



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

April 9, 2001

Ms. Glenna Clark, Code 5090
Department of the Navy, Southwest Division
Naval Facilities Engineering Command
1220 Pacific Highway
San Diego, CA 92132-5190

RE: IR SITES 9, 11, 16 AND 21 REMOVAL ACTIONS FOR DISSOLVED-PHASE
GROUNDWATER CONTAMINANTS

Dear Ms. Clark:

EPA has reviewed the above referenced document, submitted by Tetra Tech, Inc on January 5, 2001. Tetra Tech submitted replacement pages on February 5, because the preferred alternative technology was changed after submission of the original EE/CA.

EPA recommends that the goal and scope of this removal action be more clearly and consistently articulated as has been done for the soil removal actions at Sites 5 and 14 and the DNAPL removal action at Sites 4 and 5. In addition, EPA would like to provide two general comments to keep in mind for all future removal actions and risk assessments. (1) The acronym "RA" under CERCLA refers to remedial action, and is used in that context in the RI/FS report, the ROD, all remedial design/workplan documents and the RA report. (2) The risk levels that fall between 10^{-6} and 10^{-4} are referred to as being in the "risk **management** range" not in an "acceptable risk range". When a risk fall between 10^{-6} and 10^{-4} , the risk managers use all information available about the IR site to determine how the risk can best be managed, whether is be through institutional controls, active remediation or no action. The risk managers are comprised of the BCT and the decision is not unilateral by any party. The decision is documented in the RI and/or FS report and then explained again in the ROD. An EE/CA would definitely not contain such a decision.

EPA appreciates the opportunity to review and provide comments on this EE/CA. Please call me at (415) 744-2367 if you have any questions.

Sincerely,

A handwritten signature in black ink that reads "Anna-Marie Cook". The signature is written in a cursive style with a large, prominent "A" and "C".

Anna-Marie Cook
Remedial Project Manager

cc: Michael McClelland, SWDiv
Andrew Dick, SWDiv
Mary Rose Cassa, DTSC
Brad Job, RWQCB
Dina Tasini, City of Alameda
Michael John Torrey, Alameda RAB Co-Chair

EPA COMMENTS ON IR SITES 9, 11, 16 AND 21 REMOVAL ACTION FOR DISSOLVED-PHASE GROUNDWATER CONTAMINANTS

Program Comments:

1. General Comment: Please refrain from using the acronym “RA” when referring to a removal action. CERCLA specifically uses RA to refer to remedial action.
2. Page ES-2, second paragraph: It would be preferable not to refer to “Navy Tier 1” risk screening since this information is not explained or made available in the EE/CA and has been rejected by EPA in the OU 2 RI. Rather, state that the risk screening showed that the sites are sufficiently contaminated to present a threat to human and a removal action would greatly mitigate the extent of contamination.
3. Page ES-3: The purpose of an EE/CA is to present a preferred alternative for a removal action, based on the ability of the removal technology to be implemented, to be cost effective and to be effective at mitigating a threat. Therefore, presenting two alternatives undermines the validity of the comparisons and leaves the reader wondering if the removal action is as well thought out as it needs to be. Please delete the sentence that states that Alternative 2 may be recommended for Site 16 or remove Site 16 from this removal action and transfer it into a separate removal action.
4. Page 1-1, last paragraph: The statement “...the scope of the potential [removal actions] to be evaluated in this EE/CA should be limited to areas identified as having the greatest chlorinated concentrations in groundwater or areas that could potentially require no further removal action following the [removal action] at Alameda Point.” does not make sense. (1) The removal action itself is not being evaluated in this EE/CA. The BCT has already agreed that a removal action is appropriate. The technology alternatives available to carry out the removal action are being evaluated. (2) This removal action is not anticipated to be the final action at the site given that MCLs will be the final ARARs. The purpose of this particular removal action is to mitigate as much as possible in as short a time as possible dissolved phase solvent concentrations in groundwater at Sites 9, 11, 16 and 21 that currently present a human health threat. The EE/CA is evaluating which technology would best accomplish this objective.
5. Page 2-2, last paragraph: The EE/CA for DNAPL removal at Site 4 states that the Merritt Sand Formation extends from about **30** feet to 80 feet, as opposed to this paragraph which states from **10** to 80 feet. Why the discrepancy?
6. Page 2-3, last paragraph: It is stated “The presence of this low-conductivity sand layer is based on soil borings taken outside of the Sites 11 and 21 remedial area and has not been proven because of the absence of deep soil borings within the groundwater plume”.

