



UNITED STATES MARINE CORPS

HEADQUARTERS MARINE CORPS AIR STATION EL TORO
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SANTA ANA CA 92709-5001

IN REPLY REFER TO:

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1AU
SEP 17 1996

State of California Environmental Protection Agency
Department of Toxic Substances Control, Region 4
Attn: Mr. Tayseer Mahmoud
Remedial Project Manager
Site Mitigation Branch
Base Closure Unit
245 Broadway, Suite 425
Long Beach, CA 90802-4444

Ref: IDENTIFICATION OF STATE "APPLICABLE" OR "RELEVANT AND APPROPRIATE" REQUIREMENTS (ARARs) FOR THE REMEDIAL INVESTIGATION AND FEASIBILITY STUDY (RI/FS) FOR OPERABLE UNIT (OU-1) AT MARINE CORPS AIR STATION (MCAS) EL TORO

Dear Mr. Mahmoud:

The purpose of this letter is to request that the Department of Toxic Substances Control (DTSC), as lead agency for the State of California, identify any additional specific potentially applicable or relevant and appropriate requirements (ARARs) under State law for MCAS El Toro for additional remedial alternatives which the Department of Navy (DON) has determined should be added to the MCAS El Toro OU-1 Interim Action Feasibility Study (IAFS) currently under review.

Following the regulatory agencies' recommendations, DON developed new alternatives (Alternatives 7A and 8) that incorporate intrinsic remediation (natural attenuation) for the principal aquifer. Another approach discussed in the IAFS Addendum is Alternative 7B which is evaluated strictly as a contingency for Alternative 7A. Alternatives 7A and 8 were developed by removing the two down gradient principal aquifer extraction wells from the two most effective alternatives (Alt 2A and Alt 6A) described in the Draft IAFS of October 1995. Like the previous alternatives, the new alternatives also incorporate an aggressive stance against VOC source migration in the on-station shallow groundwater unit (SGU). The result is that in Alternative 7A, no additional extraction from the principal aquifer is incorporated beyond current (background) pumping conditions. For Alternative 8, the pumping capacity from the two down gradient extraction wells used in Alternative 6A are reallocated to production wells currently being considered in Orange County Water District's (OCWD) water supply project, the Irvine Desalter Project (IDP). Alternative 8 continues to incorporate extraction wells from the shallow groundwater unit near the VOC source area for migration control. The Alternative 8 extraction wells located in the principal aquifer would operate at flow rates similar to those described in the Irvine Desalter Project Preliminary Design Report of March 31, 1994. A more

thorough discussion and description of the new alternatives are provided as enclosure (1) and are attached for your information.

The above natural attenuation remediation enhanced alternative (principal aquifer portion only) have been discussed among representatives of the parties to the MCAS El Toro Federal Facilities Agreement (FFA), specifically at the Base Realignment and Closure (BRAC) Cleanup Team (BCT) meetings of May 7 and June 5, 1996. Our approach was also presented in our February 13, 1996 letter to United States Environmental Protection Agency (USEPA).

DON acknowledges receipt of DTSC's April 11, 1994 response to DON's March 4, 1994 request for identification of State ARARs for the remedial alternatives addressed in the September 1994 Draft IAFS submitted to USEPA and State of California Environmental Protection Agency (CalEPA) for review and comment as well as DTSC's April 10, April 21, and May 9, 1995 responses to DON's February 17, 1995 request for identification of State ARARs for the additional remedial alternatives added to the October 1995 revised Draft IAFS. Response to comments were included with the August 9, 1996 submittal of the Draft Final IAFS.

Because the additional remedial alternatives being added to the Draft Final IAFS report are essentially modifications of remedial alternatives addressed in past ARAR identification and evaluation documentation, DON does not believe the additional alternatives will raise any additional potential ARARs. However, because the additional remedial alternatives rely upon natural attenuation to achieve groundwater cleanup standards to some degree, there is a need to address how certain previously identified potential State ARARs should be interpreted and applied to those alternatives.

