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Superfund Records Center

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## MEMO

TO: New Bedford Forum Members  
FROM: Alternatives for Community & Environment, Inc. (ACE)  
Hands Across the River Coalition (HARC)  
RE: Concerns About CDF-1  
DATE: 1/24/95

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## I. Introduction

The proposed remedy for phase two of the New Bedford Harbor Superfund cleanup ("ROD II") is to permanently store 600,000 cubic yards (cy) of contaminated sediments in contained disposal facilities (CDFs) along the banks of the harbor. The proposed remedy thus constitutes on-site disposal of PCBs.

Approximately 406,500 cy would be stored in CDF 1, which is in a residential neighborhood and near a playground. Thus, 67% of the contaminated sediments will be in the Sawyer Street neighborhood. Of the sediments to be left in place, and not remedied at all, 87% are in the Sawyer Street neighborhood. The sediments stored in the CDF 1 will leach hazardous materials into the waters of the lagoon at Sawyer Street at a rate of at least 0.24 lbs. per day (67% of the total leachate of PCBs from CDFs)(9/20/95 Rod II Issues; See also Mark Otis Memo for the Record at 4 (4/8/91) suggesting 150 kg of PCB will escape over the first three years). This represents a total of 87.6 pounds per year over the first two or three years, or 174.4 to 330 pounds during that time period. An independent report on Saginaw, Michigan's CDFs states quite clearly that in tracking leakage from CDFs "model results indicate that PCB concentrations are predicted to be greatest near the CDF and decrease as distance from the CDF increases." J. Great Lakes Res. 19(1) at 171.

ACE has reviewed the EPA's Draft Final Regulation Assessment, the Feasibility Study ("FS") and other associated documents that outline the environmental laws that apply to the various clean-up options ("ARARs"). Such review indicates that "CDFs are essentially landfills composed of contaminated sediment." (Foote-Smith memo to DEP 10/24/90). Hazardous waste landfills must meet stringent environmental and public health standards. A review of EPA documents indicates that the proposed CDF at Sawyer Street would be a hazardous waste landfill that cannot meet many of the environmental and health standards.

In addition, the concentration of contaminated sediments in the lagoon would violate environmental justice policies. Concentration of the hazardous waste from the harbor in the lagoon would have a disproportionate impact on a low-income community of a discrete and insular national origin.

As such a CDF should not be built at the site because it would violate environmental justice policies and because the Sawyer Street site is a bad location for a substandard hazardous waste

facility.

## II. A CDF Should not be Built at Sawyer Street

### A. CDFs will be Substandard Hazardous Waste Landfills

#### 1. CDFs will be Hazardous Waste Landfills

To begin with, under applicable state regulations, the sediments to be stored in the CDFs qualify as hazardous wastes. Up to 1995, sediments with greater than 50 ppm PCBs are hazardous waste (310 CMR 30.131), as of 1995 wastes containing concentrations of PCBs less than 50 ppm are not exempt (78 MAREG 113, 11/17/95) and are thus also considered hazardous waste.

Under the environmental laws that apply to ROD II, CDFs are to be treated as hazardous waste landfills. As the DEP has stated, "CDFs are essentially landfills composed of contaminated sediments." (Foote-Smith Memo to Helen Waldorf, 10/24/90). As such, CDFs must comply with a variety of environmental laws designed to protect the public health and the environment from the potential impacts of such facilities.

#### 2. The CDFs Cannot Comply with Relevant Environmental Laws

Under the Superfund law, because the CDFs are essentially hazardous waste landfills, the CDFs must comply with a variety of environmental laws ("ARARs"), including construction and operation requirements for hazardous waste sites, water quality regulations and regulations governing storage and disposal of hazardous wastes.

ACE and HARC are aware that the EPA may waive ARARs for any one of six reasons, and that the EPA must either comply with the ARARs or waive them with a written explanation as to which exception applies.<sup>1</sup> The concern is not so much with whether the ARARs have been properly waived. More important is that an inability to meet ARARs is an indication that the CDFs will be substandard hazardous waste landfills.

