

CLEMENT

Clement Associates Incorporated
160 Spear Street, Suite 1380
San Francisco, CA 94105-1535 415-957-9429

Environmental and Health Science

January 12, 1990

Ms. Bella Dizon (Code 1813BD)
Department of the Navy
Western Division
Naval Facilities Engineering Command
PO BOX 727
San Bruno, CA 94066-0727

Dear Ms. Dizon,

Enclosed you will find two copies of Clement Associate's responses to the comments provided by California Department of Health Services on the Preliminary Public Health and Environmental Evaluation prepared for the Alameda Naval Air Station facility. Please contact me with any questions that you might have concerning this matter.

Sincerely,



Michael S. Raybourn, Ph.D.
Project Manager

RESPONSE TO CDHS COMMENTS ON THE PRELIMINARY

PUBLIC HEALTH EVALUATION FOR THE NAS ALAMEDA FACILITY

January 10, 1990

General Considerations

A meeting was held on March 31, 1989 at the Emeryville CDHS offices to discuss comments by CDHS on the Preliminary Public Health and Environmental Evaluation (PPHEE) conducted by Clement Associates, Inc. for the Naval Air Station Alameda (NAS Alameda). During that meeting, several issues were discussed that have a direct impact on Clement's responses to specific comments by CDHS.

The most important issue to emerge from that meeting was a clarification, as explained to the primary CDHS reviewer (Dr. Calvin Wilhite), that the PPHEE was not the Final PHE, as he had assumed during its review. As a consequence, the most wide-ranging agreement reached at that meeting was that the CDHS comments concerning current regulatory standards and compliance numbers would be addressed by updating those values in the Final PHEE. It was also agreed that some of the CDHS comments regarding textual format, organization, tables, etc. stemmed from some confusion over the fact that Volume 7 contains two separate work elements, the Work Plan and the actual PPHEE. The following responses to specific comments by CDHS reflect these considerations.

Specific Comments

Comment #1 - Errors persist in the document. One of the most important issues at this site will be the extent and nature of groundwater contamination; note on p. 5-3 that DHS considers California MCLs as ARARs. Table 5-1 must be revised; note that the tetrachloroethylene MCL is incorrectly listed as 2 ppb. Attached find a list of the most current California MCL values; ALL CALIFORNIA AND FEDERAL MCLs should be given in Table 5-1. It is virtually useless to list - as pointed out in the initial review categories for aviation fuel, gasoline, and oil and grease; the authors are well aware of the procedures for establishment of Safe Drinking Water Act and California MCLs and know that these values are not set for complex mixtures. Delete those categories; insert all anticipated values including the California Proposed Maximum Contaminant Level values of which 12 will be held up for public hearing on October 11, 1989 in Sacramento for a number of the chemicals of concern here (e.g., trans-1,2-dichloroethylene, DEHP, chlordane, heptachlor, etc.). A list of those is attached. These values will be promulgated during investigation and remediation of NAS Alameda and the plan for those activities should take the existing and reasonably anticipated ARARs into account.

To this same end, the reviews of the literature concerning the toxicology and environmental fate and transport (Chapters 3 and 4), although

very brief (likely reflecting the "boilerplate" nature of many such documents) are judged adequate but not outstanding in their content. The only revision requested here is to list at the conclusions to each chemical summary - where ACGIH-derived ASHA values which cannot be utilized for environmental exposure criteria are presented - that the appropriate primary or secondary MCL values be listed. In addition, the summary would be more complete should the authors list the CDHS AAL values for air and water where such values have been published.

Response: It was agreed that all regulatory standards will be updated in the Final PHEE. Instead of adding the chemical-specific regulatory criteria to each toxicological and environmental fate and transport profile, all of the available criteria values are provided in Table 5-1. The requested changes in Table 5-1, such as deleting categories for aviation fuel, gasoline, and oil and grease, will be carried out in the Final PHEE.

Comment #2 - Sections 6 and 7 have been improved and the authors should be commended for their efforts in this regard.

