



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street
San Francisco, Ca. 94105

November 15, 1990

Larry Nuzum
Naval Facilities Engineering Command
Southwest Division
Code 1811
1220 Pacific Highway
San Diego, California 92132

Subject: EPA Review Comments on the Draft Work Plans of
US Marine Corps Air Station El Toro

Dear Mr. Nuzum:

This letter transmits our comments on the Draft Remedial Investigation Feasibility Study Work Plan, the Draft Site Sampling and Analysis Plan, the Quality Assurance Project Plan, and Draft Community Relations Plan for MCAS El Toro. The first three Work Plans were received by EPA on October 1, 1990 and the latter was received on October 5, 1990.

In general, we find the Work Plans to be an adequately constructed and useful documents which will serve as a first step to the CERCLA/SARA response at the MCAS EL Toro site. However, we are concerned that the documents lack some of the specificity needed to evaluate El Toro's RI/FS. The work plans submitted only incorporate the Phase I work of the RI. It seems that a modification of the Federal Facilities Agreement schedule will be necessary to add a work plan for Phase II of the RI as a primary document.

Another important concern is that the work plans do not make clear that the current scope of the area under investigation includes not only the MCAS El Toro base itself, but also all of the areas of contamination off-base suspected to have originated at El Toro. These areas include the groundwater TCE contamination already identified by the Orange County Water District.

We look forward to meeting with you on November 26 and 27 to discuss the sites as described Sampling and Analysis Plan in more detail. We hope these comments will clarify some of our concerns and that they will be of use to you for the meeting.

If you have any questions regarding the attached comments or if you wish to discuss other matters related to the Draft Work Plans, please contact John Hamill of my staff at (415) 744-2391.

Sincerely,

A handwritten signature in cursive script that reads "Julie Anderson".

Julie Anderson-Rubin, Chief
Federal Enforcement Section II

cc: Lt. J.G. Michael Rehor, USMCAS El Toro
Manny Alonzo, DHS
Ken Williams, RWQCB

INTRODUCTION

The Draft Remedial Investigation/Feasibility Study (RI/FS) Work Plan for the RI/FS at the Marine Corp Air Station (MCAS) El Toro, dated September 10, 1990, by the Naval Facilities Engineering Command Southwest Division has been reviewed. The review and comments that follow focus on compliance with CERCLA/SARA, the NCP, the EPA Region IX / State of California / Marine Corps Federal Facilities Agreement (FFA) for Marine Corps Air Station El Toro, and appropriate EPA guidance documents.

In general, the RI/FS Work Plan will require considerable additional effort for it to be of acceptable technical quality. As noted in the following review comments, it is not possible to determine conclusively what the investigation is for, where it will be conducted, how it will be executed, or when it will be done. Generalities are not acceptable. Specifics are required to ensure that adequate information will be collected to ensure that risk to human health and the environment will be defined and to complete a feasibility study.

GENERAL COMMENTS

1. Overall, the work plan follows the structure for planning of RI/FS activities. Because of the lack of site-specific data of all types, the document contains conceptual level work elements more appropriate in a Preliminary Assessment (PA) than in an RI/FS. More specificity in the "What, How, and When" of planning activities, data quality objectives (DQOs), or conceptual model elements would increase the enforceability of this document but would probably not result in activities that would substantially lower the risk to human health and the environment. The phased approach to data collection and evaluation would appear to be prudent at this base.

That is not to say that overall the work plan does not need substantial revisions. The document lacks detail in how the phased approach will be implemented, in how the data that was evaluated was collected and reviewed, in what other sources of baseline information may exist, in how the Risk Assessment will be executed, in how the Feasibility Study will be executed, and in a number of other areas commented on in this review.

2. The Executive Summary presents information related to but not contained in the work plan (Specific Comment 5), presents conclusions that are not made in the work plan (Specific Comment 4), does not summarize results of entire sections (Sections 4.0 and 5.0), and presents information that is not even related to this document (Specific Comment 7). The Executive Summary of the RI/FS Work Plan should only be used to summarize the information presented in the work plan. The Executive Summary should be rewritten to correct these problems.

3. The RI/FS Work Plan should document the decisions and evaluations made during the scoping process and present anticipated future tasks. To a limited extent, the reviewed work plan achieves the above requirements. However, this is done at only a conceptual level and not at a level that clearly defines scope, schedule, and cost. The RI/FS Management Plans must be developed beyond their current state to allow reviewers to determine what work is planned, where it is to be performed, how it will be accomplished, and when it will be done. The plan, in its present form, is so general that it is not possible to conclusively determine any of this information. Since the FFA does not require approval of any planning documents between approval of this work plan and submittal of the RI/FS Reports, more site-specific detail on how future tasks will be performed is required in this document.

