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Dear Mary:

Thank-you for the Draft Feasibility Study for the Estuary and Lower Harbor/Bay for the New Bedford Harbor Superfund site. Ebasco and their associates should be commended on the excellent summary of the tremendous amount of work that was performed at this site. Comments are listed below. I plan to better present NOAA's view on a remedial measure (i.e., hybrid remedy) in a subsequent letter.

1. In the summary of the Risk Assessment and other areas of the Feasibility Study, the FDA tolerance level of 2 ppm PCBs in tissues is used as a criteria. This value is clearly not appropriate because it is neither protective of human health or natural resources. On page 4-10 of the FS, it is specifically stated that the tolerance level was "...established by FDA to be protective of human health...". This statement is wrong. For the FS, the PCB concentrations developed in the human health risk assessment would be much better and appropriate criteria.

2. The discussion of Target Cleanup Levels (TCL) (Section 4.3.2.2) for sediments does not reach a definitive conclusion - only a range is presented. The use off a range may be appropriate (and realistic) but this use of TCLs should be spelled out carefully.

3. The discussion that follows (Section 4.4) regarding the selection of 10 ppm PCBs rather than the range (0.1 to 1 ppm) was well done and appropriate except that its conclusion appeared to be subjective and not warranted by the data. This is probably the most important aspect of this work from NOAA's perspective. The FS, after pages of descriptions of the complex models, simply states that 10 ppm would provide "adequate protection" of natural resources and human health. It appears likely that the use of 10 ppm as the sediment TCL would have little, if any, positive impact on the average concentrations in resident biota except perhaps near the Hot Spot. The tools have been

developed for the New Bedford site to go back and test specifically what would be expected to occur if the 10 ppm TCL were adopted.

It should also be recognized that because of technical and resource (money, space, etc.) restraints, the 10 ppm TCL may be the best that can be done. This limitation does not mean that a full understanding of what the use of this TCL will accomplish should not be pursued.

4. Because the closure of the fisheries due to PCBs in tissue is probably the biggest issue of this site for NOAA, it is important to understand as much as possible how EPA is relating the PCB levels in the other compartments, specifically the sediments, to the tissue burden. Also the match between tissue levels that were measured and the model-generated ones did not match completely. It would be instructive to determine whether other manipulations of the model or simpler models, would match better or as well to either simplify making projections for different cleanup scenarios, or to make better projections.

5. Although the damage to the salt marsh wetlands due to remediation at a target level of 1 or 10 ppm are discussed on pages 4-25 and 7-53 to 54, no discussion is given on what the impacts to the biota that utilize these marshes might be. The decision reached that the "benefits obtained by remediation of the wetlands are outweighed by the adverse environmental impacts associated with . . . dredging", is not supported by any such evidence. Are we certain that such resident and seasonal biota are now not being injured by such PCB levels? Are we certain that a salt marsh restoration program might not be a better long-term solution? I believe further discussion is warrented here.

6. Figures 7-20 and 7-21 show the water column PCB concentrations in the estuary and lower harbor and bay, respectively. The levels are shown to be above the AWQC for at least 10 years following a 10 ppm clean-up level. This is somewhat different than what has been reported earlier. Previously, a figure was distributed (I believe at the Dec/1989 monthly meeting) where dissolved PCBs in the water column were shown below the AWQC with an upper estuary target level of 10 ppm. Do Figures 7-20 and 7-21 utilize unfiltered water thus resulting in a higher effective PCB concentration?

7. The chronic AWQC is 0.03 ug/l. This level is incorrectly shown on the small Table on Page 4-20.

8. The discussion of Target Cleanup levels for water should be revised. Previous sections made it clear that the AWQC for PCBs is not protective of natural resources or of human health. The AWQC is based on the "old" FDA limit of 5 ppm in the biota. It would be better to use the bioaccumulation model to calculate a protective PCB concentration, using the human health endpoint (not the FDA tolerance level).

9. Specificially, the FDA limit is based in part on economic considerations and "therefore, may not be the most appropriate TCL for this site" (Section 4.3.1.2, page 4-18). Based on a consumption model, the endangerment assessment concluded that PCB concentrations in edible tissue as low as 0.02 mg/kg posed a substantial threat of causing cancer in humans (summarized in Table 4-5). The latter level is the one that would be protective of humans in the area, not the FDA tolerance level. In addition, because fishery closures and restrictions (NOAA trustee concerns) are frequently based on such health risk calculations, it is likely that the restrictions on the fisheries in the New Bedford Harbor area affected by the PCBs will be controlled by the lower value rather than by the FDA limit. For these reasons, it should be strongly suggested

- that the biota TCL for the New Bedford site be clearly defined in Section 4.3.1.2,
- that the human cancer risk level (i.e., 0.02 mg/kg) be used and
- that this latter value be used in all analyses of the effectiveness of the sediment TCL of 10 mg/kg of the sediments rather than the FDA tolerance level.

If the lower biota TCL is used, it is clear that for most of the commercial and recreational fisheries, it will be a very long time before the TCL will be reached. The discussion of the tissue levels that would remain 10 years after the clean-up of the sediments to 10 ppm presented in Section 7.4.3 (page 7-59) indicates that the projected concentrations in the tissue of flounder in the lower harbor would still be near 0.5 mg/kg, while the tomales of lobster would be have PCB levels close to 2 mg/kg. The concentrations in the estuary would be higher. In addition, the rate of decrease in the concentrations was projected to be slow after an immediate decrease in the first years after removal. As a result, it can also be projected (although the FS did not) that it would be many more years (additional decades?) before the more protective concentrations would be reached in the resident biota. As noted above, this may mean that the fisheries in those areas will continue to closed for substantially longer than the 10-year span discussed in the FS.

10. In cases where the proposed remedies will virtually completely eliminate possible threats to humans or natural resources, it is appropriate that only costs of the remedial alternatives be tabulated. However, in cases such as New Bedford Harbor, where the proposed remedy is stated to be expected to continue to impact the biota and may threaten human health, it is appropriate that the selection of the clean-up objectives be made with at least a minimal cost-benefit analysis. Using only the economic value of the system would allow the benefits, e.g., the commercial and recreational fisheries, of different clean-up levels could be compared to the costs of those clean-up. It seems rational that the TCL could be based on the point of balance between the costs and benefits, or at least the economic benefits could be used in a

general way to determine to what extent the proposed approach is "acceptable."

Let me know if you have any questions or need further information.

Sincerely,

Kenneth Finkelstein