Response - None required

Comment #3 - p. 3-6. The sentence, "The subsequent risk characterization will focus only on these selected indicator chemicals.", is the most troublesome statement in the text. On Table 2-9, p. 2-60, no mention is made of the ordinance, the infectious wastes from Oak Knoll Naval Hospital or the identity and extent of the agents in the tear gas said to be buried (p. 2-20) at the West Beach Sanitary Landfill. TNT will be an important indicator chemical should it be found at the site because it has recently been demonstrated to be a rodent carcinogen in an NTP bioassay; mitigation activities could well uncover and/or release these and other wastes or release the buried tear gas. These agents should not be dropped from consideration, particularly in the early stages of the plan such as the present PHEE.

Response - The RI/FS Sampling Plan has been modified to incorporate sampling for nitrates in the landfill area. This will be the process by which TNT is sampled for. The sampling for tear gas is more problematic. If still intact in their canisters, only by actually puncturing one would any positive detects occur. If the contents have been released into the sub-surface soils, then some finite migration is possible. However, the two probable tear gas agents, o-chlorobenzylidene malononitrile (CS) and 1-Chloroacetophenone (CN), are not stable and would tend to break down to less toxic compounds over time. Their migration potential is dependent upon the nature of the soils around them. Being rather electropositive (due to the chlorine and nitrile radicals), both agents would tend to react strongly with anions and be bound to negatively charged soils. Thus, it is probable that if leakage had occurred, their migration would be limited and would likely consist of break-down products (e.g. thiocyanate, o-chlorobenzoic acid, o-chlorohippuric acid). Field sampling for these agents would be very difficult and, given the short-term acute toxicity (if any remains), seems unwarranted in this case.

Comment #4 - p. 2-49, top paragraph. Insert California MCL values for gross alpha and gross beta and compare the monitoring well data to the MCLs.

Response - Changes will be made in the Final PHEE.

Comment #5 - Table 2-5, 2-6. Please insert EPA Lifetime Health Advisory Values for those compounds that do not have formal MCLs; please insert a column of promulgated and anticipated California and Federal MCLs for those chemicals detected in the 1985 ground water samples.

Response - Changes will be made in the Final PHEE.

Comment #6 - p. 2-61, Area 97. Specific mention of the hexane analyses should be made here.

Response - The results of the vapor phase investigations conducted in Area 97 are discussed on page 2-28 in the PPHEE.

Comment #7 - p. 2-6. Bldg. 5467. Please describe the current status of the two fiberglass gasoline tanks. Are they in current use and leaking, if so, why have not steps been taken to correct the situation - or are they filled with sand? Do these and the tanks discussed just prior to this section contain petroleum products? The text is not clear.

Response - As discussed on page 2-5 and 2-6 of the PPHEE, all of the remaining underground storage tanks at Bldg. 459 and 547 are in current use, storing either gasoline or waste oil. Leak tests indicate that they are leaking. Remediation of these tanks is dealt with in the SAP for the RI/FS.

Comment #8 - The leaking NAS fuel and other tanks are real problems; one has only to review the fire and explosion history in the sewers and manholes to get an idea of the magnitude of the quantities of flammable fuels and/or solvents spilled at the site; for those areas, the benzene and hexane are expected by this reviewer to drive the human health risk assessments. One of the uncertainties not listed (at least as far as this reviewer could find) is whether or not these spilled organic chemicals have dissolved other organics, such as would be expected to be found in waste crankcase oils, and driven otherwise only slowly mobile PAH and other compounds into groundwater.

Response - As presented in Table 2-9 of the PPHEE, the available groundwater data do not indicate the presence of PAHs in Area 97. The presence of petroleum hydrocarbons in the subsurface soils is documented. There are no identified sources of PAHs or waste oil in Area 97 that might have undergone facilitated co-solvent transport with the leaking AVGAS.

Comment #9 - The document needs a more specific table of contents; the reader is forced to dig through the entire text without useful guidance to find any particular item of interest. Again, this reviewer request the authors provide an index to the topics covered. The document has not been proofread with

sufficient attention to detail, why is it that numerous blank pages are found in the text?

Response - The Final PHEE will incorporate a more extensive table of contents, as well as a topical index. A more thorough proofreading will take place prior to submission of the Final PHEE to CDHS.

Comment #10 - p. 3-6. Insert Human Receptor Identification. Does not the section refer only to humans? This section concerns only human health endpoints; one does not move on to environmental receptors until task 5.0 with a definite scope of the plan until Chapter 6 concerning the response to CDHS comments on environmental and endangered species.