For the most part, the description of work elements are direct quotes from EPA guidance. Insight into the methodology or site-specific objectives for work elements would be information useful to EPA in determining whether the RI/FS approach, as described in this document, will result in a remedy that is protective of human health and the environment. Section 3.1, Preliminary Baseline Risk Assessment, is an example of this. This section consists of approximately one page of text and two figures similar to sections for risk assessment in the "Guidance for Conducting RI/FSs Under CERCLA" (OSWER 9355.3-01). No qualitative assessment of risk, using for example the list of Chemicals of Concern provided in the FFA (Attachment B), was given. No indication of risk assessment methodology, data needs, or assumptions were provided. (Section 5.6, the RI/FS Task 6 - Assessment of Risks, does not provide this information either).

Comments have been made in the Specific Comments Section of this review on other similar occurrences.

The large number of general guidance quotes substituted for what should be site-specific scope and objectives hinders this document's usefulness to EPA in determining how specific work elements will be performed. Sections, such as 3.1, 5.6 and others noted in Specific Comments, would be of more use, if they were rewritten so as to allow reviewers to determine what work is planned, where it is to be performed, how it will be accomplished, and when it will be done.

4. The schedules (Section 6.0, Figures 28 and 29) propose a Phase I and Phase II approach to both the RI and the FS. Aside from a brief discussion in the Executive Summary, a phased approach to conducting the RI/FS is not discussed in the text. In addition, some items discussed in the text are postponed to a later date with no indication of when this later date will occur. For example:

- "Air pathways will not be investigated during the initial investigation." (Section 2.4.1.8.3, page 44, paragraph 2)
- "Later phases of the investigation could then be used to address deficiencies...." (Section 4.6, page 61, paragraph 4)

The FFA does not discuss later "phases" to the RI/FS. Under the list of primary deliverables provided for in the FFA, all work to be performed during the RI/FS

should be described in this document, irrespective of whether a phased approach is implemented or not.

Given the general lack of understanding of potential contamination at this base, conducting a phased RI/FS would be prudent. However, given the additional constraint of enforceability under the FFA, providing specific details as to how the phased approach will be implemented is mandatory. The details should include the following:

- The objectives of each proposed phase
- A best estimate of the work elements needed to be performed in each phase
- The schedule and anticipated deliverables for each phase (including amendments to the RI/FS Work Plan, Sampling and Analysis Plan, Health and Safety Plan, and Quality Assurance Project Plan for any additional work)
- An explanation of how the Risk Assessment, Selection of General Response Actions/Remedial Alternative Objectives, and Operable Units (OUs) will be integrated into the proposed phased approach
- The criteria for determining whether additional phases are necessary
- The mechanism for approval by EPA and the State prior to implementing successive phases.

If the RI/FS will be performed using a phased approach, this must be clearly and consistently stated throughout all sections of this work plan.

The work plan submitted only incorporates the Phase I work of the RI. It seems that a modification of the FFA schedule will be necessary to allow for the addition of a work plan for Phase II of the RI as a primary document.

5. The FFA Appendix B requires the RI/FS work plan to include the following topics:

- " 6. Costs and key assumptions
-
- 8. Project Management
 - 8.1 Staffing
 - 8.2 Coordination "

Provide this information in the work plan.

6. The concept of OUs, as defined in the FFA Appendix A, is referred to several times in the work plan. But a consistent approach to how OUs will be dealt with under each of the work plan topics is missing. For example:

- Section 2.4, Proposed RI/FS Sites at MCAS El Toro, is organized with respect to increasing site number and not by OU. The OU number, not previously defined in the report, is given as part of the history of the base.

- Section 3.3 (Operable Units) briefly describes the OUs at MCAS El Toro, but Sections 3.1 (Preliminary Baseline Risk Assessment), 3.2 (Conceptual Model), and 3.4 (ARARs) do not mention OUs or how the OU concept may affect data evaluation.

- Section 4.0 (Work Plan Rationale) and 5.0 (RI/FS Tasks) do not mention the term OU, while Section 6.0 (Schedule) divides the OU RI/FSs into separate deliverables.

The OU concept, clearly defined in the FFA, must be logically presented throughout the work plan.

7. The statement that lack of information has hindered progress of required work plan elements is inconsistently applied. For example:

- Some important preliminary concepts are not developed due to lack of data (source areas for contamination, Section 2.4.18.3, page 39, paragraph 6), while others are developed with almost no data at all (maximum volumes of wastes estimated throughout Section 2.4).

- Qualitative statements in the preliminary baseline risk assessment cannot be made because of the lack of site-specific data (Section 3.1) but a highly specific selection of remedial alternatives/treatment technologies (Section 5.9, Table 6) can be made with essentially the same data set.

EPA realizes that additional data will need to be collected before the RI/FS process can be completed. However, without the rigorous evaluation of the existing data, additional data collection efforts will not be focused. Collection of either too little data (necessitating further data collection) or too much data (more time than necessary spent on data collection) could potentially result in delays to the implementation of a remedy. With this in mind, EPA requests data be interpreted to present the most reasonable case and related assumptions/potential deviations that the data will allow. This should have been done when the conceptual model was developed and should be repeated each time it is updated.

