

PROPOSED PLAN/ DRAFT REMEDIAL ACTION PLAN

INSTALLATION RESTORATION SITES 8, 10, AND 11 AT LONG BEACH NAVAL SHIPYARD, LONG BEACH, CA



Final

January 2, 2002

INTRODUCTION

The Department of the Navy (Navy) and the California Environmental Protection Agency Department of Toxic Substances Control (DTSC) request your comments on the proposed cleanup actions at Installation Restoration (IR) Sites 8, 10, and 11 located on the former Long Beach Naval Shipyard, California (see Figure 1).

This Proposed Plan/Draft Remedial Action Plan (PP/RAP) summarizes the past actions, investigations, and studies that the Navy has performed at each of these IR sites. It also lists the alternatives that have been evaluated as well as the alternative the Navy believes will offer the best solution for protecting human health and the environment.

The Remedial Investigation and the Feasibility Study provide the specific technical information used to evaluate each of the sites. These documents are available for your review at the Information Repository (see page 6).

We encourage you to review and comment on this PP/RAP. The public comment period is offered January 16 through February 15, 2002. A public meeting (details on page 6) will also be held January 23 to provide an opportunity for you to ask questions and discuss your concerns with representatives of the Navy and DTSC.

OVERVIEW

The Navy is working in cooperation with the DTSC, the Los Angeles Regional Water Quality Control Board (RWQCB), and the U.S. Environmental Protection Agency (U.S. EPA) in investigating and evaluating the most appropriate alternative for IR Sites 8, 10, and 11. As a result of the Navy's cooperation with DTSC, this document fulfills both federal and state requirements. To assist your review of this document, technical terms and acronyms are defined on page 7.

The Navy's investigation, evaluation, and selection of remedial actions is governed by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). This document also satisfies the state's RAP requirements as described in Section 2536.1(e) of the California Health and Safety Code.

A human health risk assessment was performed using data collected from soil and groundwater during the Remedial Investigation. The human health risk assessment was used as a tool to help to determine the need for action at the sites. Two remedial action alternatives were evaluated for IR Sites 8, 10, and 11 based on the results of the human health risk assessment. The remedial action alternatives evaluated in the Feasibility Study included (1) "No Further Action"; and (2) institutional controls and groundwater monitoring. An institutional control is a legal or institutional mechanism that limits access to or use of property, or warns of a hazard. An institutional control can be imposed by the property owner or by a government. Institutional controls are proposed at IR Sites 8, 10,

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PREFERRED ALTERNATIVE

The preferred alternative for IR Sites 8, 10, and 11 addressed in this PP/RAP is based on an evaluation of results from sampling and analysis of soil and groundwater at these sites. The results of the Remedial Investigation for IR Sites 8, 10, and 11 indicate that the soil and groundwater do not pose a significant threat to the environment or to human health under an industrial land use scenario.

Institutional controls in the form of groundwater monitoring and land use covenants are proposed for IR Sites 8, 10, and 11. Land use covenants are proposed to maintain industrial land use and to prevent unauthorized disturbance of soil and groundwater. Groundwater monitoring is proposed to ensure that action can be taken to prevent the migration of groundwater contaminants to surface waters in concentrations that exceed California Ocean Plan limits.

and 11 as a means to ensure protection of human health and the environment, to prevent disturbance of groundwater monitoring, and to ensure a permanent solution.

Based on the Remedial Investigation and the Feasibility Study mentioned above, the Navy presents alternative 2 (institutional controls and groundwater monitoring) as the preferred alternative at IR Sites 8, 10, and 11 for the following reasons:

- (1) Institutional controls are proposed as a method to prevent changes in future land use that may increase human health risks. Institutional controls would be implemented in the form of land use covenants and would restrict the use of IR Sites 8, 10, 11. Uses such as residences, child care centers, playgrounds, or other areas frequented by children would be prohibited. Such land use restrictions ensure that land use at the sites remains industrial. Institutional controls would also include provisions to prevent disturbance of groundwater monitoring systems, for types of construction allowed, or for the use of groundwater.
- (2) Groundwater monitoring is proposed as a method to detect the movement of contaminants in groundwater. The potential exists for groundwater contaminants to migrate to surface waters (e.g., the ocean) in concentrations above the California Ocean Plan limits. Groundwater monitoring would allow the early detection of any contaminants that threaten surface water so that actions could be taken to prevent their entry.

