



Proposed Plan/Draft Remedial Action Plan



For Remedial Action at Operable Unit 4B Former Marine Corps Air Station Tustin

February 2009

Navy Proposes Final Remedies for Operable Unit 4B Sites

The U.S. Navy requests the public to comment on this **Proposed Plan/Draft Remedial Action Plan (RAP)*** for cleanup of six **Installation Restoration Program (IRP)** sites that compose Operable Unit (OU)-4B at former Marine Corps Air Station (MCAS) Tustin. The U.S. Environmental Protection Agency, Region 9 (U.S. EPA), the California EPA Department of Toxic Substances Control (DTSC), and the California Regional Water Quality Control Board, Santa Ana Region (RWQCB) worked with the Navy in the development and evaluation of alternatives including the **preferred alternatives**.

Preferred Alternatives

This Proposed Plan/Draft RAP presents the preferred alternatives for groundwater cleanup at the six OU-4B IRP sites:

- (1) Alternative 2, **Institutional Controls (ICs)**, for IRP-11, IRP-13W, and MMS-04;
- (2) Alternative 4, **In Situ Bioremediation (ISB)**, Monitored Natural Attenuation (MNA), and ICs for IRP-5S(a) and IRP-6; and
- (3) Alternative 6, Hydraulic Control, MNA, and ICs for the Mingled Plumes Area (MPA).

Based on results from investigations and risk assessments conducted to date, the Navy and its regulatory agency partners concluded that soil at these six OU-4B sites requires no further action (NFA). Detailed descriptions of the sites and cleanup alternatives for groundwater are provided in this Proposed Plan/Draft RAP.

Proposed Plan/Draft RAP Content

This Proposed Plan/Draft RAP summarizes the regulatory framework that governs the cleanup; summarizes environmental investigations, risk assessments, remedial alternatives developed and evaluated for the sites; and presents the preferred alternatives. The Navy will consider public comments on this Proposed Plan/Draft RAP during preparation of the **Record of Decision (ROD)/RAP** for OU-4B.

Regulatory Framework

Since the early 1990s, numerous investigations have been conducted at former MCAS Tustin under the Navy's IRP, which is a comprehensive environmental investigation and cleanup program that identifies, investigates, and remediates chemical releases to soil and groundwater resulting from past Navy activities. The IRP complies with the **Comprehensive Environmental Response, Compensation, and Liability Act**

*Words in **bold, italic** type are defined in the glossary on page 14.

PUBLIC MEETING: WEDNESDAY, FEBRUARY 11, 2009 6:00-7:30 P.M.

Tustin Senior Center, 200 South "C" Street, Tustin, California.

You are invited to attend a public meeting to discuss the information presented in this Proposed Plan/Draft RAP regarding the proposed cleanup at OU-4B at MCAS Tustin. Navy representatives will provide visual displays and information on the investigations and the cleanup alternatives evaluated. You will have the opportunity to ask questions and formally comment on the alternatives.

PUBLIC COMMENT PERIOD: FEBRUARY 04 – MARCH 06, 2009

We encourage you to comment on this Proposed Plan/Draft RAP during the 30-day public comment period. You may submit written comments by mail, **postmarked no later than March 06, 2009**, to: Mr. Tony Megliola, Base Closure Manager, MCAS Tustin, 7040 Trabuco Road, Irvine, CA 92618. Comments may also be sent to Mr. Megliola by fax to (949) 726-6586. Public comments received during this period or in person at the public meeting will be included in the Responsiveness Summary section of the ROD/RAP and considered in the final remedy decisions for OU-4B sites. Please see page 13 for more information.

(*CERCLA*); the *Resource Conservation and Recovery Act (RCRA)*; the National Oil and Hazardous Substances Pollution Contingency Plan (NCP); and all other federal and state laws that govern environmental cleanups.

MCAS Tustin was closed under the Base Realignment and Closure (BRAC) Act in 1999. The MCAS Tustin BRAC Cleanup Team (BCT), composed of representatives of the Navy, U.S. EPA, DTSC, and the RWQCB, has carefully evaluated environmental data, technical information, and remedial alternatives for OU-4B and concurs with the Navy's recommendations for the preferred alternatives.

The Navy is issuing this Proposed Plan/Draft RAP as part of its public participation responsibilities under Section 117(a) of CERCLA and Section 300.430(f)(2) of the NCP. This Proposed Plan/Draft RAP summarizes information detailed in documents contained in the *Administrative Record (AR) File* for this OU. The Navy encourages the public to review these documents to gain an understanding of the environmental investigations and assessments that have been conducted. Documents are available for public review at the locations listed on page 13.

