



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION I

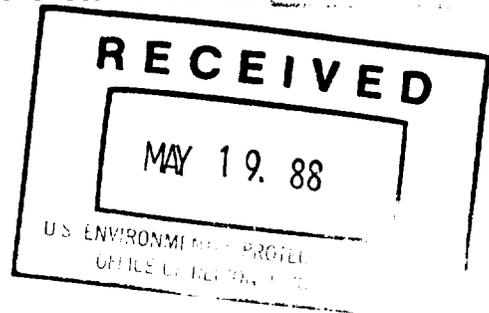
J.F. KENNEDY FEDERAL BUILDING, BOSTON, MASSACHUSETTS 02203-2211

141
cc: Charles Bering
Site: New Bedford Harbor
12/19/87

May 17, 1988

Honorable Gerry E. Studds
House of Representatives
Washington, D.C. 20515

Dear Mr. Studds:



Thank you for your letter of April 28, 1988, in which you asked several questions concerning the selection of a cleanup option for the New Bedford Harbor Superfund Site.

Before responding to your questions, some background on the status of our Feasibility Studies (FS) is necessary. Presently, we are nearing completion of our detailed analysis of remedial technologies. Using those technologies which have been determined to be applicable for the Harbor, we are now developing alternative cleanup plans. At this time, the most promising technologies and alternatives are those which require the PCB and heavy metals-contaminated sediment to be removed prior to its treatment and/or disposal. In-place treatment, although still being studied, looks significantly less feasible. Bearing this in mind, the ability to remove the contaminated sediment safely and economically becomes critical for any Harbor cleanup.

The Pilot Dredging and Disposal Study which is now underway has numerous goals and objectives. One of the major objectives is, as you have stated, to determine the feasibility of dredging contaminated sediment without causing unacceptable levels of resuspension and migration of PCBs and heavy metals into the lesser contaminated lower Harbor and Bay where they could cause further environmental harm and would be more difficult to remove and/or treat. A second major objective is to determine, given the wide horizontal and vertical variation in contaminant concentration levels existing in the sediment, what residual level in the sediment is feasible using the dredges and dredging techniques to be tested.

The success of the Pilot Study will be measured on our ability to achieve optimum results; that is, to determine under site-specific field conditions which combination of dredge and dredging technique results in minimum resuspension and transport and achieves the lowest practicable residual sediment concentration. Actual resuspension rates and residual sediment levels achieved will be entered into a three-dimensional hydrodynamic and food chain computer model now nearing completion. This model will then be used to determine compliance with applicable, relevant and appropriate regulations (ARARs).

A major monitoring program will be conducted before, during and after completion of the Pilot Study. The program will include air, water and biota sampling and analysis. To ensure that the Pilot Study operations do not result in an unacceptable risk to public health or the environment, a set of operational Decision Criteria have been developed and a Decision Criteria Committee of EPA, State and Corps of Engineer experts appointed to monitor compliance. A copy of the Decision Criteria for water and biota is enclosed. Air Decision Criteria are nearing completion.

As indicated in the Criteria document, pre-operational data show that existing federal and state water quality standards for PCBs and most heavy metals are already violated in the upper estuary. Control of the project must therefore be based on existing base-line conditions (See Table 1 of the Criteria). Accordingly, the Criteria document provides that if monitoring data or biological responses show any significant deviation from background (See Table 2) then a decision must be made by the Committee regarding the suspension, continuation and/or modification of operations.

The Confined Disposal Facility (CDF) just north of the Coggeshall Bridge will be designed to operate as an unlined facility. The CDF is not a permanent facility; it is being constructed as part of a pilot study and does not represent a final remedy. As a result, compliance with the standards of RCRA, such as the use of a double liner, is not required under Section 121 of CERCLA.

Notwithstanding this legal exemption, other technical and cost factors influenced this decision. The concentration of PCBs to be placed in the CDF will vary from 2 to 250 parts per million, relatively low compared to the majority of the sediments in the upper estuary. Analysis of expected rates of leachate from the sides and bottom of an unlined CDF indicate extremely low levels. It has been estimated by the Corps of Engineers that it would take ten years for as much PCB to leach out of the CDF as now escapes under the Coggeshall Bridge each tidal cycle. Further, the direction of leachate flow would be directly back into the Harbor. Therefore, the potential incremental effect to the public health and the environment from leachate is considered to be insignificant. Construction of the CDF will include a comprehensive groundwater monitoring well system to verify the projected leachate results.

As further considerations in our decision, preliminary estimates indicate that if CDF construction were determined to be the preferred final cleanup method, double lining would increase the costs of construction two to threefold. Operation and maintenance costs for a lined facility would also be substantially increased. Finally, the amount of available disposal capacity in the CDFs would be reduced by placement of a double liner so as to make this alternative less practicable.