The preferred alternative presented in this PP/RAP may be modified based on comments received during the public comment period. All public comments received during the public comment period will receive a written response and will be included as part of the Record of Decision which will officially state the specific alternatives that will be implemented at IR Sites 8, 10, and 11.

The Long Beach Naval Complex is made up of the former Long Beach Naval Shipyard, which is located in the eastern part of the Naval Complex, and Naval Station Long Beach. A map of the Naval Shipyard showing the locations of IR Sites 8, 10, and 11 is presented below.

IR Site 8, Building 210, Trichloroethylene Disposal Site

IR Site 8 is located in a parking lot along the northern boundary fence line of the Naval Shipyard. Historically, Building 210 contained an electronic weapons shop. Between 1974 and 1980, this shop generated about 200 gallons of waste trichloroethylene (TCE), along with acids and plating solutions. These wastes were disposed of along the fence line of the site. Early analyses showed that the groundwater at IR Site 8 contained dichloroethene, a natural degradation product of TCE, as well as arsenic.

IR Site 10, Lot H, Past Operations

IR Site 10 is primarily located in Parking Lot H near Gate 5 in the northeastern portion of the Naval Shipyard. From about 1952 to 1957, an unpaved scrapyard was located on the site. The hazardous materials reportedly stored there included batteries, waste oil, equipment containing mercury, and spent sandblast

material, potentially contaminated with heavy metals. During semiannual auctions of the batteries for reclamation, the battery acid was removed from the batteries and poured on the ground. An estimated 1,700 to 2,400 gallons of battery acid per year were disposed of in this manner. In addition, unintentional releases of mercury may have occurred from radar equipment stored at the scrapyard.

IR Site 11, Hillside East of Dry Dock No. 1

IR Site 11 is a north-south strip of land approximately 1,700 feet long located in the eastern part of the Naval Shipyard, and is split into two sections—Area 1 and Area 2. The source of contamination at IR Site 11 is spent sandblast grit, which contains heavy metals. In 1975, this sandblast grit, which contained paint residues, was used to fill in the low areas of the site and to extend the edge of the hillside westward. No records were found to document the quantity of sandblast grit disposed of at the site.

Sandblast material was reportedly removed from the southern hillside in 1977. In 1994, approximately 1,400 cubic yards of additional sandblast-contaminated soil was removed from the southern hillside and placed in the level area to the south. Spent sandblast grit is still present at the site.

