



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION I  
JOHN F. KENNEDY FEDERAL BUILDING  
BOSTON, MASSACHUSETTS 02203-0001

May 22, 1997

Bruce Means, Chairman  
National Remedy Review Board  
Office of Solid Waste and Emergency Response  
U.S. Environmental Protection Agency  
401 M Street S.W., 5202G  
Washington, D.C. 20460

Re: New Bedford Harbor Superfund Site  
New Bedford, Massachusetts

Dear Mr. Means:

EPA Region I has reviewed the advisory recommendations for the New Bedford Harbor Superfund Site provided by the National Remedy Review Board through a memo from you dated September 11, 1996. The Region acknowledges the Board's general support of its proposed remedy for ROD 2 and of the substantial efforts made by the Region to ensure that community interests are well represented in the decision-making process. Since receipt of your memo, the Region has spent considerable time and effort investigating the board's recommendations, especially those surrounding the degree and cost of water treatment for the decant water produced during dredging. I am pleased to inform you that based on the board's recommendations and as explained further below, the Region has decreased its cost estimate for ROD 2 from \$126.6 to \$116 million, a decrease of \$10.6 million.

A closer review of the actions the Region took regarding the three specific Board recommendations follows.

1. Air Monitoring Costs

The Board commented that the proposed \$10.5 million air monitoring program for ROD 2 was overly extensive in light of the nature of the contaminants and the proposed remedial action. This initial \$10.5 million estimate was based on the air monitoring program performed during the first or "hot spot" phase of dredging in New Bedford Harbor. The extensive scale of the hot spot air monitoring program was necessary due to uncertainties associated with dredging, and the need to assure ourselves and the public that the dredging and storage operations could be performed safely. Based on the Board's recommendation, however, the Region has significantly reduced the direct cost estimate (i.e., not including indirect and contingency costs) for the ROD 2 air monitoring program from \$10.5 million to \$2.1 million, in large part by taking advantage of what we now know about the seasonal variation of airborne PCB levels. The Region also plans to evaluate the



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applicability and potential cost-savings of an innovative air monitoring technology (open path FTIR spectrometry) which may provide better overall results.

## **2. Water Treatment Costs**

The Board also commented that the estimated costs for water treatment "appear to be disproportionately large," and brought into question the ARARs that drive the stringency of the effluent discharge levels. The Region has reexamined the relevant federal and state ARARs at length in this regard, and maintains that the degree of decant water treatment and associated costs provided to the NRRB in August 1996 are not only required, but are reasonable to ensure an ecologically protective remedy.

It is very important to note that we were only able to prevent the treatment costs from increasing above the August 1966 estimates by taking advantage of the Total Maximum Daily Load (TMDL) program described in §303(d) of the CWA. Very simply, this program allows for conditional flexibility when setting discharge levels if there is a net improvement in the water body by removal of a major source of the contaminant(s) (in this case the dredged sediment), especially if such sediment removal and effluent discharge lead to eventual compliance with water quality standards.

Without the TMDL approach and as discussed with the NRRB in August, because New Bedford Harbor exceeds ambient water quality criteria for both PCBs and copper, federal and state regulations require that discharges meet those criteria "at the pipe" (see CWA, §402). Thus absent a TMDL approach, additional treatment beyond that currently proposed would be required for further reductions of PCBs and copper. Preliminary cost estimates for such increased treatment are in the neighborhood of \$30 million above and beyond the \$27.1 million for the proposed treatment. Employing the TMDL program to temper these regulations has been reviewed and approved by the Region's NPDES program.

Furthermore, the Region believes that the proposed discharge levels are necessary to ensure that the remedy is not ecologically damaging. The discharge levels for PCBs and copper have been set at essentially the current background levels of these contaminants in the harbor (which, again, are above water quality criteria). Since the water treatment and discharge operations will be a long term (8 to 10 year) and large quantity (2 million gallon a day) undertaking, to allow discharges above these ambient levels would make the degraded water quality problem worse, reload the sediments with additional contamination, and raise questions about the overall effectiveness of this type of remedy.

The process of dredging and pumping the contaminated sediments greatly increases the levels of contamination in the associated decant water (the dredged slurry is roughly only 5% solids). PCB

and copper levels can be 10 to 100 times or more greater in the decant water prior to treatment compared to existing PCB and copper levels in the water column. For PCBs, since ambient PCB levels in the harbor are on average 10 times higher than the chronic ambient water quality criteria, discharging without treatment would result in effluent at 100 to 1000 times higher than the chronic criteria for an extended period of time. Given this information, and since non-treatment could recontaminate sediments, result in elevated risk to biota and a longer time period to reach our cleanup goals, the Region has decided to go forward with water treatment.