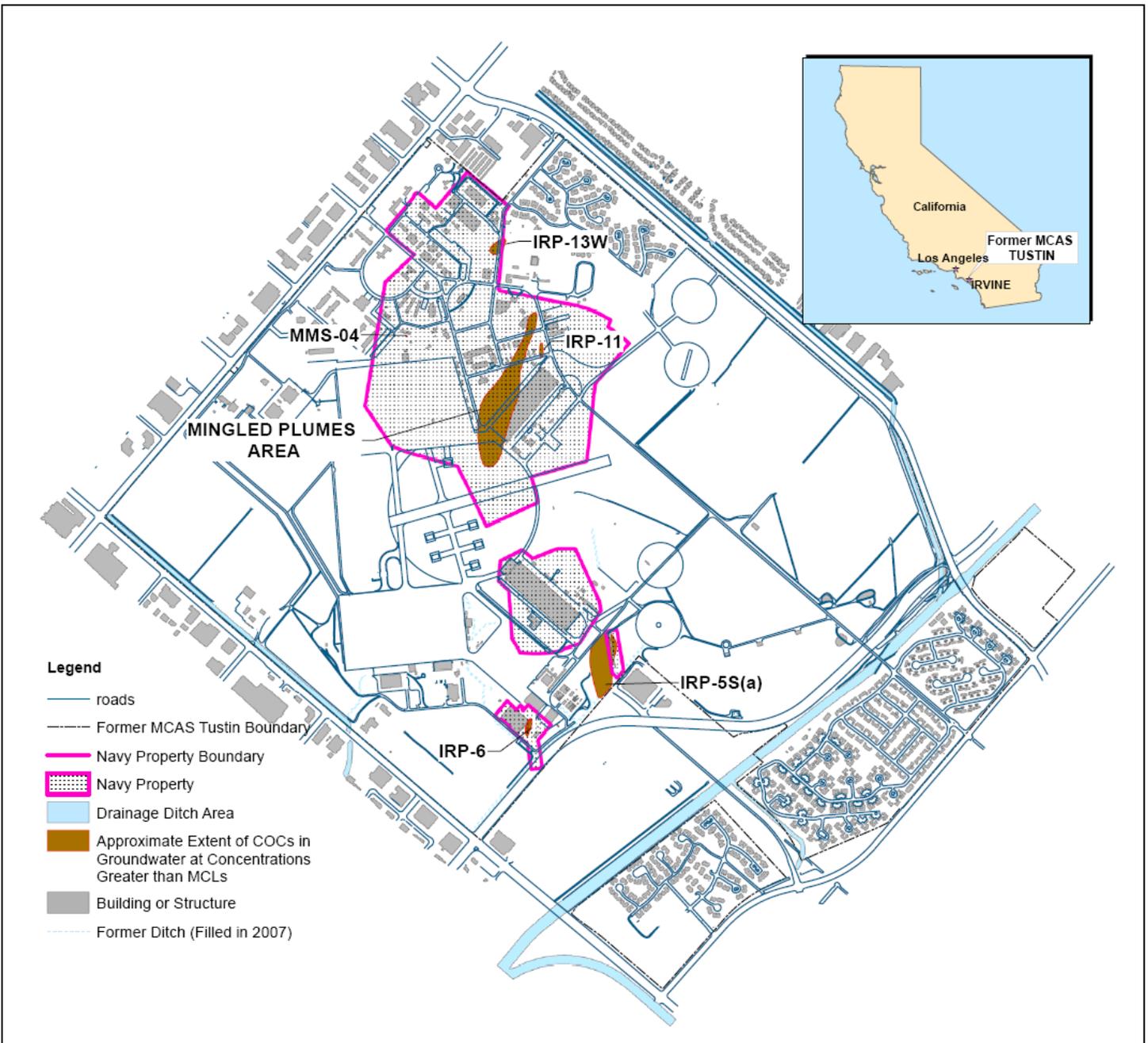


FIGURE 1: OU-4B LOCATION MAP

Background and Overview

This section of the Proposed Plan/Draft RAP presents brief descriptions of the six low and moderate concentration sites and summarizes previous investigations conducted to date at the OU-4B sites. Key investigation documents including the Site Inspection (SI), *Remedial Investigation (RI) Report*, technical memoranda, and the *Feasibility Study (FS) Report*, are available for review by the public (see page 13).

Site Descriptions

OU-4B consists of six IRP sites located in various parts of former MCAS Tustin (see Figure 1). The *chemicals of concern (COCs)* identified in groundwater at OU-4B are *volatile organic compounds (VOCs)*. The Navy and its regulatory agency partners determined that soil at these six sites requires NFA. The sites are separated into two general groups: 1) low concentration sites, that is, sites with VOCs in groundwater at concentrations less than approximately 20 micrograms per liter ($\mu\text{g/L}$), generally ranging from 7.4 to 16 $\mu\text{g/L}$; and 2) moderate concentration sites, sites with VOCs in groundwater at concentrations exceeding 20 $\mu\text{g/L}$, generally ranging from 23 to 430 $\mu\text{g/L}$. Brief descriptions of the sites and the nature and extent of contamination identified at each are presented below.

Low Concentration Sites

IRP-11, Drum Storage Area No. 1, is a former hazardous waste storage area that was used from 1975 to 1984 to store up to 400 drums containing hydraulic fluids, crankcase oils, solvents, and aviation parts. Trichloroethene (TCE) was reported in the first *water-bearing zone (WBZ)* at concentrations exceeding 5 $\mu\text{g/L}$, the Maximum Contaminant Level (MCL) for TCE, over an approximate 50- by 190-foot area. TCE was reported at maximum concentrations of 15 $\mu\text{g/L}$ in 1996 and 8.5 $\mu\text{g/L}$ in 2003.

IRP-13W, Drum Storage Area No. 3, consists of two former disposal areas where hydraulic fluid, diesel fuel, leaded gasoline, oil, paint stripper, battery acid, and solvents were stored. TCE was reported in the first WBZ at concentrations exceeding 5 $\mu\text{g/L}$ over an approximate 150- by 270-foot area. TCE was reported at a maximum concentration of 25 $\mu\text{g/L}$ in 1996 and 16 $\mu\text{g/L}$ in 2003.

Miscellaneous Major Spill (MMS)-04, the Auto Hobby Shop; a concrete waste-oil underground storage tank periodically overflowed onto unpaved ground during rainstorms. TCE was reported in two grab groundwater samples collected from the first WBZ at one location at concentrations of 18 $\mu\text{g/L}$ in 1996 and 7.4 $\mu\text{g/L}$ in 2003. The estimated extent of TCE reported in the first WBZ at concentrations exceeding the MCL is approximately 12 by

20 feet. Based on discussions with the regulatory agencies, one monitoring well will be installed in the first WBZ at this location and sampled for VOCs for one year; if concentrations of TCE reported in this well do not exceed 5 $\mu\text{g/L}$ (MCL for TCE), then the site will be recommended for NFA.

Moderate Concentration Sites

IRP-5S(a), Drainage Area No. 1 – Ditch 5a South, forms part of a culvert system that collected water from the northwestern portion of the former station. TCE was reported in the first WBZ at concentrations exceeding the MCL over an approximate 350- by 850-foot area. TCE was reported in monitoring well samples from the first WBZ at a maximum concentration of 193 $\mu\text{g/L}$ during the period from 1999 to 2007.

IRP-6, Paint Locker and Drum Storage Area, was used as a storage area from 1972 to 1981. The estimated extent of 1,1-dichloroethene (1,1-DCE) reported in the first WBZ at concentrations exceeding 6 $\mu\text{g/L}$ (the MCL), is approximately 50 by 160 feet. 1,1-DCE and TCE were reported in monitoring well samples from the first WBZ at maximum concentrations of 179 and 12 $\mu\text{g/L}$, respectively, during the period from 1999 to 2007.

The Mingled Plumes Area (MPA), consists of five Areas of Concern (AOCs) namely Disposal Sanitary Sewer (DSS)-01, DSS-02, Miscellaneous Disposal Area (MDA)-02, MMS-05, and Storage Temporary (ST)-67, which were investigated as a single site for the first time in 2003. TCE was reported in the first WBZ at concentrations exceeding 5 $\mu\text{g/L}$ over an approximate 340- by 2,130-foot area. TCE was reported in monitoring well samples from the first WBZ at a maximum concentration of 23 $\mu\text{g/L}$ and in the second WBZ at a maximum concentration of 34 $\mu\text{g/L}$ during the period from 1999 to 2007.

The sites and AOCs within OU-4B were evaluated during various studies and investigations prior to being combined into one OU. Brief descriptions of the key documents are provided below.

Site Inspection

An SI was conducted in 1991 for IRP-5S(a) and IRP-13W. In general, the SI focused on shallow soil, sediment in drainage ditches, and groundwater in the first WBZ. Sediment samples were collected from drainage ditches at IRP-5S(a) and soil gas, soil, and groundwater samples were collected at IRP-13W. Results and recommendations from the SI were used during subsequent studies

Expanded Site Inspection

An Expanded SI (ESI) was conducted in 1995 and 1996 for IRP-6, IRP-11, MMS-04, and one of the AOCs (MMS-05) within the MPA. The ESI focused on evaluating the nature and extent of soil and groundwater contamination, **vadose zone** contaminant fate and transport, and potential cancer and noncancer risks.

Screening **human health risk assessments (HHRAs)** were performed to evaluate the likelihood that exposure to chemicals reported in soil and/or groundwater (using maximum concentrations) posed a threat to human health if no action were taken. Screening-level risk assessments were also performed to evaluate risks related to transport of chemicals in soil to groundwater. On the basis of these assessments, NFA was recommended for soil at all ESI sites except IRP-6. Additional vadose zone fate and transport evaluation was also recommended for soil at IRP-6.