DON would like to emphasize that it is requesting that DTSC and supporting agencies identify additional potential State ARARs for the additional alternatives being added to the October 1995 Draft IAFS, and is specifically not requesting that additional potential ARARs for the remedial alternatives already addressed in the October 1995 Draft IAFS and the related USEPA and CalEPA comments be addressed unless those potential ARARs have been amended, repealed or otherwise changed.

In the event that the State or any supporting agencies believes that there are additional potential State ARARs for the additional remedial alternatives in addition to those previously identified and to ensure complete ARARs identification, we ask that you provide us with the following information for any such additional potential State ARARs:

1. A specific citation to the statutory or regulatory provision(s) for the potential State ARAR and the date of enactment or promulgation.
2. A brief description of why the potential State ARAR is applicable or relevant and appropriate.
3. A description of how the potential State ARAR would apply to potential remedial actions,

including: specific numeric discharge, effluent, or emission limitations; hazardous substance/constituent action or cleanup levels; and whether the State intends to take the position that the potential State ARAR will be interpreted to include such limitations, levels, etc.

4. If the State believes its potential ARAR(s) is more stringent than the corresponding Federal ARAR, please provide the rationale and technical justification for this position.
5. If the State determines that there is not enough information to fully respond to our request, please identify any additional information that would be required to support identification of State ARARs and their application.
6. A description of any other criteria, advisories, guidance, and proposed standards that the State of California requests to be considered (TBCs) for OU-1.

As you know, timely identification of potential State ARARs is an iterative process and is required under Section 121(d)(2)(a) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), and under the National Contingency Plan (NCP), 40 CFR Sections 300.400(g) and 300.515(d) and (h). Additionally, identification of ARARs is stipulated in paragraph 7.6(a) and (b) of the FFA between USEPA, CalEPA, and DON.

Consistent with the above cited provisions, we request that you send a response via first class mail addressed to me and postmarked within 30 calendar days of receipt of this request.

If you have any technical questions concerning this request, please contact Mr. Andy Piszkin, Remedial Project Manager, Southwest Naval Facilities Engineering Command (SOUTHWESTNAVFACENGCOM) at (619) 532-2635. Legal questions should be directed to Mr. Rex Callaway, Associate Counsel (Environmental), SOUTHWESTNAVFACENGCOM at (619) 532-1662. Thank you for your prompt attention in this matter.

Sincerely,

JOSEPH JOYCE
Base Realignment and Closure
Environmental Coordinator
By direction of
the Commanding General

Encl:

- (1) Description of Additional Alternatives

Receipt acknowledged by:


California Department of Toxic Substances Control
RPM

Date: 9/17/96

Copy to w/encl:
Commanding General
AC/S, Environment and Safety (IAU)
Attn: Mr. Wayne Lee
MCAS El Toro
P.O. Box 95001
Santa Ana, CA 92709-5001

Santa Ana Regional Water Quality Control Board
Attn: Mr. Gerald J. Thibeault
Executive Officer
3737 Main Street, Suite 500
Riverside, CA 92501-3339

State Water Resources Control Board
Attn: Mr. Theodore Cobb, Esq.
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901 P Street
Sacramento, CA 95814

U. S. Environmental Protection Agency
Attn: Ms. Thelma Estrada, Esq.
Assistant Regional Counsel
Office of Regional Counsel
75 Hawthorne Street
San Francisco, CA 94105-3901

5.0 DESCRIPTION OF ADDITIONAL ALTERNATIVES

The three additional lower-cost alternatives developed for this IAFS Addendum, Alternatives 7A, 7B, and 8, are presented in this section.

5.1 Rationale for New Alternatives

5.1.1 Rationale for Alternatives 7A and 7B

Alternatives 7A and 7B both have a SGU extraction, treatment, and injection system identical to Alternative 2A. However, Alternatives 7A and 7B allow the VOC contamination in the Principal Aquifer to continue to attenuate as it has in the past, without DON or IDP remedial action. Additional monitoring wells are installed to monitor the potential flow of contamination from the SGU to the Principal Aquifer and the attenuation of the plume at its downgradient edge.