It is expected that some of the concepts developed using the existing data will change with the addition of new data, perhaps radically so. The RI/FS process, however, is dynamic and iterative and can be modified at any time (within the framework of the FFA) to incorporate new information, refine project concepts, or update the conceptual model.

8. Since landfills are by their very nature heterogeneous, characterizing them by sampling a small number of discrete locations cannot be expected to yield anything but a range of potential contamination, and especially so, if no records have been kept as to the type of wastes disposed in the landfill. Adding additional sample locations would add data points to this range but would not narrow down the possibility of what could potentially be encountered. The work plan does not recognize this and treats the on-site landfills in a manner similar to a drum storage area or a fuel disposal area.

The site characterization DQOs for landfills at the MCAS El Toro base should be structured around defining the range of possible contaminants within each landfill and should not try to provide an exact definition of the nature and extent of contamination within the body of the landfill. The latter would take an exceptionally large number of sample points to accomplish, if it could even be accomplished.

In addition, landfills that have taken in domestic/municipal refuse can produce gases for an extended period of time. If hazardous wastes were also disposed of in the same landfill, these gases, usually methane and carbon dioxide, can be hazardous substances too.

These potential problems cannot be ignored when investigating and remediating the on-site landfills. Although they may be lessened by the arid climate, they cannot be dismissed until the data exists to do so.

9. Tentatively identified compounds (TICs) have not been discussed anywhere in the text. Since this is an uncontrolled hazardous waste site for which all suspected contaminant types are not known, it would seem reasonable to add identification of TICs to the regional and site-specific groundwater studies.

10. Acronyms used in this work plan should be completely spelled out the first time they are used. Consider adding an appendix that lists the most commonly used acronyms.

11. Another important concern is that the work plan does not make clear that the current scope of the area under investigation includes not only the MCAS El Toro base itself, but also all of the areas of contamination off-base suspected to have originated at MCAS El Toro. These areas include the groundwater, trichlorethene (TCE) contaminant plume already identified by the Orange County Water District (OCWD).

SPECIFIC COMMENTS

1. Executive Summary, Page I, Paragraph 1. The Work Plan Rationale documents the data requirements necessary to accomplish the risk assessment and selection of remedial alternatives as defined in the DQOs. It does not provide any data as this paragraph indicates.

2. Executive Summary, Page I, Paragraphs 1 and 2. The phased approach to the RI/FS is not presented in this work plan. The Executive Summary should not be used to present new information. However, a discussion of the phased approach needs to be presented in the work plan.

3. Executive Summary, Page I, Paragraph 2. No procedures are currently in place, and none have been proposed, for how continuous scoping of the overall base characterization effort will be reviewed and approved. No work should be performed at the base without the appropriate review of the regulatory bodies as outlined in the FFA.

4. Executive Summary, Page I, Paragraph 4. The statement that suspected contaminants are "mostly petroleum products and municipal waste in landfills" is not supported by the data or the data interpretations provided in the work plan. This statement should reflect the suspected contaminants discussed in Section 2.0.

5. Executive Summary, Page I, Paragraph 5. Although EPA does not disagree with the statements made in this paragraph, they do not reflect statements made in the Conceptual Model Section of the Work Plan (Section 3.2, page 50). The Conceptual Model does not use the term media, does not define sludge as a medium of concern, and does not list ingestion as a pathway of concern for dust. Section 3.2 should reflect these statements.

6. Executive Summary, Page II, Paragraph 5. The schedule will not be revised without the prior approval of EPA. All potential changes to the approved schedule must be handled as per the FFA.

7. Executive Summary, Page II, Paragraphs 6-10. Although the planning documents mentioned in these paragraphs have some bearing on the RI/FS work plan, they are really background information and are not topics covered within the body of the work plan. These paragraphs should be deleted from the Executive Summary and placed in the introduction section to the work plan.

8. Section 1.2, Page 1, Paragraph 8. All work performed at the base must be reviewed and approved by EPA following guidelines established in the FFA. If scoping efforts are to continue throughout the RI/FS process, the procedures and schedules for review must be provided.

9. Section 2.2.3, Page 5, Paragraph 2. Sanitary sewers can act as preferred pathways for the movement of intersected groundwater or surface water and may or may not directly transport contaminants on-site. Why were sanitary sewers not considered as a means to transport contaminants on- and off-base?

10. Section 2.2.4, Page 5, Paragraph 4. The investigation boundary should be indicated on a map that includes the off-base plume, wells (both monitoring and drinking water), and contaminant concentrations. The investigation study area must include all known areas of volatile organic compound (VOC) contamination, both off-base and on-base.

11. Section 2.2.5, Page 5, Paragraph 5. It would be helpful if the monitoring wells discussed in this section were displayed on a map with the El Toro base. Along with the inventory of wells include the sampling history of each well

(dates sampled, sample analysis parameters, sampling party, etc.). Explain what the well designator PS, DW, RW, and CN relate to. Why were the OCWD wells not used in this well inventory?