Please be sure that the data gap sampling efforts for OU 2 provide the information necessary to determine whether this low-conductivity layer is present and whether contamination has migrated deeper than currently anticipated. This information will affect the design, cost and the effectiveness of the removal action.

7. Page 2-9, second paragraph: Vinyl chloride has been detected at 220 $\mu\text{g/l}$ at a depth of 27 - 30 feet bgs. The presence of contamination at this depth shows that the low conductivity layer is probably not present in this location or that it is deeper than speculated.
8. Page 2-10, third paragraph: Again, contamination is present at depths ranging to 45 feet which does not support the presence of a confining layer of any integrity.
9. Page 2-13, IR Site 9 paragraph: Please delete the phrase "...exceeded the acceptable risk of 10^{-4} for groundwater contaminants." It is wrong on two accounts. (1) Any risk exceeding 10^{-6} may require remediation, any risk exceeding 10^{-4} does require remediation. In between these two levels of risk, it is up to the risk managers to determine how to best manage the risk, whether it be through such avenues as continued monitoring, implementing a remedy or even through no action. However, risk management is not decided unilaterally. (2) When MCLs are ARARs, as in this area, the groundwater must be remediated to meet MCLs, so calculated risk levels are less useful tools in determining extent of clean up.
10. Page 2-13, IR Sites 11 and 21: Same comment as above.
11. Page 2-14, IR Site 16: Same comment as above.
12. Page 3-4, section 3.4.2.1: The statements "However, this [removal action] is an interim measure whose principal goal is source removal...Therefore, requirements such as MCLs...are outside the scope of the immediate action" seems to contradict text on page 3-8 which states "Therefore, reduction of COC concentrations in groundwater to below MCLs will be considered as a goal for this [removal action] to the extent practicable." While the statements are not entirely mutually exclusive, they are confusing to the reader and do not help the ARAR discussion.
13. Page 4-11, third paragraph: Where will the treated groundwater be disposed? What ARARs apply to the disposal choice? Which ARARs apply to treatment and/or disposal of the carbon units on the SVE wells?

Office of Regional Counsel Comments:

1. General comment: The document does not clearly define the scope of the action and the

purpose of the action. Is it source reduction? Is it to prevent migration? Is it to remove high concentrations that present a substantial health threat? The document also does not clearly explain why it is appropriate to take this interim (removal) action now, and then wait to take the final (remedial) action (cleaning up the GW to MCLs) later. In this EE/CA it is not possible to understand whether different technologies are needed for this interim cleanup and for the ultimate cleanup and why, or whether there isn't enough money to do the whole cleanup so the removal is just designed to clean up the worst parts.