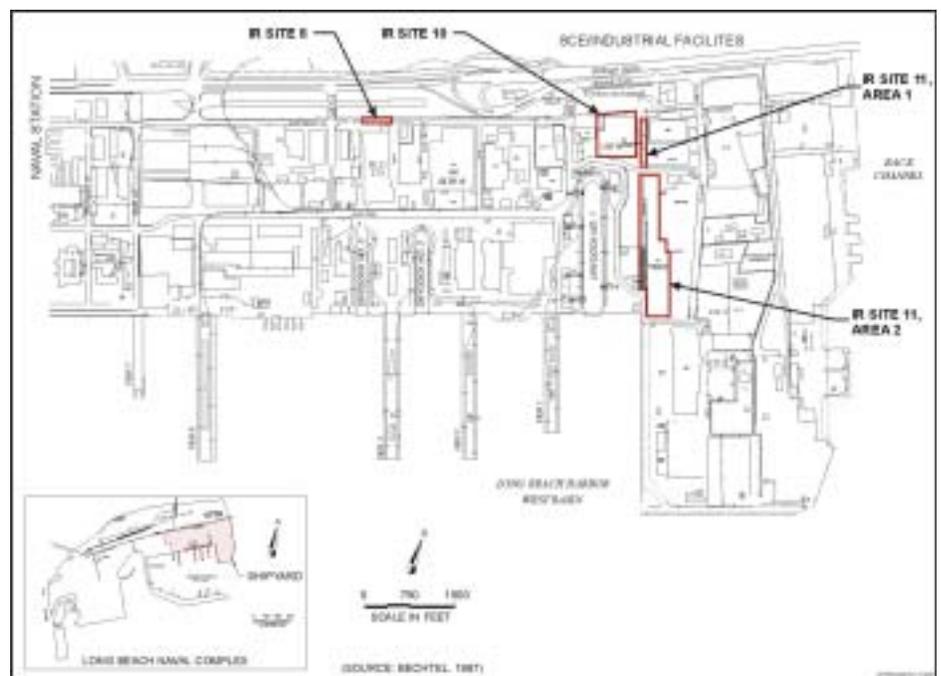


Figure 1. Long Beach Naval Shipyard IR Sites 8, 10, and 11

REMEDIAL INVESTIGATION RESULTS

During the Remedial Investigation of IR Sites 8, 10, and 11, soil and groundwater samples were collected and analyzed for the presence of chemical contaminants. The sampling and analysis program focused on chemicals likely to be present, based on historical activities that occurred at the sites. Samples were analyzed for both organic compounds, such as solvents or oils, and inorganic chemicals, such as metals. The analyses were then evaluated using a rigorous process established by the U.S. EPA. Chemicals that were detected in a particular area of the sites were designated chemicals of potential concern from an area of potential concern. A total of four areas of potential concern were identified within IR Sites 8, 10, and 11. IR Sites 8 and 10 each contained one area, and IR Site 11 contained two areas.

A total of 18 chemicals of potential concern, 3 organics and 15 metals, were identified for soil at IR Sites 8, 10, and 11. These chemicals, along with the maximum concentrations at which they were detected, are shown in Table 1. Four chemicals of potential concern, one organic and 3 metals, were identified for groundwater at IR Sites 8, 10, and 11. These chemicals, along with the maximum concentrations at which they were detected, are shown in Table 2.

These chemicals were evaluated in a human health risk assessment to determine whether they could be associated with adverse health effects if exposure occurred. All chemicals of potential concern at IR Sites 8, 10, and 11 were included in the risk assessment for the sites.

Table 1. Maximum Concentrations of Chemicals Found in Soil at IR Sites 8, 10, and 11.

Chemical	Chemical Concentration in Milligrams per Kilogram of Soil		
	IR Site 8	IR Site 10	IR Site 11
Organic Chemicals			
Benzo(a)anthracene	Not found	2.9	0.59
Benzo(a)pyrene	Not found	2.7	1
Dibenz(a,h)anthracene	Not found	0.61	0.83
Metals			
Aluminum	6,390	18,300	29,600
Arsenic	3	15.3	32.3
Barium	56.5	122	579
Cadmium	0.4	2.9	2
Chromium	10.6	91.2	244
Cobalt	5.7	21.3	65.5
Copper	8	2,370	3,360
Iron	13,200	142,000	121,000
Lead	5.8	202	285
Manganese	161	949	3,350
Nickel	11.7	155	89.3
Selenium	0.54	2.5	4.7
Thallium	1	1.9	4.9
Vanadium	22.8	49.2	102
Zinc	30.8	398	3,630

Table 2. Maximum Concentrations of Chemicals Found in Groundwater at IR Sites 8, 10, and 11.

Chemical	Chemical Concentration in Micrograms per Liter of Groundwater		
	IR Site 8	IR Site 10	IR Site 11
Organic Chemicals			
Trichloroethene	Not found	8.0	Not found
Metals			
Barium	61	382	85.6
Chromium	3.1	2.4	2.6
Thallium	2.2	7.5	4.4

Human Health Risk Assessment

The Long Beach Naval Complex Redevelopment Plan prepared by the Local Redevelopment Authority designates that the future use of the Naval Shipyard will be port-related and industrial. Therefore, the human health risk assessment was conducted assuming that IR Sites 8, 10, and 11 would be used for industrial purposes. The industrial exposure scenarios used in the human health risk assessment considered both industrial workers and underground utility maintenance workers.

The risk assessment concluded that no chemicals at concentrations that could cause adverse health effects are present in soil or in groundwater at IR Sites 8, 10, and 11.