12. Section 2.3.3, Pages 6-8. Provide geologic cross-sections through the El Toro base.

13. Section 2.3.4, Pages 8-9. The statement "...geologic materials are relatively coarser than in the central portion of the basin, and groundwater lies under mainly unconfined conditions." is unsubstantiated. Provide cross-sections (including geologic and hydrologic information) and references to substantiate this statement. Also, include a planar and cross-sectional potentiometric map of the base showing recharge and/or discharge zones (if applicable).

14. Section 2.3.4, Page 9, Paragraph 3. Include the reference source for aquifer parameters given in this section. In addition, include the wells, aquifers, and depths from which these values were obtained.

15. Section 2.3.5, Page 9, Paragraph 5. Show contaminant and hydrochemical facies on an area map. Also, no statement is made about the presence or absence of VOCs in the deeper zone. How is the deeper zone being affected by VOCs?

16. Section 2.4, Pages 12-49. A large number of conclusions attributed to previous investigations are presented as fact in this work plan. EPA cannot be expected to obtain, read, review, and comment on all cited references for the purpose of reviewing this report. Instead, EPA recommends that when pertinent information from previous investigations is cited, the assumptions, QA/QC, and complete results be stated also.

For example, contaminant volumes from previous reports are presented in this section without the underlying assumptions contained in the original reference. Wherever waste volume or waste types are presented, the text should be modified to include the assumptions and potential deviations from the reported values.

17. Section 2.4, Pages 12-49. Since an area-wide potentiometric map has not been provided, it is not possible to verify the approximate directions of groundwater flow on each of the individual sites. All of the sites should be presented together on an area-wide map showing groundwater flow.

18. Section 2.4.2.3, Page 13. Why was landfill gas not covered in this section as a possible migration pathway/media that needs to be investigated?

19. Section 2.4.3.3, Page 15. Why was landfill gas not covered in this section as a possible migration pathway/media that needs to be investigated?

20. Section 2.4.5.2, Page 18, Paragraph 5. The volume of waste calculated in the 1986 report was only the approximate volume of the trench used at this site. This estimate does not take into consideration that liquid wastes were disposed of at the site ("unspecified fuel oils, oils, solvents, cleaning fluids..."). The assumptions that were used in the volume calculation should be specified.

21. Section 2.4.5.3, Page 18. Why was landfill gas not covered in this section as a possible migration pathway/media that needs to be investigated?
22. Section 2.4.6.2, Page 20, Paragraphs 3 and 4. See Specific Comment 20.
23. Section 2.4.7.2, Page 20, Paragraph 7. See Specific Comment 20.
24. Section 2.4.9.1, Page 23, Paragraph 6. Additional work should not be proposed in the initial data evaluation section of this document. Work should be proposed in the Field Investigation Task of the RI Tasks Section (Section 5.3).
25. Section 2.4.10.3, Page 26, Paragraph 5. The previous paragraph describes the use of waste oil for dust control. If it is likely that dust still is a wide spread occurrence at the site, why are particulates not included as a migration pathway in this section?
26. Section 2.4.13.2, Page 31, Paragraph 2. Clarify what is meant by "before 1977."
27. Section 2.4.15.2, Page 34, Paragraph 3. Clarify if the volume estimate of 500 gallons was for a spill or the amount of diesel fuel that leaked from the tanks.
28. Section 2.4.17.3, Page 37. Why was landfill gas not covered in this section as a possible migration pathway/media that needs to be investigated?
29. Section 2.4.18, Pages 41-43. The information on this table should be plotted in cross-section and on Figure 21.
30. Section 2.4.18, Page 40, Figure 21. The three separate contaminant plumes should be added to Figure 21, including the detected levels of contamination.
31. Section 2.4.18.3, Page 44, Paragraph 2. When will the air pathways be investigated? All work performed at the site must be reviewed and approved by EPA prior to performance of that work.
32. Section 3.1, Page 50. This section, as previously discussed in General Comment 2, does not present any site-specific detail on the nature of risk at the El Toro base, nor how that risk will be assessed in the future, nor what data will be needed to complete the assessment. Where, how, and when will the following issues be addressed:
 - Potential site-specific contaminants of concern (in more detail than "paint thinner, explosives, sewage sludge")
 - Potential site-specific contaminant migration pathways
 - Detailed risk assessment procedures

- Preliminary identification of additional data, and an assessment of the suitability of data collected under the SAP to risk assessment purposes

Why have risk assessment work plans for both human health and ecological risk assessment not been developed and presented in this section? The actual plans should be either included herein or as appendices to the RI/FS Work Plan. Refer to EPA's Risk Assessment Guidance for Superfund (RAGS) documents for requirements. The RI is driven by risk assessment requirements. The brief statements regarding risk assessment are not adequate to meet the requirements. One specific issue is quantitation limits for analytes of concern which have risk assessment required detection limits that are considerably lower than EPA's Contract Laboratory Program (CLP) quantitation limits. Specific examples are trichloroethene, 1,1-dichloroethene, 1,1-dichloroethane, and vinyl chloride. A second specific issue is the sampling depths for soils.