2. Page 2-13: A risk of below 10^{-4} should not be characterized as acceptable!
3. Page 2-13: Text regarding the streamlined risk assessment suggests the screening level was 10^{-4} – which suggests that there were areas where the risk level was less than 10^{-4} , but more than 10^{-6} , and these areas were screened out. (For example, the discussion of IR Site 9 discusses contaminants that exceeded a risk of 10^{-4} .) The Navy should clarify if this is the case, and if so, when and how they will address the areas in the risk management range.
4. Page 3-2: Text indicates that removal will involve removing COCs and is intended to be an interim measure. This is an example of a case where it is not clear what the action is and what the scope is.
5. Sec. 3.4.1, ARARs Overview, p. 3-3, third paragraph regarding TBCs. Paragraph quotes NCP that TBCs “should not be required as cleanup standards.” Nevertheless, if the Navy decides to adopt specific TBCs as performance standards, that should be stated in the Action Memorandum.
6. Sec. 3.4.1., p. 3-3, fourth paragraph. Paragraph indicates that State ARARs are being solicited concurrently with issuance of the draft EE/CA to the regulatory agencies. EPA strongly recommends solicitation of State ARARs earlier in the process so that the draft EE/CA would include all ARARs and so that review of the draft EE/CA would be more meaningful. See EPA’s “Guidance on the Consideration of ARARs during Removal Actions,” EPA/540/P-91/011 (September 1991), p. 6-7 (ARARs should be considered during EE/CA analysis); p. 13 (State should be notified and asked for State ARARs as soon as lead agency begins to consider taking a removal action).
7. Sec. 3.4.2.1, p. 3-4, Chemical-specific ARARs, several comments:
 - a. This is another example of a place where the scope of the action is not clear. This paragraph states that the “principal goal” is source removal. However, source removal is not discussed elsewhere in the document. Also, this implies that there other goals – which should be stated and clearly discussed.
 - b. This section indicates that the scope of the removal is “to remove COCs from the groundwater” and that it is not to restore beneficial uses of groundwater and surface

water. This implies that it is not always necessary to attain beneficial uses when groundwater is cleaned up. EPA strongly disagrees with this implication as a general statement. We recognize, however, that interim actions such as source removal are often appropriate, with a more comprehensive cleanup, which restores the water to its beneficial uses, to follow later. This goes back to the same comment that it is not clear what the particular goal of this action is, and why it makes sense to do an interim action now and a final action later.

c. The EE/CA states that both MCLs and ambient water quality criteria (AWQC) for surface water are TBCs rather than ARARs. However, if there is contaminated groundwater generated during the removal and discharged to surface water, the AWQC should be considered ARARs. The Navy should also analyze whether there are other ARARs regarding disposal to surface water, e.g. portions of the Basin Plan, water quality standards including beneficial uses, Water Board orders, substantive NPDES requirements, etc.

d. The EE/CA should identify the specific requirements that are considered TBC (e.g., the specific chemicals and concentrations, not just “MCLs” in general). It should discuss how they will be “considered.”

e. EPA recommends that the Action Memorandum clearly state that MCLs will be ARARs for the final groundwater remedial action for these sites.

8. Table 3-1, Chemical specific ARARs. Same issues as in previous comment.

9. Sec. 3.4.2.3., p. 3-6 and following, Action-specific ARARs, several comments:

a. Text indicates that action-specific ARARs are discussed in Section 4.0 rather than section 3. This is confusing. Especially because the suite of ARARs is fairly limited, it would not be burdensome, and would certainly be much clearer, to also discuss them in Section 3. At the very least, Table 3-3 should include all the action-specific ARARs. As is, Table 3-3 is not at all helpful because it doesn't have all the ARARs. It is also confusing to be discussing ARARs prior to any discussion of what the alternatives are.

b. Third paragraph states that excavated material that is consolidated within the area of contamination (AOC) or treated *in situ* “is not generated and therefore is not a hazardous waste,” citing 55 Fed. Reg. 8758-8760. This is not correct. When material is consolidated within an AOC or treated *in situ*, there is no placement. Thus, land disposal restrictions (LDRs) do not apply. However, this does not affect whether the waste is considered hazardous, or whether RCRA requirements, other than LDRs, are ARARs. See 55 Fed. Reg. 8758, third column. Thus, there may be RCRA ARARs regarding any treatment technologies being considered. There may also be incineration requirements container requirements, or other requirements related to temporary storage of contaminated groundwater or soil prior to disposal.

c. Fourth paragraph, regarding off-site disposal, should also indicate that actions must comply with the EPA Off-Site Rule, 40 CFR 300.440.