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<sup>1</sup>The six bases for waiving ARARs are:

- (1) Interim measure: A later phase of the cleanup will achieve compliance;
- (2) Attaining the ARAR would cause greater risk than waiving it;
- (3) Attaining the ARAR is impracticable from an engineering standpoint;
- (4) The remedy will achieve an equivalent standard;
- (5) The state standard at issue is not consistently applied;
- (6) Achieving the ARAR would "bust" the Superfund.

Note that EPA may choose to waive an ARAR if it would bust the Superfund, but that cost may not be considered until AFTER it is established that the chosen remedy protects human health and the environment (42 USC 9621(b)).

A CDF is a particular type of hazardous waste landfill known as a surface impoundment. (Explanation of Significant Differences for Continued Storage of Hot Spot Sediment at 5-6, 3/28/95).

The Massachusetts hazardous waste surface impoundment regulations under 310 CMR 30.610 require two impermeable bottom liners at a hazardous waste facility, as well as a leak detection collection and removal system. 310 CMR 612(1), 612(3). The liner must be designed, constructed and installed to prevent any migration of hazardous waste. The regional administrator may approve an alternative, if the operator of the facility can show that the alternative design will prevent the migration of any hazardous waste into the ground water or the surface water as effectively as the double liner.

According to the Army Corps of Engineers, "a reliable liner system for hazardous waste landfills is generally defined as a multi layer system consisting of a double membrane liner system with a leachate collection system below the top membrane liner." See Otis Memo at 2 (4/8/91). Note that the purpose of the standards is to prevent *any* migration of hazardous wastes into the surface water. This goal is stated explicitly in the regulations themselves, as noted by the EPA in the ESD for the Hot Spot.

### (iii) Compliance

The proposed CDFs will meet neither the letter nor the spirit of the hazardous waste facility design and construction standards.

The FS states that because the EPA's proposal "does not include a liner as part of CDF construction," a "waiver of this ARAR may be required." See FS at 7-83. Similarly, the DEP's initial reaction to this proposal was to indicate that a waiver of this ARAR would be required and to insist that some evidence be provided that the alternative would "minimize" hazardous waste leakage. See Carrigan Memo at 2-3 (10/23/90).

Above and beyond the specific double-liner requirement, the goal of this ARAR is to prevent any migration of hazardous waste. Nonetheless, an Army Corps of Engineers study indicates that contaminated leachate will flow from the bottom, sides and surface of the CDFs, releasing up to 150 kg (330 lbs.) of PCBs over the first three years. See Otis Memo at 4. Clearly the proposed CDFs cannot comply with the statute or its purpose.

The FS made clear that because the CDFs are unlined they will present a long term risk. See FS at Figure 6-9. In fact, CDF-1 will technically cause a hazardous waste spill. Under the Clean Water Act, a spill of 1 pound of PCBs is a "reportable quantity" that must be reported to the proper authorities. See 40 CFR 117.1/117.3. As noted, the CDF will release over 300 pounds of PCBs into the Sawyer Street neighborhood in the first three years. The FS stated that additional remedial actions may be required where there are high levels of leachate escaping from the unlined CDFs. See FS at 7-65 to 7-66.

### b. Other Hazardous Waste Standards

(i) Standards

The CDFs must also comply with the general regulations that apply to all hazardous waste facilities. See Draft Final Regulation Assessment at 31. There must be evidence that the facility will survive a 100 year flood, unless the operator can show that a washout of the surface impoundment would not cause harm to human health and the environment (40 CFR 264.18). As of a recent ruling by the Massachusetts Site Safety Council, the CDFs must also comply with the substantive standards of the state Hazardous Waste Site Safety law. See Dickerson Letter to Richard Lehan, 6/50/94). Among other relevant provisions, that statute requires that no portion of a facility be located in a vegetated wetland, and that no portion of a surface impoundment be within the 100 year floodplain. See 990 CMR 5.04(8)(d).