Environmental Risk Assessment

Computer modeling programs were used to predict the movement of concentrations of chemicals of potential concern from soil to shallow groundwater and, subsequently, the movement of these chemical concentrations through the groundwater. The results from the models were compared to California Ocean Plan limits on concentrations of chemicals that can be released to ocean waters. The comparisons showed that the concentrations of the chemicals detected in soil at IR Sites 8, 10, and 11 would not result in groundwater concentrations of these chemicals exceeding California Ocean Plan limits.

REMEDIAL ACTION OBJECTIVES

A remedial action objective is a brief description of what a proposed site cleanup under CERCLA is expected to accomplish. Remedial action objectives were established for IR Sites 8, 10, and 11 to allow identification and screening of alternatives that achieve protection of human health and the environment consistent with reasonably anticipated land use. Under the NCP, future land use assumptions are developed and considered when performing risk assessments, developing remedial action alternatives and selecting a remedy.

Determining remedial action objectives includes considering site-specific risks and applicable or relevant and appropriate regulatory requirements. Industrial land use is the anticipated future use for IR Sites 8, 10, and 11. Additionally, Regional Board Resolution No. 98-18, adopted November 2, 1998 by the Los Angeles Regional Water Quality Control Board, modified the regulatory provisions of the Water Quality Control Plan for the Los Angeles Region by removing the designation of municipal and domestic supply beneficial use for the underlying groundwater at the former Long Beach Naval Shipyard. Therefore, existing chemical concentrations in groundwater underlying the Long Beach Naval Complex are compatible with the proposed land use restrictions, provided they do not contact surface water at concentrations exceeding California Ocean Plan limits.

Based on CERCLA, the NCP, the risk assessment in the Remedial Investigation report, and applicable or relevant and appropriate regulatory requirements, the remedial action objectives for IR Sites 8, 10, and 11 are as follows:

- To maintain industrial land use at the sites
- To prevent unauthorized disturbance of soil and groundwater
- To prevent the migration of contaminants from groundwater to surface water at concentrations that exceed California Ocean Plan limits.

SUMMARY OF ALTERNATIVES

Two remedial action alternatives, “No Further Action,” and institutional controls in the form of land use covenants and groundwater monitoring, were evaluated in the detailed analysis presented in the Feasibility Study.

The “No Further Action” alternative implies that no activities will be implemented to remediate contaminants at the sites. The NCP requires that the “No Further Action” alternative be evaluated for every site to establish a baseline against which to compare and evaluate other alternatives.

The second remedial action alternative that was evaluated is institutional controls in the form of land use covenants and groundwater monitoring. Land use covenants will limit groundwater use and ensure that the sites remain industrial.

Groundwater monitoring will be accomplished through the use of monitoring wells at IR Sites 8, 10, and 11. No additional

capital costs are associated with groundwater monitoring at the sites. Operation and maintenance costs are expected to be approximately \$45,680 per site for quarterly monitoring for one year. The groundwater monitoring program includes provisions for an annual report that will include an assessment for continuing, amending, or discontinuing groundwater monitoring. Groundwater monitoring will reduce the risk that contaminants will move from groundwater to surface water by assuring early detection of contaminant movement, so that appropriate interventions can be taken.

Capital costs and annual operation and maintenance (O&M) costs were estimated for each alternative based on assumptions that can be obtained from the Feasibility Study. All costs and implementation times for each alternative are estimated. Total costs are given in today’s dollars, not adjusted for inflation, and represent net present-worth value, as required by the PP/RAP guidance.

Alternative 1: No Further Action

Capital Cost	\$0
Annual O&M Cost:	\$0
Months to Implement:	None

Alternative 2: Institutional Controls (Land Use Covenants and Groundwater Monitoring)

<i>Land Use Covenants</i>	
Capital Cost:	\$18,000 (\$6,000 per site)
Annual O&M Cost:	\$0
Months to Implement:	3
Total Cost:	\$18,000

<i>Groundwater Monitoring</i>	
Capital Cost:	\$0
Annual O&M Cost:	\$137,040 (\$45,680 per site)
Months to Implement:	12
Total Cost:	\$137,040

EVALUATION OF ALTERNATIVES

The U.S. EPA uses nine criteria to evaluate remedial action alternatives. Table 3 evaluates the performance of the “No Further Action” and the preferred alternative against the nine criteria.

