



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION I

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

March 14, 1991

Dr. Wayne Munns, Jr.
Science Applications International Corporation
c/o U.S. EPA - Environmental Research Laboratory
Narragansett, Rhode Island 02882

Dear Dr. Munns:

Per our December 7, 1990 meeting in Boston and discussions at the February 13, 1991 NCBC Technical Review Committee (TRC) meeting in Davisville, attached are comments on the following draft documents:

- Final Report: Risk Assessment Pilot Study, Phase I -- Naval Construction Battalion Center, Davisville, Rhode Island
- Fact Sheet - Marine Ecological Risk Assessment Pilot Study - Phase I
- Supplement to the Work/Quality Assurance Project Plan - Phase III - Quantification of Ecological Risks

The comments are presented in a format consistent with that of the reports and will proceed in the order outlined above.

Final Report: Risk Assessment Pilot Study, Phase I -- Naval Construction Battalion Center, Davisville, Rhode Island

This report discusses the first phase of a very thorough and well conducted study on the ecological impacts in Allen Harbor and other areas of the Narragansett Bay. However, it was quite difficult to review a report of this nature or to provide insightful comment on the Phase III approach without having had an opportunity to review the draft Remedial Investigation (RI) report or Phase II results. In fact, it has yet to be determined if site characterization activities referenced in the Phase I report are adequate and in conformance with all provisions of CERCLA and the NCP.

As currently written, the report purportedly serves as the CERCLA baseline ecological risk assessment, to be integrated with "data obtained from a concurrent investigation to characterize disposal site conditions and to develop remedial options... to determine the most effective remediation and risk management plans..." The objective of the baseline risk assessment in the CERCLA program



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is to estimate the probability of actual or potential adverse ecological effects from the CERCLA site. For NCBC, this means evaluating the probability of adverse effects on the Allen Harbor system from the landfill and Calf Pasture Point. The statement made in the report's preface, "Together these studies provided adequate information necessary to complete the RI/FS process required by CERCLA and SARA" would be more accurately stated "Together these documents are intended to provide..." The sentence as written implies that data from a concurrent investigation was used to render a decision with respect to remedial plans for the site when the draft investigatory report has not yet been released for comment.

The fact that Allen Harbor may be in "better" or "worse" shape than other locations in Narragansett Bay or along the northeastern coast (that may or may not be impacted from other sources) is not germane to this study or to decisions regarding remedial alternatives at the site. Comparison to another relatively unimpacted, or "reference" site to determine what "background" levels in the absence of the landfill and other site influences is more appropriate.

Introduction

Page 1 - "The Naval Construction Battalion Center (NCBC) Davisville, Rhode Island, is currently being investigated under the Department of Defense (DOD) Installation Restoration Program (IRP) and pursuant to Section 120 of the Comprehensive Environmental Response Compensation and Liability Act (CERCLA)... Please make note that this site was added to the National Priorities List (NPL) effective November 15, 1989.

The paragraph then goes on to discuss the three steps involved in the IRP investigation. "An Initial Assessment Study (IAS) or Site Investigation (SI) is carried out..." It is my understanding from discussions with the Navy that the Phase I IAS and Phase II Confirmation Study was designed to be analogous to EPA's Preliminary Assessment and Site Inspection (SI)/Remedial Investigation (RI) - Step I Site Characterization, respectively. If the intent of the report is to discuss solely the IR program, EPA recommends that you refrain from making any general statements with regard to the IRP's consistency with CERCLA-related activities, i.e., "Fourteen sites at NCBC were identified by the SI to be potentially contaminated." As mentioned previously, it has yet to be determined if earlier studies conducted under the IRP at NCBC are in fact consistent with CERCLA and the NCP.

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Page 6 - "Following completion of Phase II activities, the modified assessment will support the selection of remedial action (if needed) and an appropriate risk management plan for Allen Harbor." Since the scope of the Phase III RAPS has been modified slightly to look at the "quantification of risk to ecological systems in Allen Harbor deriving immediately from contaminants in the landfill," wouldn't it be more prudent to develop the "modified assessment" upon completion of all phases of the investigation? It appears as though a more realistic long-term monitoring program could be developed from a complete analysis of all phases of the study.

Page 8 - "...organized to follow the steps of the risk assessment process." The sentence should be modified to specify which process is being used. The organization of this study and format of this report do not resemble a "typical" CERCLA ecological risk assessment or follow Region I guidance.

Page 9 - "This document will become part of the administrative record..." If the report is not going to include discussions relevant to CERCLA-related activities at NCBC, reference to the administrative record may not be necessary. If the author chooses to leave such a discussion in the report, however, elaborate on its intent and purpose, i.e., CERCLA Section 113(k)(1) requires the establishment of administrative records upon which the selection of a response action is to be based. It also acts as a vehicle for public participation in selecting a particular response action.

Page 9 - Please elaborate upon the statement, "The accompanying analyses were extensive for metals and organic compounds."

Page 10 - Please elaborate upon the definition of a "suite" of contaminants. Is it the TAL list? In addition, what are the "various" intervals at which sediment samples were collected? This should be specified in the report.

Page 12 - EPA is concerned that the spatial distribution of sampling locations in this study was not designed to assess the impact of the landfill to the environment, but more to determine conditions in Allen Harbor relative to the rest of Narragansett Bay. The issue of scale becomes prevalent in the mixed results obtained from the study and may warrant some investigation in Phase II or III to overcome this limitation.

Page 18 - Was a representative sample of the nonindigenous mussels deployed analyzed for contaminants prior to deployment? This should be noted in the report to confirm that the mussels were not contaminated prior to deployment.