(ii) Compliance

The facility may comply with the Federal standard regarding the floodplain, for the CDF apparently meets a related Federal regulatory requirement (40 CFR 761.65(b)(1)(v)) because the top of the CDFs will be two feet above the 100 year flood elevation. See ESD at Table 1, page 4. The CDFs cannot, however, meet the state standard, which requires that "no portion" of a surface impoundment be below the 100 year flood plain.

The concern, of course, is that a flood could destroy the CDFs, causing the contamination to erode throughout the neighborhood. The most that the FS could offer is that such an event is "unlikely" to occur. See FS at 7-67.

(c) Storage and Disposal of PCBs

(i) Standards

On-site storage or disposal of contaminated sediments with greater than 50 ppm PCBs must comply with provisions of the Toxic Substances Control Act (TSCA). See Draft Final Regulation Assessment at 31, 73; ESD at 5-6; Helen Waldorf Letter to Mark Lowe at Attachment C (310 CMR 30.501(3)).

Technically, the storage provisions might not apply to permanent disposal of PCBs. As the CDF proposal arguably constitutes a temporary solution and not final disposal, the regulations regarding storage ought to be considered ARARs. In addition, state regulations require that a hazardous waste facility used to dispose of PCB sediments meet the requirements of TSCA.

TSCA also requires that where, as in New Bedford, PCBs are not incinerated, that the disposal method provide adequate protection to human health and the environment. See FS at 7-83. At the least, adequate protection must mean compliance with the standards that apply to temporary storage of PCBs.

Under TSCA, the PCB storage facility must prevent rain water from reaching the facility, the facility must have floors and curbs that prevent spills, that are made of smooth, impervious

material to prevent PCB penetration, and that do not have openings that allow liquids to flow from the storage area. See ESD at 8-9; 40 CFR 761.65(b)(1)(I)-(iv).

#### (ii) Compliance

The Hot Spot CDF at Sawyer Street complies with all the requirements of TSCA because it has a double liner that prevents migration of hazardous waste, is as impervious as a floor, and protects against rainwater migration. The EPA has stated that because of its liner system, the Hot Spot CDF provides a level of protection equivalent to that required by the statute. See ESD at 8-9.

The proposed CDFs will not comply with these same standards. In fact, because the proposed CDFs do not have a liner system, PCBs will leak from the bottom, walls and sides and rainwater will flow through and add to the leachate. Otis Memo at 4, D-26. There is a distinct irony in the fact that the EPA's ESD indicates quite clearly that the temporary CDF will be significantly safer than the permanent CDFs would be. This is further indication that the EPA proposes to build a substandard hazardous waste facility at the lagoon.

#### (d) Water Quality Standards

##### (i) Standards

The State Surface Water Quality Standards apply to the effluent from the CDFs. See FS at 7-82; Helen Waldorf Letter to Mark Lowe at Attachment B, 1/6/93. Under these regulations, the state sets maximum levels of contaminants that can be discharged to the surface waters of the state. The leachate or any other discharge waters will have to meet the standards. See FS at 4-7, 7-82. Under the wetlands program, the discharge limit is 1 ppb. See FS at Table 4-2. The leachate must also meet Federal standard which is 0.03 ppb. See FS at Table 4-1.

##### (ii) Compliance

The Proposed Plan is clear that at best the CDF plan will "approach" the federal standard. Proposed Plan at 25. Furthermore, Army Corps of Engineers tests showed that harbor sediment leachate contained 263 ppb PCBs, and that effluent from a test CDF contained 10.7 ppb PCBs. See FS at 7-48. The FS stated clearly that CDF effluent cannot meet the water quality standards without additional treatment. Id.

