



Department of Toxic Substances Control



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Mr. Darren Newton
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COMMENTS ON THE DRAFT FEASIBILITY STUDY REPORT, INSTALLATION RESTORATION PROGRAM SITE 1, EXPLOSIVE ORDNANCE DISPOSAL TRAINING RANGE, FORMER MARINE CORPS AIR STATION EL TORO, IRVINE, CALIFORNIA

Dear Mr. Newton:

The Department of Toxic Substances Control (DTSC) has completed the review of the subject document (FS Report) which was dated January 2007. Site 1 is located in the northeast portion of Former Marine Corps Air Station El Toro (Station) in the foothills of the Santa Ana Mountains, within a tributary of Borrego Canyon Wash, was used as an explosive ordnance disposal (EOD) training range from 1952, and became inactive with the closure of the Station in 1999.

The Phase I remedial investigation (RI) was conducted in 1993 after which further investigation was delayed until after cessation of EOD training activities due to closure of the Station. Since then several environmental studies and investigations and the Phase II RI have been conducted. The December 2006 Phase II RI Report recommends that a feasibility study (FS) be conducted to evaluate remedial alternatives for the site. DTSC concurred with the conclusions and recommendations in this report in its February 23, 2007 letter.

The FS Report documents the development and evaluation of remedial alternatives to address risks to human health and the environment at the site. It provides information about the remedial action options to address perchlorate-impacted groundwater and munitions and explosives of concern (MEC)-impacted and naphthalene-impacted soil.



Based on the review of the FS Report, DTSC has the following comments:

GENERAL COMMENTS

1. The report states that the first remedial action objective (RAO) for perchlorate-impacted groundwater is to "minimize the potential for domestic use of perchlorate-impacted groundwater that results in a noncancer hazard index of greater than 1". Although the remedial alternatives under this FS would restore groundwater for domestic use, the statement may not be interpreted as the same as to "restore the groundwater to meet the Basin Plan beneficial uses". In addition, as presented in Appendix A, if the State maximum contaminant level (MCL) for perchlorate is promulgated, the discussion of noncancer HI would no longer be applicable. Instead, an applicable or relevant and appropriate requirement (ARAR)-driven target cleanup goal (TCG) would apply. Please address these points.
2. As indicated on Page 3-54, Section 3.4.2, under Perchlorate Sources and Release Mechanisms, residual pockets may serve as isolated vadose zone sources of perchlorate to groundwater. It is not clear if these sources have been considered in the groundwater modeling to calculate the remediation duration. In addition, the alternatives in this FS do not seem to address these sources. Please clarify.
3. Based on the modeling results in Appendix F, Alternative G-2 does not seem to meet the RAOs since off-station migration of the perchlorate plume exceeding TCG occurs. The discussion of this alternative (in both text and summary tables) should note this fact.
4. The discussion on Alternatives G-4a, G-4b, G-5, G-6a, and G-6b (and corresponding alternatives in Appendix A) does not seem to address the potential interference between the injection/extraction well installation in the source area and the MEC/naphthalene impacted areas. Similar discussion as the naphthalene soil excavation in the MEC impacted area should be included.
5. Appendix A is presented to support the evaluation of the similar alternatives, if the State MCL for perchlorate is promulgated. However, the main difference is that the plume exceeding the proposed perchlorate MCL is already extending off-station. It is not clear how the off-station institutional controls (IC) could be implemented effectively, as presented in Alternative GM-2 (Section 3.2 in Appendix A) or Section 5.3.2.2 in the main text. Other approaches, instead of simple monitored natural attenuation (MNA), may be warranted in order to minimize the remediation duration for off-station plume to be in compliance.
6. Alternative N-3 in Section 5.2.3, page 5-9, states that subsequent to the excavation of naphthalene-impacted soil, soil confirmation samples will be collected to assure that naphthalene concentrations greater than the California-modified PRG for industrial soil has been removed.

Mr. Darren Newton
March 30, 2007
Page 3

It should be noted that the Phase II RI report showed that naphthalene is the primary contributor to the cumulative risk of 1E-04 due to soil exposures, and 9E-04 due to indoor air exposures. To address the indoor air issues, DTSC recommends that confirmation soil gas samples be collected to demonstrate that potential indoor air exposures have been reduced to acceptable levels.

SPECIFIC COMMENTS

1. Section 5.3.2.2: ICs also need to address the perchlorate plume beyond Site 1 to cover Site 2, and area between Sites 1 and 2 on-Station.
2. Figure 5-3: The ICs in "Process Option" need to connect to the last two alternatives also.
3. Figures 5-6, 5-7, and 5-8 have included the contingency containment system at the Station boundary. However, this contingency containment system is not discussed in the text or in Table 6-3.
4. Table 6-3, Alternative G-4b, under "Overall Protection of Human Health and the Environment": The "PRB" should be changed to "MNA".
5. Table 6-3, Alternative G-3b, under "Short-Term Effectiveness": The "extraction wells" should be added to the well installation.
6. Table 6-3, under "Implementability": The discussion of monitoring under Alternative 2 would be applicable to all other alternatives, except Alternative 1, with different levels.

Please provide a response to these comments at your earliest convenience. If you have any questions about this letter, please contact me at (714) 484-5352 or qthan@dtsc.ca.gov.

Sincerely,



Quang Than
Remedial Project Manager
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Southern California Operations Branch

cc: Content Arnold
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