RCRA Facility Assessment

A RCRA Facility Assessment (RFA) conducted in 1995 and 1996 for four AOCs within the MPA (DSS-01, DSS-02, MDA-2, and ST-67) included soil and groundwater sampling, fate and transport analyses, and risk assessments. NFA was recommended for soil at DSS-01, DSS-02, MDA-2, and ST-67; groundwater at each site was recommended for further evaluation in an RI.

Remedial Investigation

The RI conducted at OUs 1 and 2 in 1995, 1996, and 1997 included sites IRP-5S(a), IRP-6, and IRP-13W. The RI at IRP-5S(a) included sediment, soil, groundwater, and surface water sampling, groundwater fate and transport evaluations, and baseline HHRAs. Soil and groundwater samples were collected at IRP-13W. All ESI and RFA sites were included in the stationwide groundwater modeling conducted as part of the RI. IRP-6 was also included in the vadose zone fate and transport evaluation in the RI.

Recommendations were provided for each site based on the results of fate and transport evaluations, stationwide groundwater modeling, and HHRAs.

OU-4 Technical Memorandum

The purpose of the shallow groundwater investigation conducted at OU-4 and presented in the OU-4 Technical Memorandum was to determine whether VOCs in

groundwater were still present at concentrations exceeding respective MCLs, to update HHRAs and estimate risks from exposure to shallow groundwater at the sites, and to recommend sites for NFA or for further action. On the basis of results from this and previous investigations, the Navy elected to subdivide OU-4 into OU-4A (NFA sites) and OU-4B to expedite the overall site closure process. OU-4B sites recommended for further action were IRP-5S(a), IRP-6, IRP-11, IRP-13W, MMS-04, and the MPA. These sites are addressed in this Proposed Plan.

IRP-5S(a) Microcosm Study

In May 2005, a microcosm study was performed to determine whether TCE could be degraded by naturally occurring anaerobic bacteria in groundwater. The primary findings of the microcosm study included: 1) limited anaerobic (the absence of oxygen) biodegradation of TCE could potentially occur, 2) high concentrations of sulfate in groundwater would likely interfere with the process, and 3) artificial food source supplements would appear to have little impact.

Basewide Groundwater Monitoring

Basewide groundwater monitoring continued from 2005 through 2006 to facilitate evaluation of dissolved-phase VOCs in groundwater and plume migration at the site.

Extraction Test Well Installation, Aquifer Testing, and Sampling – IRP-5S(a)

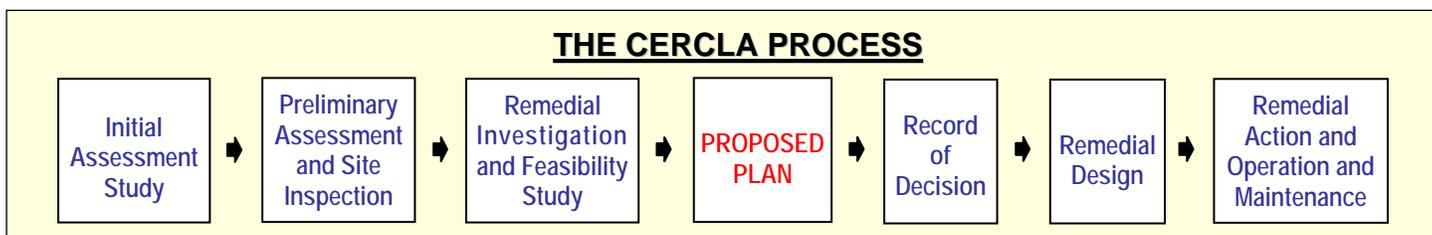
Well installation, aquifer testing, and groundwater sampling activities were conducted at IRP-5S(a) from March to July 2007 to further characterize aquifer hydraulic properties at the site.

Supplemental Groundwater Investigation

A supplemental groundwater investigation was completed in August 2007 to further delineate the lateral and vertical extents of the VOC plumes at IRP-6 and the MPA. The overall objectives were to verify the preliminary results obtained during 2005 and 2006 at IRP-6 and complete data collection at IRP-6 and the MPA to evaluate and compare remedial alternatives for cleanup of these and other OU-4B sites.

Feasibility Study

The FS was completed in 2008 to evaluate remedial alternatives for groundwater contamination at OU-4B. Results of the FS are summarized in this Proposed Plan.



Risk Assessment Process

“Risk” is the likelihood or probability that a hazardous chemical, when released to the environment, will cause adverse impacts on exposed humans or other ecological receptors. HHRAs were conducted for OU-4B sites as part of the RI and were further refined in the OU-4B Technical Memorandum and the FS in accordance with federal and state guidelines.

Human Health Risk Assessments

The Navy considered different ways that humans might be exposed to chemicals, the possible concentrations of chemicals that could be encountered during exposures, and the potential frequencies and durations of exposures, based on various potential future uses. The Navy evaluated risks for hypothetical residents at OU-4B sites assuming groundwater would be used for domestic purposes although shallow groundwater at former MCAS Tustin is not currently used for domestic purposes and is unlikely to be used as a future domestic water supply. The Navy also evaluated risks under a more reasonable approach assuming ICs would be in-place to prevent domestic use of groundwater. Under this approach, risks from exposure to VOC vapors from groundwater and soil that may migrate up into indoor air space were evaluated.

Risk calculations were based on “conservative” assumptions, which mean that the assumptions tend to overestimate risk, resulting in cleanup goals that are more protective of human health. The residential scenario is considered the most conservative as it assumes that shallow groundwater from the site would be used for domestic purposes like drinking and bathing over a period of 30 years.

Human health risk is classified both as a cancer (from exposure to carcinogens) and a noncancer (from exposure to noncarcinogens) risk. Cancer risk is a statistical probability and is not based on actual cases of cancer. Cancer risk estimates the probability that an individual’s baseline or normal risk of cancer could increase as a result of exposure, and is generally expressed as an upper bound probability. For example, a 1 in 10,000 chance is a risk of 10^{-4} . In this case, for every 10,000 people, one additional cancer case may occur as a result of exposure. A 1 in 1,000,000 chance is a risk of 10^{-6} . In this case, for every 1,000,000 people, one additional cancer case may occur as a result of exposure. In accordance with U.S. EPA guidance, the risk management range is 10^{-4} to 10^{-6} . The range was established to set guidelines for making risk management decisions.

Noncancer risk is expressed as a number called a **hazard index (HI)**, which is estimated by comparing chemical exposure levels with established reference values. An HI

of 1 or less is considered an acceptable exposure level for noncancer health hazards.

Results from the risk assessments performed for OU-4B sites indicated potential risks to human health would continue to be present if actions are not taken to prevent extraction and domestic use of shallow contaminated groundwater.

OU-4B sites, as well as other sites and AOCs at former MCAS Tustin, were initially investigated during the ESI, the RFA, and the RI for OUs 1 and 2. Based on results of the screening level or baseline HHRAs performed during these studies, the Navy and BCT regulatory partners concluded that soil at OU-4B sites required no further action, and that groundwater would require further evaluation and action.

HHRAs were conducted during the OU-4 shallow groundwater investigation for IRP-11, IRP-13W, MMS-04, IRP-5S(a) and the MPA; and during the ESI for IRP-6 to determine risk assuming domestic use of groundwater. The residential exposure scenario assumed direct contact with soil (ingestion, skin contact, inhalation of dust and vapors), ingestion of groundwater, and inhalation of vapors in indoor air from showering, and skin contact with groundwater while showering, over a period of 30 years (6 years as a child and 24 years as an adult). In summary, risk from domestic use of groundwater exceeded the risk management range and was driven primarily by TCE in groundwater at IRP-11, IRP-13W, MMS-04, IRP-5S(a) and the MPA and by 1,1-DCE in groundwater at IRP-6.