Risk assessment considerations typically require collection of discrete soil samples from 0-2 inches below the ground surface, 12 to 15 inches below the ground surface, and 15 feet below the ground surface. The surface sample is used to evaluate human health risk from potential exposure to area soils and ingestion of contaminated material by organisms living in the shallow soil. The sample collected at 12 to 15 inches below the ground surface is used to evaluate contaminants in the root zone that may be taken up by plants. The sample from 15 feet below the ground surface is used to evaluate contamination at the typical maximum excavation depth for building foundations. Future construction at the identified areas of interest could potentially expose workers and others to these soils.

Attachment #1 to this review is an example EPA RI/FS risk assessment format along with a cover letter from G. Hiatt, EPA Region IX Toxicologist.

33. Section 3.2, Page 52, Figure 26. How does the conceptual model address the following topics:

- variability of material released through the primary release mechanisms and the related risks to public health and the environment. (PCB spill vs. waste oil spill, landfill gas leakage vs. landfill leachate leakage)?
- secondary sources such as surface waters, particulates, and gas?
- sediments?
- ingestion of particulate matter (dust) ?

In addition, the Secondary Release Mechanism second from the top on this figure has not been defined.

34. Section 3.3, Page 53. See General Comment 6.

35. Section 3.4, Pages 54-55. In general, the ARARs analysis in the work plan presents a discussion of the statutory requirement for ARAR identification based on the EPA RI/FS Guidance Document and a list of regulations that could be potentially applicable and/or relevant to the El Toro Base. Site-specific criteria have gone into this analysis as evidenced by Table 2. Why hasn't the analysis gone further and specifically identified chemical-specific ARARs for each chemical thus far found at the sites as well as all location-specific ARARs that can be identified based on known data. Action-specific ARARs are typically dealt with during the response action and technology-screening phase of the Feasibility Study.

Identifying location-specific ARARs during the scoping phase of the RI/FS process is important. Have consultations with Federal and State Agencies responsible for managing cultural/historic resources, biological resources (wetlands, endangered species habitat, etc.), seismic concerns, and floodplains been initiated? If so, how have these discussions resulted in the development of ARARs? Have location-specific ARARs been identified by means other than direct agency contact? If so, these ARARs should also be presented and documented.

How will ARARs be refined and the list developed as the RI/FS process proceeds? For example, the chemical specific ARARs list will grow as more chemicals are identified during the RI. The process and approach of identifying action-specific ARARs during later stages of the RI/FS process should also be defined. What specific elements will you consider that will contribute to refinement and development at each stage?

State requirements must be met if they are promulgated (i.e., legally enforceable, and of general applicability), and be more stringent than Federal Requirements. How have more stringent State ARARs (if any) been identified? What State criteria, advisories guidance and local ordinances have been considered? Have local requirements (that may be applied to El Toro) been identified which have been adopted and are legally enforceable by the states?

Potential to-be-considereds (TBCs) should be identified or at the very least a discussion of how TBCs may play a part in the El Toro RI/FS process should be discussed.

How will ARAR determinations be presented in the FS? Will there be a citation to the Standard, Requirement, Criteria, or Limitation? Will there be a determination if it is applicable or relevant and appropriate? Will there be comments as to the rationale for either including or excluding the standard?

It would be appropriate when conducting the scoping phase chemical-specific and location-specific ARAR analysis to identify the ARAR source, its citation, status as to it being relevant and appropriate and a description as to its applicability or relevancy.

It would be helpful to include a discussion on waivers and whether or not they might be applicable to the El Toro base. Also, if a waiver is necessary, it can be justified based on the criteria in the national contingency plan (NCP). An

initial discussion of problems or concerns (if any) that might be encountered when meeting ARARs would be helpful.

Has the presence of RCRA regulated hazardous waste been determined, and if it has, then please state that fact in the ARARs section.

36. Section 4.0, Page 58. RI/FS Work Plan Section 4.0, Work Plan Rationale, is so brief as to be almost of no value.

37. Section 4.1, Page 58. This Existing Data Analysis Section should be included in Section 3.0 in accordance with the FFA. In addition, the section should be expanded to discuss any reviews of existing data that have been conducted, including previous investigation reports, historical aerial photography, interviews and discussions with knowledgeable persons, and any other evaluations already conducted.

38. Section 4.2, Page 58. This section, Remedial Action Alternatives, should be included in Section 3.0 in accordance with the FFA, and it should be expanded to address potential remedial actions that could be taken at each area of interest. For instance, pumping and treating of groundwater (since this is already underway) is an alternative for OU No. 1. Construction of contaminant migration barriers and in-situ treatment are other possibilities.