Consistent with the information-gathering nature of the Pilot Study and in consideration of the above factors, results of the Pilot Study facility will be used to make a final decision of the desirability of lined versus non-lined CDFs.

As one part of the FS, we have prepared a draft report, which is now under review, identifying the federal and state ARARs to be considered for the evaluation, selection and implementation of remedial actions in the Harbor. Excerpted pages from this draft report concerning chemical specific ARARs are enclosed. Table 2.1 lists the ARARs and indicates whether they are applicable, relevant and appropriate or to be considered. Pages 1-3 list the applicable water quality criteria for PCBs and heavy metals of concern found in the Harbor. If you wish a copy of the final overall ARARs report please let us know.

Presently, we are developing cleanup alternatives with the goal of complying with all the ARARs. As stated earlier, the computer model will be used to evaluate whether the alternatives can achieve this goal. We believe it would be premature at this time to speculate what cleanup plan might be recommended if we are unable to meet any of the ARARs.

Pages two and three of the enclosed ARARs indicate the water quality standards for New Bedford Harbor and the associated uses. The major purpose of the Superfund project is to clean up the Harbor to meet these standards and thus make the Harbor potentially usable for the purposes intended. Consistent with the provisions of CERCLA no specific restoration projects are proposed as part of the cleanup, although the FS will address the impact that any cleanup plan would have on fish and shellfish resources.

As you know, natural resource restoration is the responsibility of the National Oceanic and Atmospheric Administration (NOAA), which is seeking to recover damages in U.S. v. AVX et al C.A. 83-3882-Y. If funds become available from this litigation, NOAA will undertake the development of a restoration plan in co-operation with the State and EPA, which will, as you note, be undertaken in conjunction with EPA's remedy. Until this remedy is selected and the litigation is resolved, it would be premature to speculate on what type of plan might be undertaken. You should note, however, that the lawsuit seeks both natural resource damages and recovery of EPA's costs. These claims must be proved separately, and there is presently no plan to reduce one in order to fund the other.

As regards Section 104(c) of CERCLA, both EPA and the Commonwealth are fully aware of its provisions and its implications. Activities are underway in both agencies to develop and implement a solution and we are hopeful that compliance will be achieved on time. EPA has a contract with the National Governors' Association to assist us in developing the specific requirements states must meet to certify as required by the law.

We appreciate your continued interest and involvement in the New Bedford Harbor cleanup. If you need further assistance, please contact me, or have your staff contact Betsy Horne or Michael Ochs of the Office of Government Relations and Environmental Review at (617) 565-3414 or FTS 8-365-3414.

Sincerely,



Michael R. Deland
Regional Administrator

*This is not getting any easier! Would
be delighted to discuss it at your
convenience — Very best —*

Enclosures: Decision Criteria
Excerpted pages ARAR Report

cc: Helen Waldorf, MA DEQE

2.1 CHEMICAL-SPECIFIC ARARs AND CRITERIA AND GUIDANCE

REQUIREMENTS	APPLICABLE	RELEVANT AND APPROPRIATE	TO BE CONSIDERED	NOT SITE SPECIFIC	COMMENTS
2.1.1 Federal					
o SDWA - Maximum Contaminant Levels (MCLs) (40 CFR 141.11 - 141.16)				X	MCLs apply to potable water. The New Bedford Harbor Waters are not considered existing or potential potable waters.
o CAA - National Ambient Air Quality Standards (NAAQS) (40 CFR 50.6 - 50.7)		X			See Page 78.
o TSCA PCB Spill Cleanup Policy (52 FR 10688)				X	
o TSCA 50 ppm PCB Regulatory Threshold				X	Risk assessment will be performed to develop health based cleanup standards.
o FDCA - Federal Food, Drug and Cosmetic Act - PCB Tolerance Level			X		
o Land Disposal Restrictions (40 CFR 268)	X				See Page 70.
2.1.2 State of Massachusetts					
o DEQE - Air Quality, Air Pollution (310 CMR 6.00 - 8.00)		X			See Page 100.
o DEQE - Drinking Water Requirements (310 CMR 22.00)				X	No drinking water sources are involved.
o D.L.S. - Substances Hazardous to Health (441 CMR 1.00 - 9.00)				X	Work place safety requirements do not apply to site conditions.
o D.P.H. Hazardous Substances (105 CMR 650.00)				X	
o MDWPC - Groundwater Quality Standards (314 CMR 6.00)				X	The site does not encompass a groundwater source.
o MDWPC - Surface Water Quality Standards (314 CMR 4.00)	X				See Page 125.
2.1.3 Federal Criteria, Advisories, and Guidance (FCAG)					
o Federal Ambient Water Quality Criteria	X				Are incorporated under Massachusetts Surface Water Quality Standards 314 CMR 4.00. See Page 125.
o Maximum Contaminant Level Goals (MCLGs)				X	MCLGs are to be considered for potable water. The New Bedford Harbor waters are not considered existing or potential potable waters.