HHRAs were also conducted during the FS to determine risks assuming ICs would be in-place to prevent extraction and domestic use of groundwater but assuming residential exposure to VOC vapors from soil and groundwater that would migrate as vapors into indoor air. This scenario, also known as the vapor intrusion pathway, assumes exposure over a 30-year period for 365 days per year. Cal/EPA cancer and noncancer risks were found to be acceptable for this exposure pathway (cancer risk below 1×10^{-6} ; $HI < 1$). U.S. EPA cancer risks are also below or only slightly above 1×10^{-6} , except at IRP-5S(a). The maximum cancer risk at IRP-5S(a) is 4.0×10^{-6} for potential residents, driven primarily by TCE in groundwater.

The risk assessments are intended to assist the Navy and their regulatory agency partners in risk management decision-making. It is unlikely that shallow contaminated groundwater at OU-4B would be extracted for domestic use, as water is supplied by municipalities and administrative controls are in-place to prevent extraction.

Remedial Alternatives

The FS Report presented the development, evaluation, and comparative analysis of the remedial alternatives to achieve the following **remedial action objectives (RAOs)** established for OU-4B:

- Protect human health by limiting use of shallow groundwater containing COCs at concentrations exceeding health-protective levels.
- Reduce concentrations of COCs in shallow groundwater at areas of attainment for OU-4B sites to health-protective levels.

Remediation goals proposed for the COCs at OU-4B are 6 µg/L (California MCL) for 1,1-DCE and 5 µg/L (federal MCL) for TCE. Final remediation goals will be specified in the OU-4B ROD/RAP.

Descriptions of the alternatives developed for OU-4B are presented below, numbered as they appear in the FS Report. Alternatives 1, 2, and 3 address all sites, while Alternatives 4, 5, and 6 address only the moderate concentration sites.

Alternative 1 – No Action (All 6 Sites)

The no action alternative was evaluated to provide a baseline from which to develop and evaluate other remedial alternatives. Under the no action alternative, cleanup actions would not be implemented, and there would be no change to existing site conditions.

Alternative 2 – Institutional Controls (ICs)(All 6 Sites)

Alternative 2 would rely on ICs to (1) prevent domestic use of groundwater at OU-4B sites by prohibiting installation of groundwater supply wells, and (2) to maintain the integrity of the **remedial action** until remediation goals have been achieved (see text box on page 11). This alternative assumes that natural physical, biological, and chemical processes would continue to reduce concentrations of COCs in groundwater. A predesign investigation including groundwater monitoring would also be included in Alternative 2 to further delineate each plume, evaluate current well locations, and install new monitoring wells, as necessary to track potential plume migration. The Navy intends to continue groundwater monitoring at OU-4B through the development of the ROD/RAP; the Navy will evaluate data from the low concentration sites to evaluate whether ICs are still necessary (see MMS-04 site description on page 3). 5-year reviews would be conducted to evaluate the continued protectiveness of the remedy.

Alternative 3 – Monitored Natural Attenuation (MNA)/ICs (All 6 Sites)

Alternative 3 is similar to Alternative 2, with the addition of an expanded monitoring program, which would include periodic sampling for COCs and natural attenuation parameters. This alternative would not entail any engineered response actions to treat or prevent migration of plumes at the OU-4B sites, but would monitor natural degradation of the contaminants. It would employ the same ICs proposed for Alternative 2 to prevent extraction and domestic use of shallow contaminated groundwater. 5-year reviews would be conducted to evaluate the continued protectiveness of the remedy.

Alternative 4 – *In Situ* Bioremediation (ISB)/MNA/ICs (IRP-5S[a], IRP-6, and the MPA)

Under Alternative 4, a biostimulation compound such as emulsified vegetable oil or another proprietary agent would be used to accelerate the biodegradation of VOCs. This alternative would also include groundwater monitoring for VOCs and natural attenuation parameters to evaluate the efficacy of the remedy after ISB treatment. The same ICs described for Alternative 2 would be implemented to prevent extraction and domestic use of groundwater.

ISB would include injection of a biostimulation compound designed to reduce VOC concentrations throughout each plume. If VOC concentrations are sufficiently reduced by the ISB process to concentrations below the remediation goals, then the remedial action would be considered complete. If not, then MNA would be utilized to track reductions in VOC concentrations until remediation goals are reached. Although not anticipated, additional ISB injections could be performed based on a review of performance monitoring data. 5-year reviews would be conducted to evaluate the continued protectiveness of the remedy.

Alternative 5 – *In Situ* Chemical Oxidation (ISCO)/ISB/MNA/ICs (for IRP-5S[a] and IRP-6)

Alternative 5 is similar to Alternative 4, except that ISCO would be applied prior to ISB in areas with higher VOC concentrations to reduce the mass of VOCs in these areas.

Under ISCO, oxidizing reagents would be injected into groundwater at locations with higher concentrations of VOCs. These reagents would produce oxidizing agents that would degrade the VOCs. ISB, MNA, and ICs as described in Alternative 4 would also be included. Alternative 5 is expected to achieve remedial goals within 5 years, however, the Navy would conduct a 5-year review

for this site if the remediation goals were not achieved within 5 years.

Alternative 6 – Hydraulic Control/MNA/ICs (for IRP-5S[a] and the MPA)

In Alternative 6, hydraulic control wells would be placed along the leading edges of the current plumes. Groundwater would be pumped from the wells to prevent migration of VOCs beyond the current plume boundaries. Extracted groundwater would be treated at the existing OU-1A and/or OU-1B groundwater treatment systems. Groundwater quality at OU-4B sites is similar to that at

OU-1A and OU-1B (which is treated by *granular activated carbon [GAC]*), so no additional treatment or system modifications would be necessary at these treatment systems. Groundwater and treatment system performance monitoring would be performed regularly. 5-year reviews would be conducted to evaluate the effectiveness of the remedy and to support recommendations for shutting down extraction wells to allow natural attenuation to complete the process of reducing VOC concentrations to below site remediation goals.

Evaluation of Remedial Alternatives

Each alternative has undergone a detailed evaluation and analysis using the nine criteria set forth in the NCP, which are categorized into three groups: threshold criteria, primary balancing criteria, and modifying criteria. Threshold criteria must be satisfied in order for an alternative to be eligible for selection. Primary balancing criteria are used to weigh major tradeoffs among alternatives. Generally, modifying criteria are taken into account after public comment is received on the Proposed Plan and reviewed with the various federal and state regulatory agencies to determine if the preferred alternative remains the most appropriate remedy. The nine criteria are defined below and are accompanied by key points from the evaluation of the six alternatives. Results from this evaluation for low and moderate concentration sites are presented below and are summarized in tables on Pages 9 and 10.

Low Concentration Sites

The comparative analysis of Alternatives 1, 2, and 3 for the low concentration sites IRP-11, IRP-13W, and MMS-04 is presented below and is summarized in Table 1.