The Region is aware of the Board's concern that other Regions have implemented similar remedies in which there was little or no treatment of the dredged decant water prior to discharge, thereby raising a legitimate issue of national consistency. We have reviewed similar remedies performed in two other regions (V and X), and believe that there are sound reasons for the differences in the NPDES permitting approach.

At the Sitcum Waterway remedy for the Commencement Bay site, it is our understanding that the remedy involved discharge of decant water to a waterbody that, in contrast to New Bedford Harbor, was in compliance with water quality criteria. In compliant waters, the CWA allows for a limited mixing zone wherein end-of-pipe discharge levels can be above water quality criteria. Use of a mixing zone is not allowed nor appropriate for the New Bedford Harbor case since there would be no "clean" water (i.e., water with contaminant levels below water quality criteria) to dilute the elevated discharge levels. In the Sitcum Waterway case, apparently both the decant water and receiving water quality were such that the Region X permitting program did not require treatment.

At the Outboard Marine site on Waukegan Harbor in Region V, on the other hand, an approach similar to that proposed for New Bedford Harbor was used. Treatment of PCB-laden wastewater was employed, with a variety of discharge levels for PCBs depending on the type of wastewater in question (see Remedial Action Report for Operable Unit Number 3, East and West Containment Cells, Outboard Marine Corp. Superfund Site, September 1993).

Finally, Region I officials in the Office of Ecosystem Protection and Office of Regional Counsel assure us that there is no latitude in the interpretation of the CWA ARARs in this regard. The Region did explore the possibility of invoking the CERCLA waivers, particularly the fund balancing waiver, but determined that waiving such treatment requirements would substantially

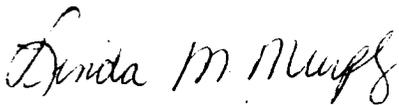
jeopardize the protectiveness of the remedy as explained above.<sup>1</sup> Per standard practice, the proposed treatment regime will be explored in more detail during the remedial design stage to determine if a more cost-effective approach may be used. At this point, however, the Region is not in a position to predict whether treatment system refinements will result in reduced treatment costs.

### 3. Effects of Cleanup on Heavy Metals

The Board also noted that the proposed PCB cleanup levels will simultaneously address the highest concentrations of metals in the harbor, and cautioned that any change from these cleanup levels should also consider the effect on metal remediation. We agree completely, and note that we have no current plans to alter the proposed cleanup levels.

Thank you for the NRRB's review of the proposed New Bedford Harbor remedy. Please do not hesitate to contact me at 617/573-5710 should have you any questions in this regard.

Sincerely,



Linda M. Murphy, Director

Office of Site Remediation and Restoration  
Region I

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<sup>1</sup>The Region consulted with OGC to determine that the Fund balancing waiver may be available at this Site despite that, historically, EPA has not invoked the waiver when PRP money is recovered. At this Site, the Region settled with the PRPs for \$99 million dollars, \$70 million of which is in a special account for response costs.

**MEMORANDUM**

**DATE** : March 7, 1997

**SUBJ** : New Bedford Harbor NPL Site

**FROM** : Richard Cavagnero, Chief, Technical and Support Branch  
Office of Site Remediation and Restoration  
Region I

**TO** : Bruce Means, Chairman, National Remedy Review Board

As we discussed, following receipt of the Remedy Review Board's recommendations last September, the Region made some changes to its original remedy proposal in the proposed plan which was issued to the public in November 1996. The original air monitoring program was scaled back in accordance with the Board's recommendations. The original dewatering/water treatment program was unchanged; after re-examining the Clean Water Act ARARs and the CERCLA ARAR waivers, we were unable to find any flexibility that would allow the treatment requirements to be scaled back. We are continuing to research this with various people in Headquarters.

Attached is Table 3 from the information package provided to the Board by the RPM. It shows a total remedy present worth cost of \$126,650,497. Also attached is a copy of the cover page of the proposed plan. It shows an estimated cost of \$116,000,000. Thus, the proposed remedy costs were reduced by approximately \$10,000,000. According to the RPM, the bulk of this "savings" was due to the reduction in the air monitoring program.

