

Arc Ecology

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MARE ISLAND
SSIC NO. 5090.3.A

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July 3, 1998

Winton Baker
Department of the Navy
Naval Facilities Engineering Command
900 Commodore Drive
San Bruno, California 94066-5006

SENT BY FAX: (650) 244-2654 and (650) 244-2747

Dear Mr. Baker:

The Navy, at the request of the U.S. EPA, recently extended its comment period for the: *Draft Offshore Areas Ecological Risk Assessment, Mare Island, April 16, 1998*, until three weeks past 6/15/98. Arc Ecology would like to take advantage of the comment-period extension by submitting an additional set of technical comments related to the document.

I am sending a copy of this cover letter and the attached commentary to both of the Fax numbers that you provided to me in our last telephone conversation--just in case one of them has been deactivated.

Please feel free to call me to discuss any of the issues raised in this additional set of comments on the Offshore Eco-Risk Assessment.

Best Regards,



Ken Kloc
Staff Scientist

**Additional Comments on:
"The Offshore Areas Ecological Risk Assessment,
Mare Island, Vallejo, California, Draft, April 1998."**

(Submitted via fax by Arc Ecology, July 3rd, 1998)

1. Page 7-9. The last full sentence states: "Toxicity resulting from contamination was predicted by assuming that unionized ammonia and contamination produced additive toxicity." The assumption of chemical-mixture additivity is normally considered to be conservative when one is trying to estimate the potential but undemonstrated toxicity of a mixture. However, in cases where the toxicity of a mixture has been demonstrated by experiment, and one wishes to predict the toxicity of individual or groups of chemicals in the mixture, this assumption is not conservative. If a chemical produces toxicity independent of ammonia, then it will not be possible to see an underlying "additive" effect as the sample is diluted below the ammonia threshold concentration. Furthermore, if the chemical has a concentration-toxicity ratio similar to that of ammonia, dilution will cause the concentration of the chemical to drop below its threshold level at a similar point of dilution as for ammonia. Thus, in the pore water and elutriate bioassays, many of the toxic samples that became non-toxic upon dilution below the ammonia threshold, nonetheless may contain unacceptable levels of COPECs or COPEC-mixtures.
2. Chapter 9 and Appendix F. All food-chain calculations, including exposure point concentrations in all exposure media, bioaccumulation factors and other exposure assumptions, should be shown in clearly organized tables. Tables F-1 through F-4 do not provide enough detail. As the document stands, the reviewer would literally need to carry out the exposure assessment themselves in order to critically evaluate the analysis presented in Chapter 9.
3. Section 9.2.2.2, First Paragraph. Although Arc Ecology has previously requested copies of the BTAG's work (through various Navy organizational channels), it has yet to receive a copy of the 1997 draft technical memorandum incorporating the BTAGs Toxicity Reference Values (TRVs). This memo is cited in the Eco-Assessment as a PRC document, "PRC 1997g" and is entitled, "Development of Toxicity Reference Values as Part of a Regional Approach for Conducting Ecological Risk Assessment at Naval Facilities in California." Given that much of the hazard quotient analysis hinges upon the information presented in the TRV technical memo, we must reserve the right to comment upon the eco-risk assessment's use of TRVs at a later date. We would also like to take this opportunity to request a copy of the technical memo on TRVs.
4. Please replace General Comment #2 from Arc Ecology's 6/15/98 comment set with the following revision: "The reference samples used in the ecological assessment are from areas that have been significantly impacted by urban or industrial pollution. The assessment needs to develop several samples from areas that are minimally impacted by pollutants (both chemical and physical). If a reasonably unimpacted background sample cannot be identified in the Bay, a synthetic background sample should be developed. In addition, some tests should be conducted to determine the toxicity of clean, sandy sediments spiked with COPEC mixtures. This would allow the ecological study to control for the confounding effects of sediment particle size and unionized ammonia, and other possible factors."

-end of additional comments-