A. Threshold Criteria

1. Overall Protection of Human Health and the Environment — assesses whether a remedy provides adequate public health protection and tells how health risks posed by the site will be eliminated, reduced, or controlled – With one exception, Alternatives 1, 2, and 3 are protective of human health and the environment for all three low concentration sites; Alternative 1, no action, is not protective of human health and the environment for IRP-11.

2. Compliance with Applicable or Relevant and Appropriate Requirements (ARARs) — addresses whether a remedy will meet all federal, state, and local environmental statutes or requirements – ARARs are not applicable to Alternative 1 because they would not be triggered by the “no action” alternative. Alternatives 2 and 3 meet the threshold criterion of compliance with ARARs for all three low concentration sites.

B. Primary Balancing Criteria

3. Long-Term Effectiveness and Permanence – refers to the ability of a remedy to protect human health and the environment over time, after the cleanup action is completed – Alternatives 2 and 3 are rated moderate in long-term effectiveness and permanence for all three low concentration sites. ICs would prohibit domestic use of groundwater until natural processes reduce VOC concentrations below remediation goals. Alternative 1 is rated moderate for this criterion for IRP-13W and MMS-04 because ICs are already in-place to prohibit domestic use of groundwater in these areas. Alternative 1 is rated low for this criterion for IRP-11 because no measures would be in-place to prohibit domestic use of groundwater at this site.

4. Reduction of Toxicity, Mobility, or Volume – refers to the degree to which a remedy uses treatment technologies to reduce: 1) harmful effects to human health and the environment (toxicity), 2) the contaminant’s ability to move (mobility), and 3) the amount of contamination (volume) – Alternatives 1, 2, and 3 are rated low for this criterion at all three low concentration sites. Although all three alternatives do not involve active treatment processes to reduce the toxicity, mobility, or volume of VOCs in groundwater, natural processes would continue to act to reduce VOC concentrations until remediation goals are achieved.

5. Short-Term Effectiveness – assesses how well human health and the environment will be protected from impacts due to construction and implementation of a remedy – Alternatives 2 and 3 are rated high in short-term effectiveness for all three low concentration sites because ICs provide protectiveness once implemented. Short-term risks to the community and workers during construction and implementation of all three alternatives are expected to be low.

For IRP-13W and MMS-04, Alternative 1 is rated moderate in short-term effectiveness. ICs are already in-place at these sites and are considered sufficiently protective, but there are no measures to monitor progress

toward achieving remediation goals. For IRP-11, Alternative 1 is rated low in short-term effectiveness because there would be no measures in-place to prevent domestic use of groundwater.

6. Implementability – refers to the technical feasibility (how difficult the remedy is to construct and operate) and administrative feasibility (coordination with other agencies). Factors such as availability of materials and services needed are considered – Alternatives 1, 2, and 3 are rated high in implementability because these alternatives involve no action or very limited action. Groundwater monitoring and ICs have been performed in the past at former MCAS Tustin and would be easily accomplished.

7. Cost – evaluates the estimated capital costs and present value in today’s dollars required for design and construction and long-term operation and maintenance costs – The estimated costs for the remedial alternatives at low concentration sites are shown in Table 1. No costs are associated with Alternative 1. Alternative 2 has moderate costs and Alternative 3 costs are expected to be about 50 to 75 percent higher than for Alternative 2.

C. Modifying Criteria

8. State Acceptance – reflects whether the state of California’s environmental agencies agree with, oppose, or have no objection to or comment on the Navy’s preferred alternative – State acceptance is evaluated throughout the Proposed Plan process and documented in the Responsiveness Summary section of the ROD/RAP.

9. Community Acceptance – evaluates whether community concerns are addressed by the remedy and if the community has an apparent preference for a remedy. Public comments are an important part of the final decision, however the Navy is compelled by law to balance community concerns with the other criteria – This Proposed Plan is the Navy’s invitation to the community to comment on the proposed remedial alternatives for OU-4B. Community acceptance will be determined after the conclusion of the public comment period and will be documented in the Responsiveness Summary section of the ROD/RAP.

Moderate Concentration Sites

The comparative analysis of the six alternatives developed for the moderate concentration sites IRP-5S(a), IRP-6, and the MPA, are presented below and summarized in Table 2.

A. Threshold Criteria

1. Overall Protection of Human Health and the Environment - Alternatives 2 through 6 meet the threshold criterion of overall protection of human health and the environment. Alternative 1 would not protect

human health and the environment at moderate concentration sites.

2. Compliance With ARARs - ARARs are not applicable to Alternative 1. Alternatives 2 through 6 meet the threshold criterion of compliance with ARARs.

3. Long-Term Effectiveness and Permanence - Alternatives 4 and 5 are rated high in long-term effectiveness and permanence, as they employ technologies that would effectively and permanently reduce concentrations to below remediation goals while providing protection with ICs. Alternatives 2, 3, and 6 are rated medium in long-term effectiveness and permanence because they rely on ICs to prohibit domestic use of groundwater, while passive natural attenuation processes reduce VOC concentrations. Alternative 1 is rated low in long-term effectiveness and permanence.

B. Primary Balancing Criteria

4. Reduction of Toxicity, Mobility, or Volume Through Treatment - Alternatives 4 and 5 are rated high in reducing the toxicity, mobility, or volume of COCs through treatment because the ISCO and ISB processes are expected to reduce VOC concentrations in groundwater in a relatively short period of time. Alternative 6 involves a lesser amount of treatment (GAC for removal of VOCs from extracted groundwater), so it is rated moderate. Alternatives 1, 2, and 3 are rated low because they do not involve active treatment processes.

5. Short-Term Effectiveness - Alternative 4 is rated high in short-term effectiveness because the ISB process would be expected to biodegrade most of the VOCs in groundwater within 12 months following ISB injections, while posing minimal risk to workers and the community. Reagents used in the ISB process are food-grade materials and considered innocuous. ICs would provide protectiveness once implemented.

Alternatives 5 and 6 are rated moderate as they involve some risks to workers and the community associated with handling and transportation of hazardous reagents used in the ISCO process. Measures to mitigate these risks would be developed during the remedial design phase. The time to reach remediation goals for Alternative 5 would be only 5 years. Alternative 6 involves trenching to connect extraction wells to OU-1 treatment systems and would cause some temporary impacts such as dust, traffic, and access limitations. The time to reach remediation goals would be longer for Alternative 6 (assumed to be 30 years). However, ICs would provide protectiveness once implemented.

Alternatives 2 and 3 are also rated moderate in short-term effectiveness. ICs would provide protectiveness once implemented, and short-term risks to the community and

workers are expected to be low. Alternative 1 is rated low in short-term effectiveness.

6. Implementability - Alternatives 1, 2, and 3 are easy to implement because they involve no action or very limited action. Groundwater sampling events and ICs have been used in the past at former MCAS Tustin and can be easily accomplished.

Alternatives 4 and 6 are rated moderate in implementability due to design and pilot study testing. In the MPA, additional administrative measures (correspondence with historic preservation authorities) would be required to drill through the floor of the blimp hangar. Limitations on implementability of Alternative 6 involve obtaining easements across private property to convey groundwater to existing treatment systems.

Alternative 5 is rated low in implementability. After ISCO pilot testing and ISCO implementation, groundwater must be allowed to return to steady-state conditions before ISB pilot testing and full-scale ISB can be performed.