The nine criteria are categorized into three groups: threshold criteria, primary balancing criteria, and modifying criteria. The threshold criteria must be satisfied in order for an alternative to be eligible for selection. The primary balancing criteria are used to weigh major tradeoffs among alternatives. Generally, the modifying criteria are taken into account after public comment is received on the PP/RAP and it has undergone review by state regulatory agencies to determine if the preferred alternative remains the most appropriate remedial action.

PREFERRED ALTERNATIVE

Institutional controls are recommended as a method to prevent changes in future land use that may increase exposure risks at IR Sites 8, 10, and 11. Institutional controls would be implemented using existing legal procedures and would ensure that land use at the sites remains industrial. Institutional controls would also include provisions to prevent disturbance of monitoring systems and restrictions on land use for residential purposes, types of construction allowed, and use of groundwater.

Groundwater monitoring is recommended as a method to detect the movement of contaminants in groundwater. The potential exists for groundwater contaminants to migrate to surface water in concentrations that exceed their California Ocean Plan limits. Groundwater monitoring would allow for early detection of any contaminants that threaten surface waters so that actions could be taken to prevent their entry.

Table 3. Summary: Evaluation of Remedial Action Alternatives for IR Sites 8, 10, and 11.

Criteria	Description	Evaluation	
		No Further Action	Institutional Controls
Threshold Criteria	Overall Protection of Human Health and the Environment. This criterion evaluates how the alternative provides human health and environmental protection.	Not protective, because it does not address future site use.	Protective, because it regulates present and future site use and can be implemented to reduce the risk of exposure to site contaminants.
	Compliance with Applicable or Relevant and Appropriate Requirements. This criterion evaluates the alternatives against chemical, location, and action-specific rules, regulations, and guidelines.	Expected to meet all federal, state, and local requirements.	Expected to meet all federal, state, and local requirements.
Primary Balancing Criteria	Long-Term Effectiveness and Permanence. The option should maintain reliable protection of human health and the environment in the future by eliminating and managing residual risk.	Limited effectiveness, because it does not address future site use.	Effective, provides for future site use restrictions and groundwater monitoring.
	Reduction of Toxicity, Mobility or Volume of Contaminants. Not required where site is already protective of human health and the environment.	Not required at this site.	Not required at this site. Monitoring ensures early detection of changes to site groundwater.
	Short-Term Effectiveness. Allows protection of human health and the environment during site treatment.	Not applicable at this site, because no treatment is necessary.	Not applicable at this site, because no treatment is necessary.
	Implementability. The technical or administrative difficulty to implement is evaluated.	Very easy to implement, because no action is taken.	Deed restrictions and groundwater monitoring are easy to implement.
	Cost. Evaluates capital and operating costs.	No cost.	Low to moderate cost.
Modifying Criteria	State Acceptance. Acceptance by California state regulatory agencies. Will be fully addressed during the public comment period.	Based on state regulatory review of the Feasibility Study, this action is unlikely to be acceptable.	State has approved the Feasibility Study, which ranks this option higher than the “No Further Action” option.
	Community Acceptance. Acceptance by the public. Will be fully addressed during the public comment period.	Comment period is in progress.	Comment period is in progress.

COMMUNITY PARTICIPATION

Comment Period and Public Meeting

The 30-day public comment period is January 16, 2002 through February 15, 2002. If requested by February 12, the Navy will extend the public comment period by a minimum of 30 additional days. Requests for extension of the comment period should be sent to Mr. Lee Saunders at the address provided on this page. Please mail your written comments to Mr. Lee Saunders at the address provided, or bring them to the public meeting.

A public meeting will be held on January 23, 2002 at 6:30 p.m. at Port of Long Beach, 925 Harbor Plaza, Long Beach.