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MASSACHUSETTS REGULATIONS

Regulation	Act	Date of Regulations Reviewed	Agency Submittal	Review Authority	Agency Approval
11) MDWFC - Water Discharge Permits Surface Water Quality Standards; Groundwater Discharge Permits; Groundwater Quality Standards (314 CMR 1.00-7.00)	M.G.L. c. 21, S. 43; CWA	12/84	MDWPC	MDWPC	MDWPC/ NPDES Permit

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REGULATION REQUIREMENTS

2.00 Permit Procedures - This section outlines the general requirements necessary to obtain an NPDES permit in Massachusetts. This section covers the procedures for permit application, preparation of a draft permit, preparation of a fact sheet, public notice, public hearing, permit fees, and the issuance of discharge permits. These permit procedures are similar for surface water or groundwater discharge, or for a RCRA facility.

3.00 Massachusetts Surface Water Discharge Permit Program - This section outlines the program where pollutant discharges to surface waters are regulated by the Commonwealth of Massachusetts. Any point source discharge in Massachusetts needs to have a current NPDES permit, with the following exceptions; any sewage discharge from vessels, discharges of dredged or fill materials, returned flow from irrigated agriculture, and minor stormwater runoff conveyance systems. This section describes the process for application of a permit, effect of a permit, permit restrictions, permit conditions, permit variances, permit renewals, and permit transfers.

4.00 Massachusetts Surface Water Quality Standards - This section specifies the surface water quality standards for all areas within the state. The New Bedford Harbor project is specifically concerned with the Acushnet River and the New Bedford Harbor. The surface water quality standards for this area are as follows:

MASSACHUSETTS REGULATIONS
(continued)

- o Acushnet River-Main Street to Route 6: SB
- o Acushnet River-Inner New Bedford Harbor: SB
- o Outer New Bedford Harbor: SA

Class SA: Waters assigned to this class are designated for the uses of protection and propagation of fish, other aquatic life, and wildlife; for primary and secondary contact recreation; and for shellfish harvesting without depuration in approved areas.

The surface water quality standards for Class SA waters are:

Parameter	Criteria
1. Dissolved Oxygen	Shall be a minimum of 85 percent of saturation at water temperatures above 77°F (25°C) and shall be a minimum of 6.0 mg/l at water temperatures of 77°F (25°C) and below.
2. Temperature Increase	None except where the increase will not exceed the recommended limits on the most sensitive water use.
3. pH	Shall be in the range of 6.5 to 8.5 standard units and not more than 0.2 units outside of the naturally occurring range.
4. Total Coliform	Shall not exceed a median value bacteria of 70 MPN per 100 ml and not more than 10% of the samples shall exceed 230 MPN per 100 ml in any monthly sampling period.

Class SB - Waters assigned to this class are designated for the uses of protection and propagation of fish, other aquatic life, and wildlife; for primary and secondary contact recreation; and for shellfish harvesting with depuration (Restricted Shellfish Areas).

The surface water quality standards for Class SB waters are:

Parameter	Criteria
1. Dissolved Oxygen	Shall be a minimum of 85 percent of saturation at water temperatures above 77°F (25°C) and shall be a minimum of 6.0 mg/l at water temperatures of 77°F (25°C) and below.

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MASSACHUSETTS REGULATIONS
(continued)

2. Temperature Increase None except where the increase will not exceed the recommended limits on the most sensitive water use.
3. pH Shall be in the range of 6.5 to 8.5 and not more than 0.2 units outside of the naturally occurring range.
4. Total Coliform Shall not exceed a median value bacteria of 700 MPN per 100 ml and not more than 20% of the samples shall exceed 1,000 MPN per 100 ml during any monthly sampling period, except as provided in 314 CMR 4.02(1).

Section 4.03(2) specifies that EPA Water Quality Criteria be used as guidance in establishing case-by-case discharge limits for pollutants not specifically listed in the standards above.

(2) Coordination with Federal Criteria. The Division will use EPA criteria established pursuant to Section 304(a)(1) of the Federal Act as guidance in establishing case-by-case discharge limits for pollutants not specifically listed in these standards but included under the heading "Other Constituents" in 314 CMR 4.03(4), for identifying bioassay application factors and for interpretations of narrative criteria. Where the minimum criteria specifically listed by the Division in 314 CMR 4.03 differ from those contained in the federal criteria, the provisions of the specifically listed criteria in 314 CMR 4.03 shall apply.

In the case of New Bedford Harbor, the water quality criteria which are considered as ARARs for PCBs, cadmium, copper, and chromium are:

	Acute Effects	Chronic Effects
PCBs	10 µg/l	0.03 µg/l
Cadmium	43 µg/l	9.9 µg/l
Copper	2.9 µg/l	2.9 µg/l
Lead	140 µg/l	5.6 µg/l

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