7. Cost - The estimated costs for the groundwater remedial alternatives at moderate concentration sites are summarized in Table 2. There are no costs associated with Alternative 1. Alternative 2 has lower costs than Alternatives 3 through 6. Alternatives 3 and 6 have moderate costs compared to other alternatives. Costs for Alternative 4 are moderate for IRP-5S(a) and IRP-6, but high for the MPA. At the MPA, a higher number of injection points and ISB injections into the second WBZ

made this alternative more costly than other alternatives for this plume.

C. Modifying Criteria

8. State Acceptance – State acceptance is evaluated throughout the Proposed Plan/Draft RAP process and documented in the Responsiveness Summary section of the ROD/RAP.

9. Community Acceptance – This Proposed Plan/Draft RAP is the Navy’s invitation to the community to comment on the proposed remedial alternatives for OU-4B sites. Community acceptance will be determined after the conclusion of the public comment period and will be documented in the Responsiveness Summary section of the ROD/RAP.

Preferred Remedies

Based on an analysis of the alternatives, the preferred remedies for OU-4B are:

- Alternative 2, ICs, for IRP-11, IRP-13W, and MMS-04;
- Alternative 4, ISB, MNA, and ICs, for IRP-5S(a) and IRP-6; and
- Alternative 6, Hydraulic Control, MNA, and ICs, for the MPA.

Specific details regarding implementation of the remedies will be developed during the remedial design phase.

Table 1: Comparative Analysis of Alternatives – Low Concentration Sites

U.S. EPA Evaluation Criteria	IRP-11			IRP-13W			MMS-04		
	1	2	3	1	2	3	1	2	3
	No Action	ICs	MNA/ICs	No Action	ICs	MNA/ICs	No Action	ICs	MNA/ICs
Overall protectiveness	No	Yes							
Compliance with ARARs	NA	Yes	Yes	NA	Yes	Yes	NA	Yes	Yes
Long-term effectiveness and permanence	○	◐	◐	◐	◐	◐	◐	◐	◐
Reduction of toxicity, mobility, or volume through treatment	○	○	○	○	○	○	○	○	○
Short-term effectiveness	○	●	●	◐	●	●	◐	●	●
Implementability	●	●	●	●	●	●	●	●	●
Cost* (\$M)	● 0	◐ 0.21	○ 0.37	● 0	◐ 0.26	○ 0.48	● 0	◐ 0.16	○ 0.28

Please refer to the Notes under Table 2.

Table 2: Comparative Analysis of Alternatives – Moderate Concentration Sites

Site	IRP-6					IRP-5S(a)						MPA						
	1	2	3	4	5	1	2	3	4	5	6	1	2	3	4	6		
	U.S. EPA Evaluation Criteria		No Action	ICs	MNA/ICs	ISB/MNA/ICs	ISCO/ISB/MNA/ICs	No Action	ICs	MNA/ICs	ISB/MNA/ICs	ISCO/ISB/MNA/ICs	Hydraulic Control/MNA/ICs	No Action	ICs	MNA/ICs	ISB/MNA/ICs	Hydraulic Control/MNA/ICs
1. Overall protectiveness	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
2. Compliance with ARARs	NA	Yes	Yes	Yes	Yes	NA	Yes	Yes	Yes	Yes	Yes	Yes	NA	Yes	Yes	Yes	Yes	Yes
3. Long-term effectiveness and permanence																		
4. Reduction of toxicity, mobility, or volume through treatment																		
5. Short-term effectiveness																		
6. Implementability																		
7. Cost* (\$Million)	 0	 0.74	 1.23	 1.27	 1.64	 0	 0.77	 1.27	 1.70	 2.30	 1.53	 0	 0.76	 1.25	 2.07	 1.38		

Notes:

* Under the cost criterion, a rating of “high” means that the alternative rated more favorably (i.e., lower cost).

Alternative 5 was not evaluated for the MPA because contaminant concentrations at this site were not favorable for the ISCO process.

Alternative 6 was not evaluated for IRP-6 because the distance from the plume to the treatment system would result in high costs.

Acronyms/Abbreviations:

- ARAR – applicable or relevant and appropriate requirement
- IC – institutional control
- IRP – Installation Restoration Program
- ISB – *in situ* bioremediation
- ISCO – *in situ* chemical oxidation
- MNA – monitored natural attenuation
- NA – not applicable; ARARs would not be triggered under the “no action” alternative

Relative Performance:

- = low
- = moderate
- = high

INSTITUTIONAL CONTROLS

ICs are legal and administrative mechanisms that limit exposure of future land owner(s) and land user(s) to COCs and that protect a remedy that is in-place. They prohibit or restrict uses or activities that could result in unacceptable exposure to COCs or damage to remedial action components.

OU-4B sites are located in portions of the former Station:

- 1) that are currently retained by the Navy without a lease (IRP-11 and the MPA);
- 2) that have been leased to the city of Tustin under a Lease in Furtherance of Conveyance (LIFOC) and that will be conveyed by deed in the future (IRP-5S[a], IRP-6, and MMS-04);
- 3) that have already been transferred to a third party as an "early transfer" pursuant to a Finding of Suitability for Early Transfer (FOSET) (IRP-13W); and
- 4) that have already been transferred to a third party pursuant to a Finding of Suitability to Transfer (FOST) (a portion of IRP-5S[a]).

Interim Land-Use Restrictions.

The Navy will control development on Navy-retained property that has not been leased by following the land-use restrictions listed below. For leased sites, the leases include interim land-use restrictions, substantively similar to the final land-use restrictions identified below, which will remain in effect until the leased property is conveyed by deed to the Lessee(s).

Proposed Final Land-Use Restrictions.

When title to the property is conveyed by the Navy to the transferee, land-use restrictions will be incorporated into and implemented through the following two separate legal instruments at the time of conveyance of the property:

- 1) Restrictive covenants included in one or more "Covenant(s) to Restrict Use of Property" entered into by the Navy and DTSC as provided in the "Memorandum of Agreement Between the United States Department of the Navy and the California Department of Toxic Substances Control" and its attached covenant models, which are consistent with the substantive provisions of Title 22 of the California Code of Regulations, Section 67391.1.
- 2) Restrictive covenants included in one or more Quitclaim Deed(s) from the Navy to the property recipient. The following land-use restrictions will be incorporated into the legal instruments provided above:
 - Prohibit the installation of new groundwater supply wells and extraction of groundwater including installation of any structure or improvement that has the potential to affect plume migration unless approved in writing by the Navy and regulatory agencies; and
 - Prohibit the alteration, disturbance, or removal of groundwater monitoring and/or remediation system without written approval from the Navy and regulatory agencies.

For the FOSET property (IRP-13W), a "Covenant to Restrict Use of Property" and Quitclaim Deed have been executed. Both documents contain restrictions substantively similar to the land use restrictions above. Further, the FOSET states that restrictions may be modified in the future based on the Final ROD/RAP.

For the FOST property (a portion of IRP-5S[a]), ICs will be based on local well permit programs administered by the Orange County Health Care Agency and Irvine Ranch Water District (IRWD). These agencies require that any person planning to construct a water well must apply for and obtain a permit for construction of the well. The agencies are also authorized to include any necessary conditions in the permit to assure adequate protection of public health (*Orange County Code*, Article 2, Construction and Abandonment of Water Wells, and *IRWD Rules and Regulations*, Section 16, Water Wells).