39. Section 4.3, Page 58. This section on DQOs should be expanded considerably. Has EPA's DQOs Guidance Document been consulted for requirements? The DQOs in the Quality Assurance Project Plan (QAPP) are not adequate to meet DQO requirements.

40. Section 4.4 and 4.5, Page 61. Sections 4.4 and 4.5 do not present significant information and could be eliminated.

41. Section 4.5, Page 61. All data, geologic and analytical, should be presented in electronic format compatible with the GEOBASE software (a geologic, hydrologic, geochemical relational database/graphics package designated by EPA Region IX).

42. Section 4.6, Page 61. This Work Plan Approach should be expanded to contain much more information than this one paragraph. This is the section that describes the work to be performed at each investigation area, by OU, to fill data gaps identified in the DQO section, and it should be developed. How and when is the work to be accomplished? Assumptions concerning what is likely to be found at each investigation location need to be included in the Work Plan Approach so that RI Phase II work can be briefly addressed.

As an example, "Three wells will be installed during RI Phase I to depths varying from 25 to 35 feet at Area Z at locations shown on Figure Y. Soils will be sampled at the ground surface, 12 to 15 inches below the ground surface, and at 5-foot intervals below the ground surface to maximum depth drilled to determine the extent of soil contamination underlying this area. Wells will have a 10-foot screen that will be set with 2 feet of the screen extending above the static groundwater level to capture floating contaminants expected at this location and allow for seasonal fluctuations in groundwater level. Water

removal, water displacement slug tests, or short-term pump tests will be used to determine hydrogeologic characteristics. Based on the results of this phase of the investigation (which will establish the types of contamination present, groundwater flow direction, and estimated groundwater and contaminant movement rates), up to five additional wells may be installed to further characterize the extent of contamination in the area. Tentative locations for RI Phase II wells, based on assumptions presented in the Existing Data Analysis Section, are noted on Figure Z." It is suggested that the Field Sampling Plan, rather than the RI/FS Work Plan, be used to provide field personnel with specific details on exactly where, when, and how the field investigation will be conducted."

43. Section 5.1, Page 62. Why are the following activities not included in the Project Planning task:

- Review of existing aerial photographs, site surveys, and topographic maps?
- Collection and evaluation of existing data?
- Identification of data needs and DQOs?
- Task Management and Quality Control?

How will these tasks will be performed, what are the deliverables, and what is the schedule for review by EPA?

44. Section 5.2, Page 62, Paragraph 4. Change the last sentence of this paragraph to read: "Support activities for community relations will include, but may not be limited to, the following:"

How will these tasks will be performed; what are the deliverables; and what is the schedule for review by EPA? If the Community Relations Plan will include this information, this section need not repeat the information but may reference the plan.

45. Section 5.3, Pages 63-72. The locations for sample collection (soil and groundwater) need to be justified. The data to be obtained and the subsequent use of that data should also be described for each sample location. A map showing new data sampling locations (soil and groundwater) with respect to existing sampling locations (on-base and off-base) should be prepared.

46. Section 5.3, Pages 63-72. Are the field investigations identified in this section the only field data collection efforts to be performed under the RI/FS? If they are not, where and when will additional efforts be scoped and what will be the mechanism to secure EPA review and approval?

In addition, the level of detail in the information contained within these sections implies that there was an in-depth analysis of the existing data, an estimate of additional data needed to characterize the site, and an analysis of DQOs which put together the goals of any additional data and the quantity/quality necessary to achieve them. Where is this information? How will you tell if the proposed field work will achieve the DQOs?

It is not appropriate for EPA to determine the number of samples or types of analyses necessary to adequately characterize the site. To do this, EPA would have to perform the RI and this defeats the purpose of having a FFA with the Marine Corps. What EPA needs is the justification for the sample locations and analyses and what defines adequate site characterization.

EPA cannot agree that the sites at MCAS El Toro are adequately characterized until the DQOs for site characterization are provided.

47. Section 5.3.1, Page 63, Paragraph 2. Describe as deliverables what type of tables and figures are to be supplied with each objective.

48. Section 5.3.1.1, Pages 63-64. Provide the rationale for the proposed monitoring well network. This should include cross-sections showing the screened interval for each additional well with respect to existing wells.

49. Section 5.3.1.2, Page 64, Paragraph 1. What are the data quality objectives for surface water sampling? Are they such that they can be achieved by collecting a storm water sample, collecting a stagnant water sample, or collecting no sample at all?

50. Section 5.3.2.1, Page 65, Paragraph 6. Do the analytical parameters reflect consideration of the preliminary assessment of ARARs? If they do not, will there be additional sampling for those chemical constituents later determined to have ARARs?

51. Section 5.3.2.3, Page 66, Paragraph 7. How will the extent of sediment contamination be delineated? Will samples be collected downstream until contamination is not encountered? Have the DQOs for sediment sampling been documented?