RESTORATION ADVISORY BOARD

The Restoration Advisory Board (RAB) for LBNC was established to provide a forum for the exchange of information and partnership among the community, Navy, U.S. EPA, and state regulatory agencies. RAB members, selected from the local community, are asked to review and comment on technical documents relating to the ongoing environmental studies and cleanup at LBNC. The RAB meets quarterly on the evening of the fourth Wednesday at 6:30 p.m. Meetings are open to the public and are advertised in local newspapers and on the Navy web page provided below.

<http://www.efds.w.navy.mil/DEP/ENV/default.htm>

Community Relations and Technical Information

If you would like more information on the LBNC IR program or the LBNC Restoration Advisory Board, please contact:

Ms. Kim Foreman
Public Participation Specialist
California Environmental Protection Agency
Department of Toxic Substances Control
5796 Corporate Avenue
Cypress, CA 90630
(714) 484-5324

Mr. Lee Saunders
Environmental Public Affairs Officer
Southwest Division
Naval Facilities Engineering Command
1220 Pacific Highway
San Diego, CA 92132-5190
(619) 532-3100

Mr. Thomas Macchiarella
BRAC Environmental Coordinator
Southwest Division
Naval Facilities Engineering Command
1220 Pacific Highway
San Diego, CA 92132-5190
(619) 532-0907

Ms. Jennifer Valenzia
Remedial Project Manager
Southwest Division
Naval Facilities Engineering Command
1220 Pacific Highway
San Diego, CA 92132-5190
(619) 532-0919

Partners in the Cleanup

The U.S. EPA provides federal oversight for IR program activities. The DTSC is the lead regulatory agency for cleanup activities in California. The RWQCB, Los Angeles Region, provided state oversight for the underground storage tank program and petroleum-contaminated soil and groundwater activities. The Navy is the lead federal agency for the environmental cleanup activities at LBNC. The following regulatory partners are working together with the Navy at LBNC:

Ms. Sue Hakim
California Environmental Protection Agency
Department of Toxic Substances Control
5796 Corporate Way
Cypress, CA 90630
(714) 484-5381

Mr. Martin Hausladen
Remedial Project Manager
U.S. Environmental Protection Agency
75 Hawthorne Street
San Francisco, CA 94105
(415) 744-2388

Ms. Ana Veloz-Townsend
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013
(213) 576-6738

The regulatory partners can be contacted at the numbers listed above for any questions or concerns regarding the cleanup process at LBNC.

INFORMATION REPOSITORY AND ADMINISTRATIVE RECORD

An information repository is provided for the community to review current documents related to the environmental cleanup activities at LBNC. Additional documents are located at the administrative record. The information repository and administrative record are located at:

Long Beach Public Library
Government Publications Department
101 Pacific Avenue
Long Beach, CA 90822
(562) 570-7500
Hours: Mon (10-8),
Tu-Sat (10-5:30), Sun (12-5)

Ms. Diane Silva
Southwest Division
Naval Facilities Engineering Command
1220 Pacific Highway, Building 129
San Diego, CA 92132
(619) 532-3676
Hours: Mon-Fri (7-3:30)

ACRONYMS

CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	NCP	National Oil and Hazardous Substances Pollution Contingency Plan	RAP	remedial action plan
DTSC	Department of Toxic Substances Control	O&M	operation and maintenance	RWQCB	Regional Water Quality Control Board
IR	Installation Restoration	PP	Proposed Plan	TCE	trichloroethylene
				U.S. EPA	U.S. Environmental Protection Agency

GLOSSARY

Administrative Record – A collection of all documents used to select and justify remedial alternatives and selected actions at Long Beach Naval Shipyard. These documents are available for public review.

Applicable or Relevant and Appropriate Requirements – The federal and state laws and regulations that must be followed for the selected remedy.

Area of Potential Concern – An area delineated within a CERCLA site where potential for contamination is similar based on site history, physical characteristics, and compounds present in groundwater or soil samples collected during the Remedial Investigation.

Background Level – Naturally occurring level of a chemical in the environment. The term is typically used to describe ambient concentrations of trace metals (e.g., arsenic) in the environment that have not been influenced by humans.

California Health and Safety Code – Code of regulations established by the State of California to protect the safety and health of workers.

