Daniel S. Greenbaum
Commissioner

# The Commonwealth of Massachusetts

Executive Office of Environmental Affairs
Department of Environmental Quality Engineering
Division of Hazardous Waste
One Winter Street, Boston, Mass. 02108

MEMORANDUM

TO: Frank Ciavattieri, New Bedford Harbor Project Manager

THRU: Robert Bois, Federal Superfund Coordinator

FROM: Helen Waldorf, State Project Manager

DATE: November 8, 1988

SUBJECT: Comments on Proposed Remedial Action Plan by AVX and it Representatives.

On October 19 we attended a presentation by AVX and its representatives on a proposed remedial action plan for the New Bedford Harbor Federal Superfund site. The technical aspects of the proposal were presented by Malcolm Spaulding of the University of Rhode Island. This memo contains our comments on the proposal presented and provides our initial impression of how this proposal should fit into the overall evaluation of alternatives in the Feasibility Study. Although we will be unable to attend another meeting on this subject on November 16, we are very anxious to continue discussions with EPA and AVX on the remedial action options for New Bedford Harbor and hope to attend any future meetings with all parties concerned.

The proposal for a remedial aciton plan presented on October 19 includes the following major elements:

- Construct Temporary Dam at Coggeshall Street Bridge and control flows and water levels in the Acushnet Estuary.
- CAP upper estuary sediments, including the hot spot, with off-site materials.
- Use gravel and stone erosion protection for the hot spot area.

Some of the principal advantages to this approach were presented as:

- No dredging would occur.
- Cap placement could occur partly in the "dry" state using the dam and other hydraulic controls in the estuary.
- Economics.

Aspects of the AVX proposed remedial action plan appear to have technical merit. We believe that at least portions of this alternative should be included in a detailed analysis of alternatives during the feasibility study. From the Commonwealth's point of view, this alternative must be subjected to an analysis which includes a characterization of risk of harm to human health by comparing current and reasonably forseeable exposure and analysis of total site cancer and non-cancer risks. This alternative (or any alternative) would only be considered permanent under M.G.L. c. 21E and the Massachusetts Contingency Plan (MCP) if it can be shown that the disposal site will not pose a significant risk to health, safety, public welfare and the environment during <u>any</u> foreseeable period of time. Total site risk must be compared with a one in 100,000 ($1 \times 10^{-5}$) cancer risk and a Hazardous Index equal to 0.2.

Because the AVX alternative involves capping the PCB "hot spot" contaminants in place and <u>not</u> removal, we believe it will be very difficult to show that permanency, as defined in 21E and the MCP, will be achieved. Because the levels of PCBs are so high in the upper estuary (e.g., at the percent level) the potential of significant risk from exposure during <u>any</u> forseeable period of time could, arguably, be quite high. In the exposure scenarios from the baseline risk assessment, for example, a contaminant in one media (PCBs in sediment) posed a direct contact carcinogenic risk as high as $2 \times 10^{-2}$ for chronic, direct contact exposures of older children above the Coggeshall Street bridge. By leaving significant amounts and concentrations of contaminants in place, we believe it would be very difficult to demonstrate that a cap in hot spot areas would reduce these risks to an acceptable level. The estuary hot spot areas which are capped would have to be restricted in access and use from both the landward and seaward sides, for <u>any</u> forseeable period of time, to prevent exposure. In a large estuary, near residential areas, institutional controls may not exist to eliminate access for <u>any</u> forseeable period of time.

Given the difficulties of demonstrating reduction of significant risk by capping "hot spot" areas, it may be well to evaluate another alternative for the upper estuary. This alternative would retain the proposed hydraulic controls and capping for a lower range of PCB and metals contamination but would include removal of the hot spot sediments for treatment, using one of the alternatives now being evaluated in the FS. This hybrid alternative takes advantage of several promising aspects of the AVX proposal:

- Hydraulic controls at Coggeshall St. combined with river blockage and other hydraulic controls could be used during a removal of hot spot material.
- Removal of the hot spot could be done partially in the dry using trucks, small construction equipment and "dragline" rather than hydraulic dredge.
- Most dredging impacts could be avoided.
- A Cap could be placed over residual "lower level" contaminants using the same control technologies in the AVX proposal.
- The area still remains essentially as is with many of the wetland areas still intact.

In addition, the removal of "hot spot" material would improve upon or solve some potentially troublesome problems with the AVX proposal:

- If the cap were to slump, breach or erode in any one area, only low levels would be released not high concentrations.

- The proposal is more permanent and total site risk standards from 21E and the MCP will become much easier to achieve.

- The proposed cap in the AVX proposal is only 45cm thick. Removal of hot spot material could provide additional room for added cap thickness in the estuary, and an added margin of safety for "residual" contamination.

- If the levels of residual contaminants left in place over a period of time are low enough, sediment deposition, dilution and natural biodegredation could be predicted to lower expected residual risks to an acceptable level within a foreseeable period of time.

- The reliability of an in-water or partly in-water cap covering contamination of a "hot spot" magnitude has not been established. Reliability has, however, been shown for capping low level contaminants. Both the Seattle, (Duwamish) and Rotterdam projects, were used as examples in the AVX proposal, but they were implemented on relatively low level PCB and pesticide contaminants, compared with the New Bedford PCB hot spot.

- The AVX proposal could require extensive treatment of marine water, stream water and combined sewer overflows which will pool and become contained behind the Coggeshall Street temporary dam during implementation. Since PCBs dissolved in this water may have to be subjected to treatment to meet water quality criteria below the bridge, a hot spot sediment treatment facility would provide a way of handling water which is contaminated during construction.

In general, we would support the evaluation of the AVX proposal, together with an AVX/Hot Spot Removal and Treatment alternative. These alternatives should be evaluated alongside other Removal Response Alternatives in the FS. The alternatives should illustrate the total site risks (carcinogenic and non-carcinogenic) predicted in comparison with the baseline risk assessment used for the no-action alternative. If an alternative can be shown to significantly reduce risk for any foreseeable period of time and is shown to be feasible, then we would request that the following issues also be evaluated:

- During the presentation of hydraulic flow controls in the estuary, it was stated that the reduction in salinity would not significantly harm saltmarsh vegetation, since construction could be completed in the winter when the vegetation is dormant. With a lowered salinity and water level, the impact of freezing in the root zone appears to present a significant impact for saltmarsh vegetation.

- The effect of extensive hydraulic controls on groundwater levels (i.e., basement flooding in nearby homes & businesses), groundwater flows and the potential for contaminant transport via the groundwater all need to be evaluated.

- The effect of exposing sediments to dry, aerobic conditions should be considered in evaluating contaminant migration during construction.

Thank you for the opportunity to comment on the AVX preliminary proposal. I look forward to future meetings with you on this subject.

HW/RBB/lgw