



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street
San Francisco, CA 94105-3901

June 23, 1994

Mr. Stephen Chao
Naval Facilities Engineering Command
Western Division
900 Commodore Way, Bldg. 101
San Bruno, CA. 94066

Re: Response to SWEA Phase II Workplan Approach Position Paper from
Montgomery Watson, faxed 6/14/94

Dear Mr. Chao,

The U.S. Environmental Protection Agency (EPA) has received the Phase II Site Wide Ecological Assessment workplan position paper. While we support the idea of having scoping meetings to clarify issues early and continue the process for ecological assessment, there are several items listed in the memo that EPA expected to have been settled in the Phase I effort. We also feel there is little value in discussing the items in this memo until we have the material that addresses the Phase I process unless it is clear that we are starting from a different position than stated in the position paper. In order to expedite this process, we want to clarify certain issues and move the process forward. Call me at 415-744-2383 if you have any questions. Here are our comments.

1. The first list of "bullets" include issues that must be completed before we start Phase II. The only bullet that should be addressed at this point is the last one - "address data gaps identified in the Phase I SWEA (CTO236)". The other bullets preceding this one, must be completed in the Phase I work and the third, "select applicable representative compounds" is one that we questioned as appropriate because we do not believe that there are "representative" compounds for the chemicals of concern (COC). If the Navy finds what you feel is an acceptable "indicator" chemical, you should present valid rationale (toxicity, etc.) in Phase II. Indicator chemicals have very limited applicability for organics. If used at all, they should be used for inorganics only.
2. Refine the list of chemicals of potential concern. The list of COCs are selected in the Phase I effort by the approved criteria and are carried through the whole process; the list is not pared through each Phase of the ecological assessment.
3. p. 2, first bullet, "Toxicity literature pertaining to the COC must be readily available." This is not true. The COC is selected because it has been shown to have been used,

dispersed, spread, or spilled on the site. Its identification has nothing to do with the availability of toxicity literature.

4. p. 2, second bullet, "Life history information must be available for the ecological receptors identified and the COC selected...". Biological information about receptors has absolutely nothing to do with the selection of COCs.
5. p. 2. The paragraph starting off with, "Representative chemical compounds..." makes a pitch for the use of "representative chemical compounds." This approach, i.e., surrogates, may be used at the level of the assessment endpoint, when for instance food chain integrity is identified as a value to be protected. A chemical in the mixture of the COCs that is known to bioaccumulate may be representative of the potential impact because it is the most representative of the bioaccumulators found at the site. This substitution must have supporting information that demonstrates the similarity of chemical effects i.e., uptake, body burdens and depuration for the receptor species being evaluated.
6. p. 3, "Address data gaps identified in the Phase I SWEA." The Navy might be forewarned that data gaps suggested by the material presented thus far include, measurements of contaminant levels in earthworms, shrews, invertebrates, benthic invertebrates, vegetation, aquatic invertebrates, fish and pickleweed. Based on EPA experience from other site evaluations in the Bay Area, modeling of contaminant uptake from the sediment or soil to plants, or plants to small mammals, and small mammals to predators has been inadequate for any efforts more than screening and is limited in value because of high uncertainty.
7. p. 3, "Quantitative Phase II SWEA." The effort proposed at this step is not one to determine risk, but potential effect. This step, as described, is a preliminary effort that will require a validation and/or verification of all of those situations with high uncertainty and predicted high impact. High uncertainty can be expected when the methods as described at the bottom of page 3 are used; "...only half of this animal's prey is collected on-site and of the prey collected on-site, only half is affected by the COC..." and at the top of page 4; "...the minimum amount of water an animal must drink daily (DW) depends upon the total requirement (TR) and the amount of water that the animal obtains from metabolism (MW) and prey (PW)...". This leads to the reliance of data that have little relation to the site being evaluated, consequently producing high uncertainty.
8. p. 4. Other estimates include, "total water requirement," "daily dry food", "daily energy expenditure", "digestible energy coefficient", "prey water", etc. Note that this is the point in the process where measurements will be required (see comment no. 6).

9. p. 5. In the paragraph starting with "A variety of formulae...", the author attempts to show how number crunching might be used to define clean-up levels. There are problems with this reasoning. For instance, if the critical concentration is known, there is no reason to use a BAF to estimate the effects level. The material presented is actually based on a dose (see p. 170 from Maughan, 1993) rather than a concentration. This concentration is the NOAEL; therefore there is nothing to estimate.

Sincerely,



Michael D. Gill
Remedial Project Manager
Federal Facilities Cleanup Office

cc: C. Joseph Chou (DTSC)
Ken Eichstaedt (URS)
Ron Gervason (RWQCB)
Joe LeClaire (Montgomery Watson) (Fax)