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NAVSTA LONG BEACH
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U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
OFFICE OF OCEAN RESOURCES CONSERVATION AND ASSESSM
HAZARDOUS MATERIALS RESPONSE AND ASSESSMENT DIVIS
COASTAL RESOURCES COORDINATION BRANCH
c/o U.S. Environmental Protection Agency (H-1-2)
75 Hawthorne Street
San Francisco, CA 94105-3901

May 16, 1994

Mr. Duane Rollefson
Naval Station Long Beach
code N46, Building 1, Room 268
Long Beach, CA 90822-5000

Dear Mr. Rollefson:

The U.S. Department of Commerce/National Oceanic and Atmospheric Administration (NOAA) appreciates the opportunity to review and comment on the Technical Memorandum No. 4, Draft Final Implementation of Final RI/FS Sampling and Analysis Plan for Long Beach Naval Station, Long Beach, California, April 28 1994.

Presented below are both general and specific comments and suggestions on the technical memo.

General Comments

It would be helpful if the revised document were written to present the proposed scope of work, wholly and comprehensively. For example, the Draft Final moves two deep cores from inside the harbor to outside the Mole, but does not discuss how subcoreing would now be done. Similarly, it appears that a number of surface stations have been removed from inside the harbor, but with one added in the harbor, as well as the two outside the Mole. Samples do not now appear to include sediments from beneath all of the piers. From the scale of the map in the document, it is difficult to determine where the sampling sites are located. In addition, the Draft Final does not specifically identify the stations or strata that will be tested using the bioassays. The SAP implies that all surface sediment samples will be tested, but the bioaccumulation studies are only proposed for 10 locations in the harbor (and two reference). Clear figures indicating all sampling locations by type, as well as matrices of sampling and analytical data, similar to Table 4-20 of the SAP, would be much appreciated.

Irrespective of the need to clarify the effort, the implementation plan contains the important elements for the sampling and analysis plan. NOAA has no fundamental problem with the design or with the major components of the proposed decision tree. However, NOAA would like further refinement of the decision tree, particularly regarding how the data would be used in the cases of conflicting results.

Many of NOAA's remaining concerns are related to data interpretation. For example, the methodologies to determine if data from a station constitutes a "hit" are not clarified.



For sediments, a variety of comparisons are proposed between data from the site and either literature data (e.g., sediment quality standards and criteria), or to data from the reference area(s), but limited information is included regarding how these comparisons would be made. As proposed, sediments will be collected in non-replicated samples from a fairly large number of locations, as well as from a number of reference sites. These data would allow for a number of different statistical approaches for the comparisons, including combining data (site and reference, site or reference, etc.) to generate one or more spatial means and variances (note that the Draft Final refers to these data as being “pseudo replicates” and has limited true field replication as a result); pairing of data with similar general sediment characteristics; using normalized or non-normalized data; etc. Similarly, it is not clear how information from the deep cores will be used.

With regard to the bioassays, the samples are internally replicated (five replicates per sample). The proposed design will apparently include multiple reference sediments, but does not discuss how these multiple data would be used, e.g., combined to yield some “master reference,” or paired separately with the most similar site sediment. The Macoma bioaccumulation test will not be replicated, and it is not clear how inter-comparisons will be performed. Since only two reference samples are proposed, no reference mean and variance can be generated.

Fundamentally, the study design should be based on how the data will be used, not the other way around, so it should be possible to clearly spell out in the Draft Final how the decision points will be created. Stated from the other view point, it will not be effective to collect all of these data and then find out that the data were not collected in a fashion that will allow appropriate analyses to fit them into the decision tree.

Specific comments

1. Page 8, 2nd ¶: neither AVS/SEM nor TOC “measure” the availability of the substances. Each is known to affect availability and their measurement can aid in the interpretation of the results from the other studies.
2. Page 14: How would the determination be made that the use of a van Veen grab was necessary? From the discussion at the meeting on April 13, there was substantial agreement among the trustees and with the Navy that a van Veen would be used for benthic sampling.
3. The reductions in field duplication may be an unwise reduction in costs. Without these samples, the assumption of homogeneity among adjacent stations cannot be confirmed at a scale any less than the grid sizes. These field duplicates provide a good measure of the small scale variability, which can be very useful in determining whether real spatial trends exist, or whether the differences simply represent the fact that the contaminant distribution is random in the area.
4. Eliminate the last box on the bioassay “hit” chart. According to the flow, the test has already been shown to have resulted in a substantial diminution of the endpoint, followed by a test to ensure that the effect is not the result of the sediment characteristics (i.e., through the comparison to reference).

5. Page 20: use abnormality in addition to the mortality endpoint for the bivalve bioassay.
6. The draft contains a large number of editing errors and statements that are poorly worded; these errors should be corrected. In most cases, these do not appear to be a cause for concern, but it would be nice to have a good clean final. For example:
- page 6, second to last ¶, last sentence: what “subsequent analysis” will be performed?
 - page 7, fourth bullet: what does “less robust” mean?
 - Section 2.1.3, 2nd ¶: Figure number not given.
 - Section 2.7, end of 3rd ¶ and Section 2.7.1, start of 2nd ¶: Figure 4 does not appear to be the correct citation; is Figure 3 correct?
 - Section 2.8, start of first retained ¶: Text says 12 bioaccumulation test locations, 8 from within the harbor. Figure 4, the referenced location map shows, 14 locations, 10 from within the harbor.

If you have any questions about these comments or would like further explanation or elaboration, I may be reached at (415) 744-3126.

Sincerely,



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Coastal Resources Coordinator

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