10. Sec. 3.5., p. 3-8, Objectives of the Removal Action. This is unclear. What is the purpose – source reduction? prevent migration? Also, final sentence is unclear. What does it mean to reduce concentrations “to levels technically and economically practical within the specific performance period for the technology”? What is the “specific performance period” for the technology?
11. Table 3-3, Action Specific ARARs. See previous comments and comments below regarding specific alternatives. EPA is unable to comment in a meaningful way on this analysis without the identification of State ARARs and without a more complete identification of action-specific federal ARARs. We expect that in the Action Memorandum the Navy will include a complete ARARs analysis; therefore, we have not at this time conducted a thorough review of what State and federal action-specific ARARs should be included. Following, however, are some requirements that the Navy should consider as potential action-specific ARARs:
 - a. Requirements under the CWA or State law regarding discharges to surface water should be ARARs. (See above under discussion of chemical-specific ARARs. Some of these water requirements may be considered chemical-specific; some may be action-specific.
 - b. BAAQMD requirements regarding dust may be ARARs.
 - c. The Navy should analyze whether there are any other RCRA requirements or CCR Title 22 or 27 requirements which would apply to any of the alternatives. Possible examples include incineration requirements, container requirements, or other requirements related to temporary storage of contaminated groundwater or soil prior to disposal.
12. Sec. 4.4.2, Alternative 2 (Enhanced Bioremediation), Compliance with ARARs, p. 4-6. We disagree that RCRA requirements are only chemical-specific ARARs. There may also be water ARARs if there is potential discharge to surface water. It is unclear whether MCLs are ARARs because the scope of the action is not clearly explained.
13. Sec. 4.3, Alternative 3 (AS/SVE), Compliance with ARARs, p. 4-11
 - a. We disagree that RCRA requirements are only chemical-specific ARARs. There may also be water ARARs if there is potential discharge to surface water. It is unclear whether MCLs are ARARs because the scope of the action is not clearly explained.
 - b. How and where would the GAC be disposed of, and would that require any ARARs?
 - c. If there is an on-site catalytic oxidizer system, would there be any incineration ARARs?
14. Sec. 4.4, Alternative 4 (Chemical Oxidation), Compliance with ARARs, p. 4-16.
 - a. We disagree that RCRA requirements are only chemical-specific ARARs. There may also be water ARARs if there is potential discharge to surface water. It is

unclear whether MCLs are ARARs because the scope of the action is not clearly explained.

b. It is unclear whether ozone, Fenton's reagent, or permanganate will be injected. Do they all have the potential for off-gassing, and are there air ARARs that should be considered?

c. Text discusses recirculation of groundwater. Navy should discuss whether there are any State or federal water ARARs which should be considered.

15. Sec. 5.1, Effectiveness of Alternatives, p. 5-1.

a. Overall protection of human health and the environment. This is a threshold criterion. The standard way of discussing this criterion is to simply indicate whether each alternative satisfies or does not satisfy this criterion. If an alternative meets this threshold requirement but there are some concerns, that should be indicated under some of the other factors, e.g. short-term or long-term effectiveness.

b. Compliance with ARARs. Statement that A1 is not subject to ARARs because it would not satisfy ARARs for this removal action is circular and confusing.

c. Compliance with ARARs. The rankings in this comparison are very confusing. This criterion is also a threshold criterion and usually the analysis indicates simply whether each alternative meets, or does not meet, this requirement.

d. Compliance with ARARs. The Navy seems to be giving a higher rating to alternatives with fewest ARARs. This is not appropriate. If the difference is cost, it should be analyzed under that factor.

e. Compliance with ARARs. The document indicates that Alternative 4 has fewer ARARs because the treatment is in situ. That needs to be explained.

f. This discussion is hampered by the document not having a complete ARARs analysis.

16. Sec. 6, Recommended alternative. It is unclear what are the circumstances under which the enhanced bioremediation remedy would be used, and why that would be preferred if the concentrations were found to be different than expected.