52. Section 5.3.3, Page 67, Paragraph 5. Why does the document state that non-CLP analyses will not be required as a part of RI/FS investigations? If ARARs determine that non-CLP analyses will be run, then analyses will need to be prepared and run. The CLP is a contract specified arrangement, and not the only way analytical samples can be run. If a compound has no CLP guidelines, adequate QA/QC can be designed and implemented to assure data of a high enough quality to meet any DQO.

53. Table 4, Pages 68-69. Although summary tables are to be encouraged, they do not replace the need for a detailed discussion of why certain field operations are necessary from the standpoint of RI/FS objectives. For example, why are there going to be 3, not 5, wells installed at site 1? Will any of these wells be used to collect risk assessment information, and will this data need to be of a higher/lower level of quality/validation than that collected for alternative selection purposes?

How will the data quality objectives for the site be integrated with the proposed field work? Provide the objective for why each of the proposed work items in Table 4 will be (or will not be) performed.

54. Section 5.3.4, Page 72. Waste handling and waste disposal practices must meet ARARs for this base, which may include EPA's toxicity characteristic final rule (TCFR), as well as other Federal and State regulations, before they may be disposed of.

55. Section 5.3.5, Page 72, Paragraph 3. What other techniques will be used if GPR does not work? Have the limitations of GPR been reviewed with respect to this base? In addition, there are several configurations of GPR apparatus, QA/QC, survey techniques, etc. that would have direct bearing on the success of this technique in locating the boundary of the Crash Crew Pit. Will this information be compiled and submitted to EPA prior to performance of the work, and if so, in what format and when?

56. Section 5.4, Pages 73-74. Why are "Laboratory QA/QC" and "Data Validation" placed under the subheading of "Disposal of samples and sample collection material?" What is the correct subheading for these two items?

What will be the approach to sample validation? Validation can range from simple to complex, with time and cost being comparative. For example, will each analytical sample go through laboratory validation and an independent review following EPA's SOP for laboratory analyses, or will only those samples determined to be "critical" undergo this process? Will physical data be validated? Will field data be validated? The specifics for how these work elements will be performed should be placed in the Quality Assurance Project Plan, but the approach should be given in this section.

57. Section 5.5, Page 73. How and when will data be assessed and evaluated. For example:

- What technical memorandums will be prepared, and what will be the timing of review?
- Will data be evaluated as it is being collected for update of the conceptual model and focusing of the remaining field program?
- How will precision, accuracy, reproducibility, comparability, and completeness (PARCC) results be applied to the data?
- What are the methods by which data will be evaluated? Will data be contoured? What methods for pump test analysis will be used? Will there be any modeling (analytical or computer) required, and if so what types?
- Will data and any updates to the site conceptual model be shared with the regulatory bodies and the interested public prior to release of the TMs or RI/FS Reports?

If they are not addressed in this document, how and when will they be addressed?

58. Section 5.6, Page 73. This section does not provide enough information from which an adequate assessment of risk can be established. How will the baseline risk assessment be performed to adequately estimate the imminent and

long-term endangerment to public health and welfare caused by the base? How will the following be resolved:

- What statistical procedures will be used for evaluation if contaminants found in existing or additional data are above a "background," occur at an acceptable frequency, or can be approximated by an "average" value?
- Will DQOs and data needs be identified during each phase of data collection and evaluation?
- Will there be a pre-screening of contaminants of concern to include only those for which toxicological data is readily available, or will academic and research data bases be included? What will constitute a contaminant of concern?
- How will exposure points be determined? How will exposure point concentrations be determined?
- What approach will be taken to estimate dermal exposure? Ingestion? Inhalation? Will any of the EPA's computer models for risk assessment be used?

59. Section 5.6, Page 73, Paragraph 5. How will the risk assessment be used to determine the extent of contamination of the base and the probability of contaminant transport to off-base areas?

60. Section 5.7, Page 74, Paragraph 2. When, how, and by whom will the determination "that treatability studies are necessary" be made?

61. Section 5.9, Page 75, Paragraph 2. Where are the general response actions which have been identified for each media? Table 6 presents a very specific selection of, in most cases, a single remedial alternative for each site. This does not constitute a general list. Provide this list in the work plan.

62. Section 5.9, Table 6, Pages 76-82. The following comments relate to Table 6 in the work plan:

- How will this table be used to focus data collection activities or treatability studies when many possible remedial alternatives have been eliminated? This table goes beyond supplying a range of waste management options and instead selects alternatives for individual sites.

- Why weren't ranges for the contamination which could reasonably be encountered at each individual site used in this table? The column labeled "Contaminants" presents a list of contaminants and volumes which do not agree with the reasonable range of what could potentially be found at an individual site.