California Ocean Plan – Guidelines established by the State of California to protect ocean water and the marine ecosystem from pollutants.

California Ocean Plan Limit – Specific, numeric limits set forward in the California Ocean Plan established by the State of California to protect ocean water and the marine ecosystem from pollutants.

Chemical of Potential Concern – A chemical compound or element that was identified as present in groundwater or soil samples collected during the Remedial Investigation.

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) – Commonly referred to as Superfund, authorizes federal action to respond to the release, or threat of release, into the environment of hazardous substances, pollutants, or contaminants that may present an imminent or substantial danger to public health or welfare.

Feasibility Study – An engineering evaluation of technologies that may be used to clean up a site. The study looks at site conditions, potential technical problems, costs, and human and ecological impacts to determine how effective the technologies may be.

Groundwater – Water beneath the ground surface that fills spaces between soil particles. Groundwater at Long Beach Naval Complex is not potable due to high, naturally occurring mineral content.

Groundwater Monitoring – Repeated, periodic sampling and analysis of groundwater.

Human Health Risk Assessment – A process that quantifies the risk to human health from exposure to chemicals.

Information Repository – The physical location where a collection of site information is maintained. It contains copies of documents available for public review.

Inorganic Chemical – A chemical or chemical compound that does not contain the element carbon.

Installation Restoration (IR) Site – Areas designated under the Navy's program to identify, investigate, assess, characterize, clean up, or control past releases of hazardous substances.

Institutional Controls – A legal or institutional mechanism that limits access to or use of property, or warns of a hazard (i.e., land use restrictions imposed by the property owner contained in a property deed).

Land Use Covenants – A legal mechanism used to control land use. Land use covenants may include a wide range of provisions.

Modeling – The use of a mathematical model to simulate a physical process.

National Oil and Hazardous Substances Pollution Contingency Plan (NCP) – A regulation issued by the U.S. EPA to implement the requirements of CERCLA.

National Priorities List – EPA's official list of hazardous waste sites that are covered by CERCLA.

No Further Action – The conclusion that no additional site environmental activities, beyond the Remedial Investigation/Feasibility Study, are necessary. Used as a baseline for comparison with site alternatives identified in the Feasibility Study.

Operation and Maintenance (O&M) – Forecast activities and their associated costs necessary to operate and maintain a site activity or technology. For example, groundwater monitoring O&M would include groundwater sample collection, laboratory analysis, report preparation, and inspection/maintenance of the wells.

Organic Compound – Chemical compound that contains the element carbon.

Present-Worth Value – Equivalent dollars now of future expenditures. The present-worth value is always less than the future worth value in terms of dollars.

Proposed Plan – A plan that summarizes information from Remedial Investigation/Feasibility Study report. A proposed plan includes a summary of the environmental conditions at a site, as determined by the Remedial Investigation; describes the remedial alternatives; identifies the lead agency's preferred alternative; provides a summary of support agency comments and the lead agency's responses; provides a summary explanation of any proposed waivers to the regulatory requirements in CERCLA section 121(d) (4); and provides a brief analysis that supports the preferred alternative, discussed in terms of nine evaluation criteria.

Record of Decision – A report that documents how a site will be cleaned up and why the cleanup method was selected.

Regulatory Threshold Level – Criteria set by federal and state agencies to determine allowable concentrations of contaminants in soils and groundwater.

Remedial Action – The final action taken at a site to implement a permanent remedy. It may take an extended period of time and may allow a certain level of contamination to remain on site.

Remedial Action Objective – A brief description of what the proposed site cleanup under CERCLA is expected to accomplish.

Remedial Investigation – Field study that includes collecting soil and groundwater samples to evaluate what type of and how much contamination is present at a site.

Remedial Action Plan (RAP) – A plan that describes actions to be taken at a site to implement a permanent remedy to prevent or minimize the ability of contaminants to cause adverse effects to human health or the environment.

Remediate/Remediation – Any active or passive environmental activity that results in the reduction of toxicity, mobility, or volume of contaminants at a site.

Reuse Plan – Refers to the written plan developed by the local redevelopment authority, which includes members from the community, that describes the intended use(s) to which the site will be put.