#### (3) Conclusion

Whether the EPA and DEP have properly considered or waived certain ARARs remains seriously in question. For the purposes of comparing CDF-1 to other CDFs this is not the key issue. What matters at this point is that CDF-1 will not comply with many environmental standards that apply to such hazardous waste facilities. In fact, CDF-1 will release significant quantities of hazardous waste into the Sawyer Street neighborhood, will release effluent that fails to meet water quality standards, and should require an additional clean up. In sum, CDF-

1 will be a substandard hazardous waste facility.

There are several reasons that the lagoon at Sawyer Street is the wrong place for a substandard hazardous waste facility.

(a) The Sawyer Street neighborhood is a residential neighborhood, not a "commercial or industrial zone" as the FS claimed when it stated that there would be minimal threat to the community (See FS at 7-56);

(b) The FS stated clearly that the population most at risk from exposure to contaminants in the estuary, lower harbor and bay are children under six, and that the primary cause for exposure is recreational land use through which young children have repetitive exposure to the shoreline sediment. See FS at 4-17. The lagoon is the only harbor access in the City of New Bedford, and thus the most likely source of exposure of young children to shoreline sediment. In light of this information, and given that CDF-1 will release 300 times the reportable quantities of PCBs into the lagoon area, and will be a substandard hazardous waste facility, the lagoon would be a particularly poor choice of site for a CDF and an even worse choice for a CDF topped by a park;

(c) Construction of a CDF as a park would actually attract people to a substandard hazardous waste facility;

(d) Use of another site for the CDF might allow for construction of the proper liner system;

(e) As the only harbor access in the city, the lagoon is an important economic resource for the City of New Bedford. Using the lagoon as a CDF would destroy one of the City's most important natural and economic resources.

## B. Construction of CDF-1 Would Violate Environmental Justice Principles

### 1. Introduction

ROD II would cause disproportionate impacts on the public health and the environment of a community on the basis of income and national origin.

Under President Clinton's Executive Order 12898, "Federal Actions to Address Environmental Justice," and associated EPA internal guidance documents, the Agency is required to give environmental justice issues a central place in planning its activities. EPA activities, such as remedial actions, must not cause disproportionate impacts on certain communities.

In choosing its preferred remedy for Phase II of the New Bedford Harbor Superfund Clean-up, Region I has not taken account of Federal guidance on environmental justice. As a result,

both the justifications for the preference and the impact of the proposed remedy violate central tenets of environmental justice. The EPA must therefore reconsider its proposed remedy for ROD II in light of principles of environmental justice, its own Guidance, and the Executive Order.

## 2. EPA's Superfund Program Has Caused Disproportionate Impacts on Communities on the Basis of Income and National Origin

### (a) History of Superfund

Up to 1992, the Environmental Protection Agency's Superfund Program, among others, allowed and perpetuated disproportionate environmental and public health impacts on environmental justice communities. Specifically, a study by the National Law Journal found that under Superfund:

\*abandoned hazardous waste sites in minority communities took 20 percent longer to be listed on the National Priority List;

\*In most regions (including Region I), action on cleanup at Superfund sites began from 12-42 percent later at minority sites than at white sites;

\*At minority sites, EPA chose "containment" 7 percent more frequently than permanent treatment. At white sites, the EPA ordered treatment 22 percent more frequently than containment.

Lavelle & Coyle, *Unequal Protection in Toxic Struggles* (New Society 1993)(Hofrichter, Ed.)

The Agency has admitted that its efforts to protect and preserve public health and the vitality of the environment has "fallen short ... in some of our nation's minority communities and low-income communities." United States Environmental Protection Agency, Draft Environmental Justice Strategy for Executive Order 12898 at 21(January 1995)("EPA Strategy").

### (b) The Proposed ROD II Would Cause Disproportionate Impacts on an Environmental Justice Community

Under the proposed ROD II, the EPA plans to dredge 475,000 cubic yards (cy) of material from the New Bedford Harbor and to place the untreated sediments in three CDFs in the City of New Bedford. The EPA plans to leave in place 133,000 cy and thus to store a total of 608,000 (cy) in the CDFs.