For example, at Site 1, Section 2.4.1.2 states that "There are also unsubstantiated reports that a portion of the site was used to

dispose of low-level radioactive material." "Contaminants" makes no mention of this. At Site 4, Section 2.4.4.3 states that a 5-gallon ferrocene spill did occur, but also "Other spills may have occurred in this area and migrated into the groundwater." "Contaminants" only mentions the 5-gallon ferrocene spill. And, in all cases where data from the 1986 Brown and Caldwell report are used, volume estimates, which are often no more than unsubstantiated guesses, are used in selecting potential remedial actions without qualification.

- Was a preliminary screening of treatment technologies performed during the construction of this table?

For example, Site 1 Treatment Technology states "Rotary kiln incineration is the only proven technology for all three contaminants." What about other technologies for individual contaminant treatment? If Site 1 was the only site to be concerned with, a comprehensive technology might be appropriate. But perhaps individual technologies may have application at other sites on MCAS El Toro. Site 2 (and all other landfill sites) states "Containment is usually the only feasible remediation/treatment alternative" What are the other technologies which are not "usually" implemented and why have they been screened out at this point? Other statements throughout the column such as "method of choice," "proven technology," and "treatment technology of choice" imply that there has been a screening or that innovative technologies have not been considered.

If a preliminary screening has been performed, what were the criteria used for screening and where will the results of this screening be presented?

- Why does this table concentrate on source remediation and not take into consideration treatment technologies for affected media such as groundwater or air? For example, how will "Capping, grading, and revegetation combined with gas and leachate migration controls" remediate contaminated groundwater which is outside of the site boundary?

- Have the "Potential Remedial Actions" for those sites contaminated by petroleum products taken into consideration the potential existence of free petroleum? Although it would appear safe to assume that no free product would exist after several years of non-use, the existence of potentially sluggish groundwater systems or perched groundwater zones coupled with unknown released volumes warrants an investigation before this possibility is dismissed.

63. Section 6.0, Page 84. Figure 28 does not present "...a schedule for the progression of tasks to be accomplished during the RI/FS...." On this schedule, the RI is presented as one single task, and the FS as another. What is the progression of tasks as defined by Section 5.0 of this work plan, as well as any

other deliverables related to the RI/FS and to be provided as a result of the FFA or in response to these comments?

In addition, the FFA provides that scheduling of Remedial Design/ Remedial Action activities will take place within 21 days of the issuance of the Record of Decision (Part 8, page 17, "DEADLINES"). The start dates for RD/RA activities should be deleted from Figure 28.

64. Section 6.0, Page 84. If, as stated in this section, "...dates estimated above are only for purposes of projecting overall schedule. Actual dates will depend on contract awards, review periods, and approval receipt," when can EPA expect to receive a copy of the actual schedule? The schedule for assessment of timetables, deadlines, and incurrence of stipulated penalties must be provided in this work plan. The FFA provides for extensions to this schedule "upon receipt of a timely request for extension and when good cause exists for the requested extension." Provide the schedule in this section of the document.

Selected References

Federal Facility Agreement Under CERCLA Section 120, In the Matter Of: The U.S. Department of the Navy, Marine Corps Air Station El Toro, Draft Copy.

OSWER Directive 9992.2, "Agreement with DOD -- Model Provisions for CERCLA Facilities Agreements"; June 17, 1988.

OSWER Directive 9830.2, "Regional Oversight of Federal Facility Cleanups Under CERCLA"; November 25, 1985.

EPA Internal Memo, "Draft Model SOW for PRP RI/FS," January 13, 1989.

OSWER Directive 9355.3-01, "Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA"; October, 1988.

OSWER Directive 9355.3-01FS1, "Getting Ready: Scoping the RI/FS"; November, 1989.

OSWER Directive 9355.3-01FS2, "The Remedial Investigation: Site Characterization and Treatability Studies"; November, 1989.

OSWER Directive 9355.3-01FS3, "The Feasibility Study: Development and Screening of Remedial Action Alternatives"; November, 1989.

OSWER Directive 9355.3-11FS, "Streamlining the RI/FS for CERCLA Municipal Landfill Sites"; September, 1990.

OSWER Directive Prepublication Copy, "Guide for Conducting Treatability Studies Under CERCLA"; November, 1989.

OSWER Directive 9285.7-01a, "Risk Assessment Guidance for Superfund, Volume I: Human Health Evaluation Manual"; September 29, 1989.

USEPA Region IX Recommendations, "Risk Assessment Guidance For Superfund Human Health Risk Assessment"; Interim Final, December 15, 1989.

EPA/600/3-89/013, "Ecological Assessment of Hazardous Waste Sites: A Field and Laboratory Reference"; March, 1989.

OSWER Directive 9230.0-3B, "Community Relations in Superfund: A Handbook"; Interim Version, June, 1988.

OSWER Directive 9355.0-7B, "Data Quality Objectives for Remedial Response Activities"; March, 1987.

EPA/540/G-89/006, "CERCLA Compliance with Other Laws Manual: Draft Guidance"; August, 1988.

OSWER Directive 9838.1, "Scope of the CERCLA Petroleum Exclusion Under Sections 101(14) and 104(a)(2)"; July 31, 1987.