Access Provisions.

Access provisions are required to ensure the Navy and regulatory agencies have access to the leased properties to conduct investigations and surveys, inspections, and other activities related to the cleanup program including operating remediation equipment and other remedy components for the purpose of implementing the remedial action, performing maintenance activities, and conducting monitoring.

Applicable or Relevant and Appropriate Requirements

CERCLA requires that remedial actions meet federal or state (if more stringent) environmental standards, requirements, criteria, or limitations that are determined to be ARARs. Requirements of ARARs are divided into three categories.

- **Chemical-specific** – are health- or risk-based numerical values for various environmental media, specified in federal or state statutes or regulations.
- **Location-specific** – are regulations that may require actions to preserve or protect aspects of environmental or cultural resources that may be threatened by remedial actions to be undertaken at a site.
- **Action-specific** – are regulations that apply to specific activities or technologies used to remediate a site, including design criteria and performance requirements.

Potential ARARs are listed below for the preferred remedies for OU-4B sites at former MCAS Tustin.

POTENTIAL FEDERAL CHEMICAL-SPECIFIC ARARs

The substantive provisions of the following requirements were identified as potential federal chemical-specific ARARs.

- National primary drinking water standards (MCLs) at 40 Code of Federal Regulations (CFR), Section 141.61(a) and 141.50;
- Definition of Waste at California Code of Regulations (CCR) Title 22, Section 66261.21, 66261.22(a)(1), 66261.23, 66261.24(a)(1) and 66261.100;
- Groundwater protection standards at CCR Title 22, Sections 66264.94(a)(1), (a)(3), (c), (d), and (e); and
- Definition of RCRA hazardous waste at CCR Title 22, Sections 66261.21, 66261.22(a)(1), 66261.23, 66261.24(a)(1), and 66261.100.

POTENTIAL STATE CHEMICAL-SPECIFIC ARARs

Substantive provisions of the following requirements were identified as potential state chemical-specific ARARs.

- Determination of non-RCRA hazardous waste at CCR Title 22, Sections 66261.3(a)(2)(C) or (a)(2)(F), 66261.22(a)(3) and (a)(4), 66261.24(a)(2)-(a)(8), and 66261.101;
- State MCL list at CCR Title 22, Section 64444(a);
- The Porter-Cologne Water Quality Control Act at California Water Code, Division 7, Sections 13241,

13243, 13263(a), 13269, and 13360 authorizes the SWRCB and RWQCB to establish in water quality control plans beneficial uses and numerical and narrative standards to protect both surface water and groundwater quality;

- Comprehensive Water Quality Control Plan for the Santa Ana River Basin, Chapters 2 through 4 at California Water Code, Section 13240; and
- Sources of Drinking Water Policy at SWRCB Resolution Number 88.63.

POTENTIAL FEDERAL LOCATION-SPECIFIC ARARs

Substantive provisions of the following requirements were identified as potential federal location-specific ARARs.

- Archaeological and Historic Preservation Action at Title 16 of the United States Code (USC) Sections 469–469c-1 and CFR Title 40, Section 6.301(c);
- Archaeological Resources Protection Act of 1979 at Publication L. No. 96-95, 16 USC Section 470aa-470mm;
- National Historic Preservation Act of 1966, as amended, at 16 USC, Section 470-470x-6, 36 CFR part 800, and 40 CFR Section 6.301(b);
- Historic Sites, Buildings, and Antiquities Act of 1935 at 16 USC Sections 461-467, 40 CFR Section 6.301(a); and
- Wetlands protection at 40 CFR Section 6.302(a).

POTENTIAL STATE LOCATION-SPECIFIC ARARs

No requirements were identified as potential state location-specific ARARs.

POTENTIAL FEDERAL ACTION-SPECIFIC ARARs

Substantive provisions of the following requirements were identified as potential federal action-specific ARARs.

Alternative 4:

- Underground injection of chemicals at 40 CFR Section 144.12(a) and 144.82(a)(1).

Alternatives 2, 4 and 6:

- Waste generator requirements at CCR Title 22, Sections 66262.10(a) and 66262.11, 66264.13(a) and (b);
- Hazardous waste accumulation at CCR Title 22, Section 66262.34;
- Groundwater monitoring requirements at CCR Title 22, Section 66264.91(c), except as it cross-references permit requirements;

- Monitoring requirements for groundwater, surface water, and the vadose zone at CCR Title 22, Sections 66264.97(b)(1)(A), (b)(1)(D)(1) and (2), (b)(4-7), (e)(6), (12)(A), and (12)(B), (13), and (15);
- Requirements for detection monitoring program at CCR Title 22, Sections 66264.98(e)(1-5), (i)(j), (k)(1-3), (4)(A) and (D), (5), (7)(C) and (D), (n)(1) and (2)(B) and (C); and
- Corrective action monitoring at CCR Title 22, Section 66264.100(d), and 66264.100 (g)(1).

POTENTIAL STATE ACTION-SPECIFIC ARARS.

Substantive provisions of the following requirements were identified as potential state action-specific ARARS.

Alternatives 2, 4, and 6:

- ICs at California Civil Code Section 1471, California Health and Safety Code (HSC) Section 25202.5, 25222.1 and 25355.5(a)(1)(C), Section 25232(b)(1(A)-(E), 25233(c) and 25234;
- Land use controls at CCR Title 22 Section 67391.1 and CCC Section 1471; and
- Air discharge and emissions at SCAQMD Rule 401(b)(1)(A), Rule 403, 404, 405 and 1401.

How Do You Provide Input To The Navy?

Providing Comments on this Proposed Plan/Draft RAP

There are two ways to provide comments during the public comment period (February 04 to March 05, 2009):

- Offer oral comments during the public meeting; or
- Provide written comments by mail, fax, or email to the Navy no later than March 05, 2009 (see contact information below).

The public meeting will be held on February 11, 2009, at the Tustin Senior Center, 200 South "C" Street, Tustin, California at 6:30 p.m. Navy representatives will provide information on the environmental investigations and remedial alternatives for OU-4B sites. You will have an opportunity formally comment on the remedial alternatives summarized in this Proposed Plan/Draft RAP.

Please send all written comments to:

Mr. Tony Megliola
Base Closure Manager
MCAS Tustin
7040 Trabuco Road
Irvine, CA 92618-1700
(619) 532-0675 or fax to: (949) 726-6586
anthony.megliola@navy.mil

Restoration Advisory Board

The Navy provides information on the cleanup of OU-4B to the public through public meetings, the AR File for the site, and notices published in the local newspapers. Restoration Advisory Board (RAB) meetings are held quarterly on the third Wednesday of the month and are open to the public. Please visit the Navy's website for more RAB information: <http://www.bracpmo.navy.mil>.

Administrative Record

The collection of reports and historical documents used by the Navy, in conjunction with the regulatory agencies, in the selection of cleanup or remedial alternatives is the AR File. The AR File includes such documents as RI and FS Reports and other supporting documents and data for OU-4B. The AR File is located at the following address:

MCAS Tustin Administrative Record File
Attention: Records Administrator
BRAC Office Building, Building 307, MCAS El Toro
Phone: (949) 726-5398

Community members interested in the full technical details beyond the scope of this Proposed Plan/Draft RAP can also find key supporting documents that pertain to OU-4B and a complete index of all Navy MCAS Tustin documents at the information repositories (see text box on Page 15).