Of that 608,000 cy, 530,000 cy would be stored in CDFs 1 and 1b. Approximately 406,500 cy would be stored in CDF 1, which is a few hundred feet from a residential neighborhood and a playground.

In sum, of the 608,000 cy of untreated sediments to be stored in the City of New Bedford, 66% will be in the Sawyer Street neighborhood, and 87% of them in North New Bedford. Of the sediments to be left in place, and thus not remedied at all, 87% are in the Sawyer Street neighborhood.

The Sawyer Street neighborhood consists of at least 53.6% people of Portuguese descent, and 46% of the neighborhood lives at less than two times the poverty level. See 1990 Census of Population and Housing, Summary Tape 3 for New Bedford, Ward 2.<sup>2</sup> Thus, 87% of the future impacts or possible impacts of the proposed remedy are concentrated in a low-income community and a community of a discrete national origin. Thus, the EPA's remedial activity would have a disproportionate impact on a low-income community and a community of a discrete national origin.

### (c) EPA's Environmental Justice Policy

President Clinton's Executive Order is meant to respond to and remedy the evidence that the Superfund program and other federal activities cause disproportionate impacts in low-income communities, communities of color and communities of a discrete national origin. In the letter accompanying President Clinton's Executive Order on Environmental Justice, he wrote that the order is intended "to promote nondiscrimination in federal programs substantially affecting human health and the environment." Specifically, President Clinton required that:

Each Federal agency shall conduct its programs, policies and activities that substantially affect human health and the environment, in a manner that ensures that such programs, policies and activities do not have the effect of excluding persons (including populations) from participation in, denying persons (including populations) the benefits of, or subjecting persons (including populations) to discrimination under, such programs, policies and activities, because of their race, color, or national origin.

Executive Order 12898, *Federal Actions to Address Environmental Justice* at §2-2 (2/11/94)

The EPA responded to the President's Executive Order by drafting an Environmental Justice Strategy designed to ensure that "no segment of the population, regardless of race, color, national origin, or income, as a result of EPA's policies, programs, and activities, suffers disproportionately from adverse human health or environmental effects." EPA Strategy (Cover Letter from Carol Browner). Specifically, the EPA has pledged to "integrate environmental justice tenets into [its] policies, programs and daily activities," and to "make environmental justice a part of all of its programs, policies and activities." *Id.*

Finally, EPA-New England has committed itself to a policy that "no segment of the population

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<sup>2</sup>This is the figure for all of Ward 2 in New Bedford. The Sawyer Street numbers are even higher. Furthermore, local officials make clear that this is perhaps the poorest part of New Bedford and that for most residents English is at most a second language.

should bear a disproportionate share of the consequences of environmental pollution." Region I, Guidance, *Environmental Equity Implementation Plan*, Appendix 1 at 2 (June, 1993) ("Region I Plan"). The Region committed to ensuring that "Regional decisions on permitting, compliance and clean-up activities are made in light of applicable Environmental Equity issues." Region I Plan at 6. In fact, in its Guidance, the Region used a Remedial Investigation and Feasibility Study as an example of a program activity that ought to incorporate environmental equity principles, suggesting that in choosing a remedy the Region ought to look for and avoid unintended biases. *Id.* at Appendix 3.

In sum, the President's Executive Order and associated EPA guidance require that EPA consider the environmental justice impacts of any activity. Furthermore, the President's Order prohibits any Federal activity that would have a disproportionate impact on low-income communities and communities of discrete national origin.

### 3. The Remedy Proposed in ROD II Violates Federal Policy

#### (a) The Proposed Remedy Would Have a Substantial Effect on the Environment

As noted, environmental justice principles apply to any Federal activity that has or could have a substantial effect on the environment. By definition, any remedial action has a substantial effect on the environment and on human health, and thus triggers the application of environmental justice principles.

Furthermore, the sediments stored in the CDFs would have an immediate, substantial effect on the environment, and on human health, given that, as noted above, the CDF will be a sub-standard hazardous waste facility. The CDF will release effluents that do not meet water quality standards and will release over 300 times the reportable quantity of PCBs into the neighborhood. This certainly constitutes a substantial effect on the environment.