Alternative 7B includes the DON acquisition and operation of Wells 18_IRWD78 and 18_TIC113 if their present use is phased out after 10 years due to reduced demand and/or increases in TDS that make the water unusable for its current use. (If DON is not able to acquire these wells from their owners at that time and the wells continue to be necessary for containment, DON will construct two extraction wells in the same general locations. Attachment F-2 presents a summary of the factors that affect the demand for and useful life of these two Culver Drive wells.) The groundwater extracted from these wells is treated to remove VOCs and injected at the upgradient edge of the plume near MCAS El Toro. Action in the Principal Aquifer under Alternative 7B would occur only as necessary to protect actual beneficial uses.

5.1.2 Rationale for Alternative 8

Alternative 8 is similar to Alternative 6A; it implements a merged IDP and MCAS El Toro Project with groundwater extraction in both the SGU and Principal Aquifer.

However, Alternative 8 allows the VOC contamination in the Principal Aquifer downgradient of the IDP well system to continue to attenuate as it has in the past, without additional DON remedial action. The two new DON wells installed in the Principal Aquifer in Alternative 6A are not included in Alternative 8. (Instead, the IDP wells in Alternative 8 pump 2,000 gpm more than in Alternative 6A to maintain the design influent flow of 5,700 gpm to the IDP treatment system.) Additional monitoring wells are installed to monitor the potential flow of contamination in the Principal Aquifer and the attenuation of the plume at its downgradient edge.

5.2 Development of Additional Alternatives

Descriptions of the additional alternatives are provided in this subsection and summarized in Table 5-1. Table 5-2 provides a detailed assembly of each alternative by general response action, and remedial technology or process option. Table 5-3 summarizes each alternative by its extraction/injection, treatment, discharge, and monitoring components. Figures 5-1 and 5-2, schematic drawings of Alternatives 2A and 6A, are provided for comparison with the new alternatives described in this subsection.

5.2.1 Alternative 7A—MCAS El Toro Shallow Groundwater Project

Alternative 7A provides an SGU extraction/treatment/injection system. The Principal Aquifer attenuates naturally and is addressed through installation and monitoring of multiple clusters of monitoring wells in two areas: 1) upgradient of the current 5- μ g/L isoconcentration contour (see Figure 6-2), and 2) downgradient of the 5- μ g/L isoconcentration contour. Figure 5-3 is a schematic drawing of Alternative 7A. Figures 5-4 and 5-5 present conceptual layouts of Alternative 7A for the SGU and Principal Aquifer, respectively.

In the SGU, Alternative 7A calls for installation and operation of 31 extraction wells to produce 1,260 gpm. The extracted water is treated at an MCAS El Toro treatment system (air stripping/vapor phase granular activated carbon [VGAC] and liquid phase GAC [LGAC]) and then injected into the SGU through 31 injection wells. Three areas are addressed with the SGU system—one larger TCE area (farthest east

in Figure 5-4), one smaller TCE area (southwest corner of Station in Figure 5-4), and the benzene plume (northwest of the larger TCE area in Figure 5-4). Injection wells are placed to provide efficient disposal of treated water, maintain SGU water levels, and accelerate flushing of the larger TCE area. This system is identical to the SGU system provided by Alternative 2A.

In the Principal Aquifer, three additional monitoring well clusters are installed upgradient of the 5- μ g/L isoconcentration contour displayed in Figure 6-2 to allow monitoring of the potential movement of SGU contamination to the Principal Aquifer (the eastern set of wells shown in Figure 5-5). An additional set of three monitoring well clusters is installed downgradient of the 5- μ g/L isoconcentration contour (the western set of wells in Figure 5-5) to allow further characterization of the plume in this area and monitoring of the attenuation of the plume over time. The completion intervals of the monitoring wells in each cluster are selected to allow consistent comparisons among well clusters and to monitor the primary intervals of groundwater flow. The monitoring wells are each installed with 50 feet of machine-slotted steel casing; the screen length provides an appropriate compromise between an interest in vertical variation in contamination, and the length of typical production wells that could be potentially impacted by contamination. The purpose of the enhanced monitoring array is to monitor potential plume movement.

