Project and Alternatives (continued)

<i>Alternative</i>	<i>Environmental Impacts*</i>	<i>Impact Determination</i>	<i>Mitigation Measures</i>	<i>Impacts after Mitigation</i>
3.7 Hazards and Hazardous Materials (continued)				
Proposed Project (continued)	RISK-2b: Proposed Project operations would not substantially increase the probable frequency and severity of consequences to people or property from exposure to health hazards.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-3b: Proposed Project operations would not substantially interfere with any existing emergency response plans or emergency evacuation plans.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-4b: The proposed Project would comply with applicable regulations and policies guiding development within the Port.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-5b: Tsunami-induced flooding would result in fuel releases from ships or hazardous substances releases from containers, which in turn would result in risks to persons and/or the environment.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-6b: A potential terrorist attack would result in adverse consequences to areas near the proposed Project site during the operations period.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
Alternative 1	No construction impacts would occur in association with the No Project Alternative (Alternative 1). Therefore, there would be no impacts under CEQA and NEPA for RISK-1a, RISK-2a, RISK-3a, RISK-4a, RISK-5a, and RISK-6a.	CEQA: No impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: No impact NEPA: Not applicable
	RISK-1b: Operations impacts would be similar but less than those described for the proposed Project.	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	RISK-2b: Operations impacts would be similar but less than those described for the proposed Project.	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable

Table 3.7-23: Summary Matrix of Potential Impacts and Mitigation Measures for Hazards and Hazardous Materials Associated with the Proposed Project and Alternatives (continued)

<i>Alternative</i>	<i>Environmental Impacts*</i>	<i>Impact Determination</i>	<i>Mitigation Measures</i>	<i>Impacts after Mitigation</i>
3.7 Hazards and Hazardous Materials (continued)				
Alternative 1 (continued)	RISK-3b	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	RISK-4b	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	RISK-5b: Operations impacts would be similar but less than those described for the proposed Project.	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	RISK-6b	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
Alternative 2	RISK-1a: Construction impacts would be similar but less than those described for the proposed Project.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-2a: Construction impacts would be similar but less than those described for the proposed Project.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-3a:	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-4a:	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact

Table 3.7-23: Summary Matrix of Potential Impacts and Mitigation Measures for Hazards and Hazardous Materials Associated with the Proposed Project and Alternatives (continued)

<i>Alternative</i>	<i>Environmental Impacts*</i>	<i>Impact Determination</i>	<i>Mitigation Measures</i>	<i>Impacts after Mitigation</i>
3.7 Hazards and Hazardous Materials (continued)				
Alternative 2 (continued)	RISK-5a	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-6a	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-1b: Operations impacts would be similar but less than those described for the proposed Project.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-2b	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-3b	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-4b	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-5b	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact

Table 3.7-23: Summary Matrix of Potential Impacts and Mitigation Measures for Hazards and Hazardous Materials Associated with the Proposed Project and Alternatives (continued)

<i>Alternative</i>	<i>Environmental Impacts*</i>	<i>Impact Determination</i>	<i>Mitigation Measures</i>	<i>Impacts after Mitigation</i>
3.7 Hazards and Hazardous Materials (continued)				
Alternative 2 (continued)	RISK-6b	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
Alternative 3	RISK-1a: Construction impacts would be similar but less than those described for the proposed Project.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-2a: Construction impacts would be similar but less than those described for the proposed Project.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-3a	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-4a	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-5a	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-6a	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact

Table 3.7-23: Summary Matrix of Potential Impacts and Mitigation Measures for Hazards and Hazardous Materials Associated with the Proposed Project and Alternatives (continued)

<i>Alternative</i>	<i>Environmental Impacts*</i>	<i>Impact Determination</i>	<i>Mitigation Measures</i>	<i>Impacts after Mitigation</i>
3.7 Hazards and Hazardous Materials (continued)				
Alternative 3 (continued)	RISK-1b: Operations impacts would be similar but less than those described for the proposed Project.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-2b: Operations impacts would be similar but less than those described for the proposed Project.	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-3b	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-4b	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-5b	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact
	RISK-6b	CEQA: Less than significant impact NEPA: Less than significant impact	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Less than significant impact

Table 3.7-23: Summary Matrix of Potential Impacts and Mitigation Measures for Hazards and Hazardous Materials Associated with the Proposed Project and Alternatives (continued)

<i>Alternative</i>	<i>Environmental Impacts*</i>	<i>Impact Determination</i>	<i>Mitigation Measures</i>	<i>Impacts after Mitigation</i>
3.7 Hazards and Hazardous Materials (continued)				
Alternative 4	RISK-1a: Construction impacts would be similar but less than those described for the proposed Project.	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	RISK-2a: Construction impacts would be similar but less than those described for the proposed Project.	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	RISK-3a	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	RISK-4a	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	RISK-5a	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	RISK-6a	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	RISK-1b: Operations impacts would be similar but less than those described for the proposed Project.	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	RISK-2b: Operations impacts would be similar but less than those described for the proposed Project.	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	RISK-3b	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable

Table 3.7-23: Summary Matrix of Potential Impacts and Mitigation Measures for Hazards and Hazardous Materials Associated with the Proposed Project and Alternatives (continued)

<i>Alternative</i>	<i>Environmental Impacts*</i>	<i>Impact Determination</i>	<i>Mitigation Measures</i>	<i>Impacts after Mitigation</i>
3.7 Hazards and Hazardous Materials (continued)				
Alternative 4 (continued)	RISK-4b	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	RISK-5b	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	RISK-6b	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
Alternative 5	RISK-1a: Construction impacts would be similar but less than those described for the proposed Project. Construction/demolition activities would not substantially increase the probable frequency and severity of consequences to people or property as a result of accidental release or explosion of a hazardous substance.	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	RISK-2a: Construction impacts would be similar but less than those described for the proposed Project. Construction/demolition activities would not substantially increase the probable frequency and severity of consequences to people from exposure to health hazards.	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	RISK-3a	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	RISK-4a	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	RISK-5a	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable

Table 3.7-23: Summary Matrix of Potential Impacts and Mitigation Measures for Hazards and Hazardous Materials Associated with the Proposed Project and Alternatives (continued)

<i>Alternative</i>	<i>Environmental Impacts*</i>	<i>Impact Determination</i>	<i>Mitigation Measures</i>	<i>Impacts after Mitigation</i>
3.7 Hazards and Hazardous Materials (continued)				
Alternative 5 (continued)	RISK-6a	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	RISK-1b: Operations impacts would be similar but less than those described for the proposed Project.	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	RISK-2b: Operations impacts would be similar to those described for the proposed Project.	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	RISK-3b	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	RISK-4b	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	RISK-5b	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
	RISK-6b	CEQA: Less than significant impact NEPA: Not applicable	Mitigation not required Mitigation not required	CEQA: Less than significant impact NEPA: Not applicable
* Unless otherwise noted, all impact descriptions for each of the Alternatives are the same as those described for the Proposed Project.				