#### (b) Environmental Justice and ROD II

Because the EPA's environmental justice strategies apply to ROD II, and because the principles of environmental justice have not yet been applied to the proposed remedy, the remedy must be reevaluated.

The EPA has articulated three reasons for preferring CDF-1 over other options for ROD II. The first is that the EPA objects to transporting contaminated sediment to a "cleaner" part of the Harbor. The second is that the EPA and State planners categorized the Sawyer Street neighborhood as "industrial" and as "home to many abandoned buildings." (Testimony at Forum. See also FS at 7-56). The third is that the dredging associated with moving the sediments would expose the residents in the neighborhood to high levels of PCB contamination. Representatives of local business have stated that they support CDF-1 because they hope to put navigational dredging sediment in the other CDFs, including CDF-7 and CDFs 10 and 10a.

To begin with, utilization of CDF-1 because of the character of the neighborhood is a per se violation of environmental justice principles. Region I used this very issue as an example of a violation of its environmental justice policy. An RI/FS may not be made on ostensible "neutral" criteria (such as quality of housing stock and land use) that mask a bias against poor neighborhoods or neighborhoods of a discrete national origin. See Region I Plan at Appendix 3.

Secondly, the Sea Change presentation made clear that the entire Harbor would remain toxic to wildlife and to human beings even at the end of the remedial activities on the Site. As such, it is disingenuous to suggest that sacrificing the human population at Sawyer Street will protect "pristine" areas further down the Bay. As the areas further down the Bay are not now and never will be pristine, the natural resource value of the CDF-1 approach is equivocal at best.

Thirdly, the EPA argues that the short-term effects of dredging would be worse than the long-term effects from the CDFs. To begin with, the EPA ought to explore temporary relocation and provide an exact cost-estimate for such a feature. Secondly, the short-term exposure ought to be compared to the long-term exposure (and indeed perpetual exposure) due to tidal activity from the 300 pounds or more of PCBs that will leach back into area around CDF-1, and thus will begin the cycle of contamination all over again.

In addition, the notion that CDFs 10 and 10A ought to be preserved for navigational dredging is problematic as a trade off to the health of the children of New Bedford.

In sum, the natural resource and exposure justifications for CDF-1 are equivocal at best. The land-use criterion itself violates the EPA's environmental justice policy.

As such, the only applicable criteria that militates firmly for one solution as against another is the environmental justice criterion. ROD II would violate Federal environmental justice policy because it would discriminate against a low-income community of a discrete national origin.

As such, CDF-1 should not be built.

#### 4. Conclusion

It is clear that the EPA has failed to consider environmental justice criteria in drafting ROD II. Because it would cause substantial, disproportionate environmental impacts on a low-income community and a community of discrete national origin, EPA's environmental justice strategies and the Presidents Executive Order apply to ROD II as proposed. Finally, incorporation of environmental justice criterion into the ROD II calculus indicates that CDF-1 should not be built, as it violates fundamental principles of environmental justice will offering uncertain or non-existent natural resource benefits.

#### IV. Conclusion

ROD II proposes a substandard hazardous waste facility for the Sawyer Street neighborhood of New Bedford. Whether such facility could comply with all ARARs and/or meet an applicable

waiver is very much in doubt. Furthermore, the state's process for establishing ARARs for the CDFs is suspect at best. More importantly, it is clear that CDF-1 would not comply with the most fundamental environmental standards that apply to such hazardous waste dumping facilities. There are numerous reasons, including the economic and social health of the City of New Bedford, why a substandard hazardous waste facility should not be built at Sawyer Street.

In addition, the proposed ROD II would violate Federal environmental justice policies. The proposal would have a disproportionate impact on a low-income community and a community with a discrete national origin. As the other justifications for choosing Sawyer Street are equivocal at best, environmental justice criteria dictate that the CDFs be placed elsewhere in the Harbor.