5.2.2 Alternative 7B—MCAS El Toro Shallow Groundwater Project with Principal Aquifer Contingency Wells

Alternative 7B is a variation of Alternative 7A only in the specification of DON acquisition and operation of the Culver Drive irrigation wells after 10 years (or replacement if acquisition is not feasible at that time). During the first 10 years of implementation, the wells operate under their present ownership. A period of 10 years was selected because that is the projected remaining demand/useful life for the existing irrigation Wells 18_IRWD78 and 18_TIC113. See Attachment F2. Figure 5-6 is a schematic drawing of Alternative 7B. The conceptual layout for the SGU in Alternative 7B is the same as that for Alternative 7A, which is shown in

Figure 5-4. Figure 5-7 presents a conceptual layout of Alternative 7B for the Principal Aquifer.

The SGU facilities of Alternative 7B are identical to those of Alternative 7A.

After DON acquisition or replacement of Wells 18_IRWD78 and 18_TIC113, the discharge from the wells (2,000 gpm on an annual average basis) is treated at an MCAS El Toro treatment facility by air stripping and VGAC. The treated water is then injected into the Principal Aquifer upgradient of the 5- μ g/L isoconcentration contour through 10 Principal Aquifer injection wells, as shown in Figure 5-7. One new monitoring well cluster is installed upgradient of the Principal Aquifer injection wellfield (see Figure 5-7) to monitor water levels and concentrations associated with injection.

After year 10, Alternative 7B resembles and operates in a manner essentially identical to Alternative 2A.

5.2.3 Alternative 8—MCAS El Toro Shallow Groundwater Project and Modified Partial IDP with Discharge only to IDP

Alternative 8 provides the same SGU extraction system as Alternatives 7A and 7B. In the Principal Aquifer, Wells 18_IDP1, 18_IDP2, 18_IDP3, 18_IDP4, 18_ET1, and 18_TIC110 extract a total of 4,440 gpm (18_TIC110 is outside the TCE plume and is not considered part of the CERCLA response in Alternative 8). The extracted groundwater is treated at the IDP to remove VOCs (air stripping/VGAC) and discharged to the remainder of the IDP treatment system for further treatment and distribution to use. The further treatment operations and distribution to use are not VOC-related and are not considered part of a the CERCLA response in Alternative 8. Downgradient of the IDP wells, the Principal Aquifer attenuates naturally. Figure 5-8 is a schematic drawing of Alternative 8. Figures 5-9 and 5-10 present conceptual layouts of Alternative 8 for the SGU and Principal Aquifer, respectively.

In the SGU, Alternative 8 calls for installation and operation of 31 extraction wells to produce 1,260 gpm. The extracted water is combined with the Principal Aquifer flow for removal of VOCs (air stripping/VGAC). Three areas are addressed with the SGU system (as shown in Figure 5-9): one larger TCE area (farthest east), one smaller TCE area (southwest corner of Station), and one benzene plume (northwest of the larger TCE area). Injection wells are not used in the SGU. This system is identical to the SGU system provided by Alternative 6A.

In the Principal Aquifer, an additional set of monitoring well clusters is installed upgradient of the 5- μ g/L isoconcentration contour to allow monitoring of the potential movement of SGU contamination to the Principal Aquifer (the eastern set of wells shown in Figure 5-10). Another additional set of monitoring well clusters is installed downgradient of the 5- μ g/L isoconcentration contour (the western set of wells in Figure 5-10) to allow further characterization of the plume in this area and monitoring of the attenuation of the plume over time. The completion intervals of the monitoring wells in each cluster are selected to allow consistent comparisons between well clusters and to monitor the primary intervals of groundwater flow. The monitoring wells are each installed with 50 feet of machine-slotted steel casing; the screen length provides an appropriate compromise between an interest in vertical variation in contamination, and the length of typical production wells that could be potentially impacted by contamination. The purpose of the enhanced monitoring array is to monitor potential plume movement.