**Table 3**

**COST ESTIMATE: ALTERNATIVE - 10  
DREDGE/DISPOSE  
NEW BEDFORD HARBOR**

ACTIVITY	COST
<b>I. DIRECT COSTS</b>	
A. Dredging	\$22,320,348
B. Dewater/Water Treatment	\$27,123,051
C. CDF Construction	\$27,121,318
D. Air Monitoring	\$10,472,000
<b>TOTAL DIRECT COST (TDC)</b>	<b>\$87,036,717</b>
<b>II. INDIRECT COSTS</b>	
A. Health & Safety (@ 5% of TDC) Level D Protection	\$4,351,836
B. Legal, Administration, Permitting (@ 10% of TDC)	\$8,703,672
C. Engineering (@ 10% of TDC)	\$8,703,672
D. Services During Construction (@ 10% of TDC)	\$8,703,672
E. Turnkey Contractor Fee (@ 15% of TDC)	\$13,065,508
<b>TOTAL INDIRECT COST (TIC)</b>	<b>\$43,518,359</b>
<b>SUBTOTAL COSTS</b>	<b>\$130,555,076</b>
<b>CONTINGENCY (@ 20% of TDC + TIC)</b>	<b>\$26,111,015</b>
<b>TOTAL CAPITAL COST</b>	<b>\$156,666,091</b>
<b>PRESENT WORTH - 1996 (@ 7% for 8 years)</b>	<b>\$116,937,529</b>
<b>O&amp;M COST (CDFs)</b> (Present Worth @ 7% for 30 years upon completion)	<b>\$1,017,846</b>
<b>MONITORING PROGRAM (Present Worth @ 7% for 30 years)</b>	<b>\$8,695,122</b>
<b>TOTAL COST - ALTERNATIVE - 10</b>	<b>\$126,650,497</b>



# PROPOSED CLEANUP PLAN

Upper & Lower New Bedford Harbor  
New Bedford, MA

## SUMMARY

After an extensive process of studying New Bedford Harbor and developing consensus for a solution to its PCB contamination, the EPA is proposing the following remedy for the entire upper and lower Harbor areas:

- About 450,000 cubic yards (cy) of PCB-contaminated sediments spread over about 170 acres would be removed by dredging. In the upper Harbor north of Coggeshall St., sediments above 10 parts per million (ppm) PCBs would be dredged, while in the lower Harbor and in saltmarshes, sediments above 50 ppm would be dredged (see pg. 3)
- The dredged sediments would be placed in four shoreline confined disposal facilities (CDFs) (see pg. 3)
- Water drained from the sediments that are placed in the CDFs would be treated to remove contaminants and returned to the Harbor
- An impermeable cover or cap on top of the CDFs would be constructed once the sediment settles enough to allow for construction (approximately 3 years after initial placement)
- A long term monitoring and maintenance program for the CDFs would take place
- Potential reuse of completed CDFs
- Estimated cost: \$116,000,000

## HOW WOULD THE CLEANUP AFFECT THE LOCAL AREA?

Find out about the proposed cleanup plan and how it compares with other cleanup options for the Site at an informational public meeting on Wednesday, Nov. 6. At the meeting, EPA will respond to your questions and concerns about the proposed cleanup and how it may affect you. The first hour will be a poster board session at which citizens are free to browse and ask questions. For further information on the meeting, call EPA Community Involvement Coordinator Kristen Conroy at (617) 565-3618.

### INFORMATION SESSION

6:00 P.M.

WEDNESDAY, NOVEMBER 6

NEW BEDFORD VO-TECH HIGH SCHOOL AUDITORIUM  
ASHLEY BLVD., NEW BEDFORD, MA

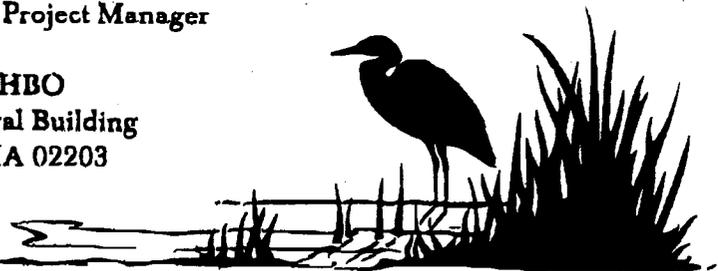
## WHAT DO YOU THINK?

EPA is accepting public comment on this proposal from Nov. 7 through Dec. 9. You don't have to be a technical expert to comment -- if you have a concern or preference EPA wants to hear it before making a final decision on how to protect your community. To comment formally:

Offer oral comments during the formal public hearing scheduled on Wednesday, November 20, (See pg. 12), or

Send written comments postmarked no later than Dec. 9 to:

David Dickerson  
Remedial Project Manager  
U.S. EPA  
Region I, HBO  
JFK Federal Building  
Boston, MA 02203



*In accordance with the Comprehensive Environmental Response, Compensation and Liability Act, (Section 117) the law that established the Superfund program, this document summarizes EPA's cleanup proposal and the other options evaluated. For more detailed information about the Site, see the Site administrative record including the August 1990 New Bedford Harbor Feasibility Study, available for review at the information repositories at the Wilks Branch Library and at EPA's 90 Canal Street Office in Boston (see page 13).*