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Page 19 - The section on status of indigenous organisms discusses only the commercial importance of the species. EPA recommends that a discussion on the ecological "status" of such species also be included to balance the discussion.

Page 20 - The fourth paragraph, "Population Density and Structure" states that, "These collections were qualitative and provided information similar to that as for the other bivalves." This statement is unclear. Please specify exactly what information was obtained.

Page 23 - Please elaborate upon the basis for determining that the reference area from which the amphipods were collected was "clean."

Page 38 - Why didn't the analysis include additional Arochlors, i.e., 1260, 1248, 1232, 1221 and 1016?

Page 42 - Why doesn't Table 3 include a list of all of the TCL VOCs including chloromethane, bromomethane, acetone, carbon disulfide, vinyl acetate and styrene?

Page 55 - The inorganic spike and SRM recoveries summarized in Table 7 appear to exhibit a great degree of variability and range quite low for a number of the metals. However, potential limitations of the data are not discussed in the text.

Page 58 - Due to the fact that at this stage in the investigation results are uncertain, it might be a bit premature to conclude that because of sediments in seep water samples, the analytical results reflect the landfill sediment chemistry. Additional sediment and seep water sampling should be conducted employing a method to "filter out" sediments. Otherwise it could be identified in the report as a data limitation.

Page 60 - The author states that specific discussions relevant to all contaminants measured is precluded by the large number of contaminants quantified in this study. Where will this information be discussed? The contaminants chosen were based on "known or suspected presence in the landfill, their documented toxicological importance in marine systems, or because of interesting patterns in their behavior." Although "useless" from an ecological risk standpoint, will these contaminants be utilized by TRC to assist in the formation of a more complete human health risk assessment in the RI Report?

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Page 64 - The continual emphasis on comparisons of the Allen Harbor data to other study area data, and in particular, to other site data, i.e., the comparison of PCB concentrations to those at New Bedford Harbor, is inappropriate, particularly when it is done in a manner that diminishes the issue at hand, which is to assess the contamination in Allen Harbor.

Page 69 - "Thus, little evidence of contamination migration from the landfill was observed." From the data presented in this report, EPA is not convinced that sufficient evidence has been collected to defend such a decision regarding the nature and extent of contamination. Those types of conclusions are more appropriately addressed in the RI Report.

Page 71 - "Within Allen Harbor, pollutant levels were typically lower at the south end of the landfill (AH13)." According to the map in Figure 3 - "Sampling Stations within Allen Harbor," sampling location (AH13) is at the northern end of the landfill. In addition, various other sections of the text indicate that the levels of contamination are greater in the southern (AH12) portion of the landfill. The text in the same paragraph, however, states that station (AH12) is at the northern part of the landfill. Please clarify.

Page 87 - It appears as though the effects assessment is focusing on why effects observed are not attributable to influences from the site, rather than addressing the component of the effects that are or could potentially be from the site.

Page 101 - "Thus, ecological risk assessment is a rapidly evolving field with little standardization." It could be argued that in the Superfund program, particularly in Region I for the last two years, that the evolution is far from "rapid" and exhibits more than a "little" standardization.

Page 101 - Why didn't the selection of indicator species for the risk assessment include species higher in the food chain than bivalves? At a minimum, the final report needs to address the risks, including other endpoints such as bioaccumulation, to representative species of finfish and birds. Also, the potential risk to terrestrial species is not addressed.

Page 111 - "Results obtained during Phase I suggest no major environmental problems unique to Allen Harbor... mussels deployed in the harbor consistently displayed reduced physiological condition relative to those exposed at other stations in Narragansett Bay. The causes of this reduction remain unclear."

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This paragraph contradicts much of the discussion throughout the report. The fact that Allen Harbor is a stressed environment is proven throughout the document. A more realistic introductory statement might be, "At the present time, the following has been identified: Mussels deployed in the harbor... "

Page 112 - It may be prudent to add that Phase III studies will focus on potential risk from contaminants in the landfill to ecological systems in the harbor, especially in light of the fact that preliminary Phase II results indicated all three sources, i.e., boating activities, surface runoff, and the landfill contribute to toxicity levels in the harbor.

Fact Sheet - Marine Ecological Risk Assessment Pilot Study - Phase I

The U.S. Department of the Interior's Fish and Wildlife Service has expressed concern about the fact that the draft final Phase I report does not describe other natural resources, i.e., finfish, water birds, etc. likely to be found in Allen Harbor. National Wetland Inventory maps indicate estuarine habitats along the shores of Allen Harbor and Calf Pasture Point. There is good reason to believe, therefore, that a large number of DOI trustee species including shorebirds, waders, and waterfowl utilize these habitats.

In addition, the Fish and Wildlife Service also queried whether the relationship of various other disposal locations on NCBC property to Allen Harbor is to be investigated. The text implies that surface water runoff and boating activities are possibly contributing to the contamination of Allen Harbor are not related to NCBC activities, however, little attention has been focussed on the other 20 disposal sites on surrounding Naval property and their effect on the Allen Harbor water and sediment problems.

Supplement to the Work/Quality Assurance Project Plan -Phase II - Quantification of Ecological Risks

To ensure that a complete baseline risk assessment for the site is developed and implemented, EPA recommends that a meeting be convened to discuss the results of the Phase II efforts, portions of the RI conducted to date, and Phase III options. If convenient for all parties, this could very take place immediately proceeding the April TRC meeting. Please advise me as to your availability.

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Should you have any questions or concerns with regard to the above, please do not hesitate to call. Thank you for your continued cooperation and assistance.

Sincerely,

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Remedial Project Manager

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