

# Memorandum

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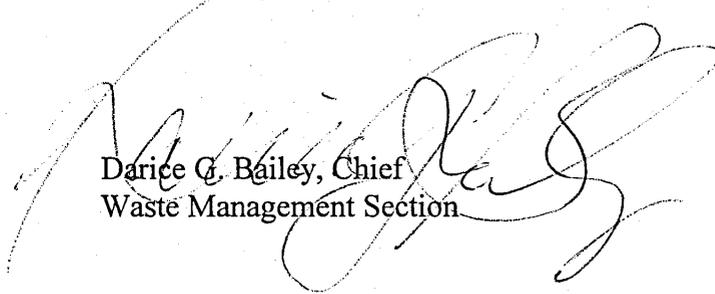
Date: March 18, 2003

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From: Environmental Management Branch  
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Subject: Review of Revised Draft Feasibility Study Report Operable Unit 3, Site 1 – 1943-1956  
Disposal Area, Alameda Point, Alameda, California, dated December 12, 2002

Attached are the Department of Health Services' (DHS) comments on the subject document. This review was performed by Ms. Penny Leinwander, Associate Health Physicist in support of the Interagency Agreement between DTSC and DHS. If you have any questions concerning this report, or if you need additional information, please contact Ms. Leinwander (916) 324-1465.



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Attachment

Ms. Marcia Liao  
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## DEPARTMENT OF HEALTH SERVICES REVIEW

**ACTIVITY:** *Review of Revised Draft Operable Unit 3, Site 1 Feasibility Study, Alameda Point, Alameda, CA*, dated December 12, 2002

**FACILITY:** Alameda Point (formerly Alameda Naval Air Station), Alameda, CA

### GENERAL COMMENTS:

1. This feasibility study was reviewed to ensure that the requirements of the California Code of Regulations, Title 17, have been or will be met once the property is no longer under federal jurisdiction. The feasibility study recommends a remedial alternative that does not require that all of the discrete sources of radioactive materials be removed prior to use of the property for recreational purposes. Because radioactive material will remain at the site after transfer, the requirements of Title 17 must be met. The Radiologic Health Branch (RHB) of the Department of Health Services (DHS) is the branch responsible for ensuring compliance with Title 17. RHB staff will provide comments as this process proceeds.
2. In past meetings, the Navy indicated that a removal action would be performed prior to proceeding with the Feasibility Study so that characterization information could be obtained. It appears that the Navy decided to proceed with the Feasibility Study without first performing the characterization. Assumptions made about the quantity, type, dispersal mechanisms, location of sources and impact on groundwater would have been better assessed if the removal action had occurred. As a result, the Navy is leaving open the possibility that some unknown information may be discovered that limits the Navy's ability to ensure compliance with Title 17 under the recommended alternative. DHS sent a letter in February 2001 (attached), stating that there was minimum knowledge about the site and further characterization was needed to render a decision about radiological controls. What does the Navy propose to do to resolve this issue?
3. Acceptance by DHS of the recommended alternative is predicated on the following:
  - a) Monolithic cap integrity will be maintained.
  - b) All buried radioactive sources are underneath the monolithic cap, i.e., the cap extends to all locations where radioactive materials may be buried.

- c) The monolithic cap is thick enough to ensure the external dose rate from any radioactive materials is negligible or as low as reasonably achievable.
- d) Predictive modeling of the radioactive source term indicates that groundwater contamination exceeding acceptable limits is not likely.
- e) Groundwater monitoring will be conducted that will provide assurances that impact to groundwater from radionuclides will be detected before interdiction actions should be considered.
- f) Contingency plans will be in place in case any of the previous conditions are not met in the future, i.e., if cap integrity is lost, if radioactive material is found beyond the cap boundary, or if groundwater conditions require interdiction actions.
- g) An investigation into the burn pit area shows that a consolidated radioactive waste pit does not exist that could significantly impact groundwater or present a significant radiation exposure hazard if accidentally encountered.

The specific comments below discuss where information may be lacking in the Feasibility Study to adequately address the above items.

### **Specific Comments:**

1. Figure 3-2 shows elevated radiological survey locations that are outside the boundary of the proposed disposal cap. The elevated locations are east of the runway and south of the most eastern 1947-1949 disposal pit. What will be done with these elevated locations? How is it known that these anomalous locations are not indicating another disposal cell? If these anomalous locations turn out to be discrete radioactive sources or radioactive waste not associated with a disposal pit, then why and how did they get there? Does the removal of anomalies detected only by the surface scan demonstrate a complete removal? If not, then a more extensive removal is necessary or the cap should extend to this location.
2. Figure 3-2 appears to indicate that an anomalous survey reading was found at the very edge of the surveyed area. Does this indicate that there may be more anomalous readings outside the surveyed area? Provide the justification that no further surveys are required if that is the case. (This may be outside the boundary of OU 3, and if so, specify which documents will address the area.)
3. Page 3-2, 3<sup>rd</sup> bullet: The Navy needs to show through calculations that the proposed thickness of the cap will ensure that the exposure rate at the surface of the cap (or possibly at 1 meter above the cap) due to any radioactive discrete source or radioactive waste material is negligible or as low as reasonably achievable (ALARA). The feasibility study indicates that removal will be attempted for locations that indicate 10,000 cpm

above background. Calculations need to be provided showing that ALARA is achieved using this criteria with the proposed thickness of the cap. In addition, the 10,000 cpm needs to be associated with a detector of known efficiency for radium-226, and possibly for Strontium-90.

4. DHS requests that predictive modeling be performed demonstrating that it is unlikely that the quantities and types of materials disposed would create an unacceptable present or future impact on groundwater. The modeling should consider the potential impact of drinking wells down gradient from the disposal site, if they exist. Reasonable estimates of the amount of material buried should be derived from the radiological removal action, and knowledge of the burial site volume.
5. Groundwater monitoring must be performed to ensure that any impact from buried radioactive waste is detected and that preventative actions can be taken if necessary. Detailed information on the groundwater monitoring program for radionuclides that will be conducted has not been reviewed for adequacy by DHS at this time because of the lack of documents available.
6. Page 4-10, 2<sup>nd</sup> paragraph: As previously discussed in meetings, the IAS document from 1983 appears to indicate the possibility of a burial trench containing consolidated radioactive waste within or near the burn pit site and near the most elevated radiation readings detected. DHS requests that the investigation of this trench be more extensive than just a surface scan and removal of anomalies above 10,000 cpm. It is not known if clean soil was placed as cover on the trench, thereby shielding potential buried sources. More specific information needs to be provided on the "excavation trenching" that the Navy is planning for this area before concurring with the activity.