Response - Upon inspection of Volume 7 of the Public Health and Environmental Evaluation Plan (June, 1989), it appears that this comment is actually referring to p. 3-10 in the Work Plan, not in the PPHEE. On p.3-2 of the Work Plan, Task 3.0 is identified as "Human Exposure Assessment", with Task 3-1 being "Receptor Identification". This appears to be one of those items previously mentioned wherein the CDHS reviewer confused the Work Plan with the PPHEE.

Comment #11 - p. 2-25. As the Pan American well showed elevated manganese and mercury in 1977, not only should Hg be measured, but all priority water pollutants and all mentioned indicator chemicals should be studied in this well water during any future field work.

Response - This has been addressed by modifications to the RI/FS SAP.

Comment #12 - Section 4.0, p. 4-2. What is the basis for the sentence, "Chemicals with K_{ow} less than 3 are generally considered not to concentrate in animal tissues."? Please provide a reference to substantiate this contention.

Response - A typical reference might be: Thomann, R.V. (1989) Bioaccumulation Model of Organic Chemical Distribution in Aquatic Food Chains, Environ. Sci. Technol., 23 (6), 699-707. This particular paper concludes that below a log K_{ow} of 5.0, decreased uptake in conjunction with increased excretion, prevent food chain buildup. Thus, use of a log K_{ow} of 3.0 or less is health-conservative.

Comment #13 - p. 2-5, top line. What steps does the Navy intent to take to mitigate the leaking in those underground tanks identified as "currently leaking" Are the abandoned tanks with suspected leaks at Bldg. 459 "currently leaking"? What, exactly, is the status of the Bldg. 459 waste oil tank?

Response - The details of these tanks, their current status, and proposed remediation efforts are discussed in the revised RI/FS SAP.

Comment #14 - P. 3-20. The review on cis- and trans-1,2-dichloroethylenes is clearly inadequate. The authors are directed to Lawrence Livermore National

Laboratory documents UCRL-21063 and UCRL-21062, "health Risk Assessment of cis (or trans)-1,2-dichloroethylene in California Drinking Water" by B. Mallon et al. and L.C. Hall et al. (respectively), June 27, 1988 for a comprehensive review of the applicable literature.

Response - At the March 31, 1989 meeting with CDHS, Clement explained that a baseline PHEE is not intended to be a critical evaluation of the toxicological literature concerning any one chemical. While Clement professionally acknowledges the somewhat conversial nature of the studies used in characterizing the potential carcinogenicity of these two chemicals, it is still the task of the PHEE to utilize the currently promugated standards and values in order to assess the potential health and environmental risks at a site.

Comment #15 - The organization of the text leaves something to be desired. What, for example, is the utility of having two pages 3-6? Why can't the manuscript be page numbered in a consecutive fashion and the text printed on both sides of the paper?

Response - Again, the CDHS reviewer was confused by the existence of both a Work Plan and the PPHEE in the same Volume 7. Double-sided printing is certainly an alternative in the Final PHEE.

Comment #16 - Page 3-6. What is the justification for the statement, "Typically, chemicals with a mean concentration less than twice (2x) background concentrations may be eliminated from consideration"? Can this actually be the case, particularly in areas of widespread environmental contamination as with lead? A reference (regulatory proceedings, publications in the open, peer-reviewed scientific literature, etc.) is needed to support such a potentially troublesome statement is needed.

Response - Clement has been using this indicator chemical selection criterion in all of its risk assessments conducted for CDHS, the U.S.E.P.A., and other regulatory agencies for some time now. This criterion has been accepted by these agencies as reflecting a viable protocol and has been codified into the latest EPA guidance for conducting risk assessments at Superfund facilities (Interim Final: Risk Assessment Guidance for Superfund, Volume 1: Human Health Evaluation Manual. OSWER Directive 9285.7-01a, September 29, 1989).

Comment #17 - Section 4.0, REFERENCES. This reviewer objects strongly to the used of Personal Communications as a reference; how is an interested party to check, particularly in the circumstance of litigation, the accuracy of a telephone conversation with John Christopher in 1988? Delete or replace with a reference to a written memorandum or citable letter.

Response - This comment will be responded to in the Final PHEE.

Comment #18 - Table 2-2. Insert a footnote to the current California chromium MCL in order that the reader can compare the WA-6 well water chromium concentration to the 50ppb value.

Response - Table 2-2 will be modified in the Final PHEE to incorporate this request.