Where to Get More Information

If you have any questions or concerns about environmental activities at the Station, please feel free to contact any of the following project representatives:

Mr. Anantaramam (Ram) Peddada
Remedial Project Manager
California Department of Toxic
Substances Control
Office of Military Facilities
5796 Corporate Avenue
Cypress, CA 90630
(714) 484-5418
APeddada@dtsc.ca.gov

Ms. Christina Fu
Public Participation Specialist
Department of Toxic Substances
Control
9211 Oakdale Avenue
Chatsworth, California 91311
(818) 717-6574
cfu@dtsc.ca.gov

Ms. Patricia Hannon
Remedial Project Manager
California Regional Water Quality
Control Board
California Tower
3737 Main Street, Suite 500
Riverside, CA 92501-3339
(951) 782-3348
phannon@waterboards.ca.gov

Mr. James Ricks
Remedial Project Manager
U.S. Environmental Protection Agency
Superfund (SFD 8-1)
Region IX
75 Hawthorne Street
San Francisco, CA 94105-3901
(415) 972-3023
ricks.james@epamail.epa.gov

Definitions of Chemical and Technical Terms

Administrative Record (AR) File is a collection of reports and historical documents used in the selection of cleanup or environmental management activities.

Applicable or relevant and appropriate requirements (ARARs) are the federal and State laws and regulations that must be followed for the selected cleanup remedy.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), also known as Superfund, is a federal law that regulates environmental investigation and cleanup of sites identified as potentially posing a risk to human health and/or the environment.

Chemical of concern (COC) is a chemical identified as a potential risk during a site-specific human health risk assessment.

Feasibility Study (FS) is a study that identifies and evaluates cleanup technologies for a site based on effectiveness, availability, cost, and other criteria.

Granular activated carbon (GAC) is a form of carbon, usually derived from charcoal, that has been processed to make it extremely porous and thus to have a very large surface area available for chemical reactions.

Hazard index (HI) is a calculated value that represents a potential noncancer health effect. An HI value of 1.0 or less is considered protective of human health.

Human health risk assessment (HHRA) is an analysis of the potential negative human health effects caused by potential exposure to hazardous substances released at a site.

Installation Restoration Program (IRP) is the Department of Defense's program to investigate and clean up environmental contamination at military facilities in full compliance with CERCLA.

Institutional Controls (ICs) are non-engineering mechanisms established to limit human exposure to contaminated soil, sediment, and/or groundwater

Preferred alternative is the remedial alternative identified by the Navy in conjunction with the regulatory agencies that best satisfies the remedial action objectives, based on an evaluation of alternatives presented in the FS Report.

Proposed Plan/Draft Remedial Action Plan (RAP) is a document that reviews cleanup alternatives, summarizes recommended cleanup actions, explains the reasons for recommending them, and solicits comments from the community.

Record of Decision (ROD)/RAP is a public document that explains the selected remedial alternative to be implemented at a specific site. The ROD/RAP is based on information and technical analysis generated during the remedial investigation/feasibility study and on consideration of public comments received throughout the process and in response to the Proposed Plan.

Remedial action is a general term used to describe technologies used to contain, remove, or treat hazardous wastes to protect human health and/or the environment.

Remedial action objectives (RAOs) are goals established for the protection of human health and the environment.

Remedial Investigation (RI) identifies the nature and extent of potential contaminants at a site and assesses human health and environmental risks.

Resource Conservation and Recovery Act (RCRA) is a federal law that gives California EPA the authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste.

Vadose zone is the unsaturated (dry) interval between the ground surface and the water table. Soil pore spaces in this zone typically contain air and/or other gases.

Volatile organic compounds (VOCs) make up a general category of organic (carbon-containing) compounds that evaporate easily at room temperature. VOCs are commonly used for degreasing, paint stripping, and other industrial operations. At former MCAS El Toro, historical activities include over 40 years of aircraft maintenance using industrial solvents within the VOC category. Some VOCs are known cancer causing compounds.

Water-bearing zone (WBZ) is the name applied to a shallow subsurface interval at MCAS Tustin with similar lithologic and/or groundwater quality characteristics. The first, second, and third WBZs are used to define the shallow lithology above the regional drinking water aquifer at MCAS Tustin.

What Happens After the Public Comment Period?

Comments received on this Proposed Plan/Draft RAP during the 30-day public comment period (February 04 – March 05, 2009) will be considered in the final remedy selection. The next steps in the IRP process are the ROD/RAP and the Remedial Design/Remedial Action.

The Final ROD/RAP will formally document the selection of the final remedy for OU-4B. Comments received in writing or verbally provided to the court reporter at the public meeting held on February 11, 2009 will be documented and responded to in the Responsiveness Summary portion of the ROD/RAP. The Navy will consider comments received from the public in the final selection of the remedial alternative.

The remedial design involves developing detailed designs and specifications for the selected remedies. The former MCAS Tustin BCT will provide oversight and review of the design. Design documents will be made available for public viewing at the Information Repository and at the on-Station AR File (see below). Remedial action refers to implementation of the selected remedy and also requires cooperation and oversight of the BCT.

Multi-Agency Team Concurs with OU-4B Preferred Remedy

The BCT, composed of representatives from the Navy, the U.S. EPA, DTSC, and the RWQCB, was established when MCAS Tustin was designated for closure. The primary goals of the BCT are to protect human health and the environment and oversee the environmental cleanup at the Station.

The BCT plays a key role in the coordination and review of the environmental investigations and cleanup and was involved in the review of all major documents and activities associated with OU-4B. This review included the RI and FS Reports for OU-4B, which included detailed HHRAs, and an evaluation the effectiveness of the remedial alternatives for OU-4B and showed how these alternatives meet the nine NCP evaluation criteria (see Pages 7 to 10).

Based on reviews of and discussions on these key documents and activities, the BCT concurs with the Navy's recommendation of Alternative 2, ICs, for MMS-04, IRP-11, and IRP-13W; Alternative 4, ISB, MNA, and ICs at IRP-5S(a) and IRP-6; and Alternative 6, hydraulic control, MNA, and ICs for the MPA.

Information Repository Location

Community members can find key support documents that pertain to OU-4B, and a complete index of all MCAS Tustin AR documents, at the Information Repository located at the University of California at Irvine, Langson Library Government Publication Department, Irvine, CA. The telephone number is (949) 824-7362.

Administrative Record File Location

The complete AR File of documents for all of former MCAS Tustin, including site-specific files for OU-4B, is available for review at BRAC Office Building 307, MCAS El Toro. To schedule a review time at the Station during the public comment period, contact Ms. Sue Rawal at (949) 726-5398.

MAILING LIST COUPON

If you would like to be on the mailing list to receive information about environmental activities at Former MCAS Tustin, please fill out the coupon below and send it to Ms. Randa Chichakli, CDM, 9444 Farnham Street, Suite 210, San Diego, CA 92123. If you prefer, e-mail the information requested below to ChichakliRE@cdm.com.

- Add me to the Former MCAS Tustin Installation Restoration Program mailing list.
- Send me information on Restoration Advisory Board membership.

Name _____ Affiliation (optional) _____
Street _____
City _____ State _____ Zip Code _____
Telephone _____

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