UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 1
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BOSTON, MASSACHUSETTS 02114-2023

January 31, 2003

Mr. Mark Krivansky
Engineering Field Activity Northeast
Naval Facilities Engineering Command
10 Industrial Hwy., Mail Stop #82
Lester, PA 19113-2090

Subject: *Navy Response to EPA Comments dated January 13, 2003* on Draft Final Proposed Plan for Operable Unit 2, Rubble Disposal Area (RDA), Naval Air Station South Weymouth, and *Description of Revisions Planned for Final Version of the Rubble Disposal Area Proposed Plan, Prepared January 23, 2003*

Dear Mr. Krivansky:

The United States Environmental Protection Agency (EPA) has reviewed the *Navy Response to EPA Comments dated January 13, 2003* on the draft final Proposed Plan for the Rubble Disposal Area (RDA) site at the South Weymouth Naval Air Station National Priorities List site, and the Navy's *Description of Revisions Planned for Final Version of the Rubble Disposal Area Proposed Plan, Prepared January 23, 2003.*

As you know, in our comments on the draft and draft final Proposed Plans, EPA requested that the Navy perform a pre-remedial design investigation at the RDA site in order to develop data to support the chosen remedy and optimization of the design, further characterize the disposal material to verify that the design will be adequate to its purpose, evaluate potential long-term impacts to the nearby GW-1 drinking water resource, and assess the potential for compromise of the cover by high surface-water levels. As we have explained, EPA does not agree that the Navy has sufficient information to complete a remedial design at this time, and we believe that the BCT should move forward on this basis.

The Navy has responded that it will not perform this investigation work prior to the design phase because in its view, such work is not necessary to support the conceptual designs of the remedial alternatives evaluated in the Feasibility Study Report. It notes that there will be opportunities to gather and interpret additional data about the RDA site in the base-wide watershed assessment, as well as in conjunction with site long-term monitoring (LTM). We acknowledge the importance of these other data collection efforts but remind all stakeholders that it will be difficult to assess the adequacy of these ancillary activities with respect to the specific data needs at the RDA site.

In short, EPA disagrees about the timing of the requested investigation work, but we believe that the Navy has addressed our primary concern, by acknowledging its responsibility to adequately respond to any new data needs that arise as the remedial design advances, in order to ensure a remedy that is protective of human health and the environment. Therefore, while we continue to believe that a pre-design investigation would be the most efficient and focused (as well as cost-

effective) means of obtaining the data needed to support a consensus for a final design, we will agree with the final Proposed Plan with the caveat that we will be unable to concur with a final remedy for the RDA site until these issues, which we have raised repeatedly, are adequately addressed.

EPA agrees with the Navy that the Proposed Plan is not the appropriate document in which to provide specific detail about the agreed-upon design activities for the RDA site. For this reason, it is important that the Proposed Plan identify for the public the process by which the Navy will guarantee that the design investigation covers all of the issues that the regulators have raised and agreed to defer to that phase of the RDA site cleanup. We request that the final Proposed Plan explicitly state that the Navy will (a) perform additional investigation (including both data-gathering and further interpretation of existing data) in the design investigation to address the significant data gaps that have been identified, and (b) develop a Work Plan that will be reviewed by the regulators to ensure that the design investigation covers all of the identified issues of concern.

EPA's observations about the *Navy Response to EPA Comments dated January 13, 2003* are provided in Attachment 1 of this letter.

If you have any questions, please contact me at (617) 918-1382.

Sincerely,

Patty Marajh-Whittemore
Remedial Project Manager

Enclosure
cc: Dave Barney/Mark Leipert/ SOWEY NAS
Dave Chaffin/MADEP
Dennis Gagne/Betsy Mason/Bill Brandon/Steve DiMattei/Rick Sugatt/EPA
John Rogers/SSTTDC
RAB members
Peter Golonka/Gannett Fleming

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ATTACHMENT 1

EPA Observation on Navy Commentary: In our comments on the draft and draft final Proposed Plans, EPA requested that the Navy perform a pre-remedial design investigation at the RDA site in order to develop data to support the chosen remedy and optimization of the design, further characterize the disposal material to verify that the design will be adequate to its purpose, evaluate potential long-term impacts to the nearby GW-1 drinking water resource, and assess the potential for compromise of the cover by high surface-water levels. As we have explained, EPA does not agree that the Navy has sufficient information to complete a remedial design at this time, and we believe that the BCT should move forward on this basis.

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EPA General Comment # 3: EPA's comment concedes that Navy can put explicit language in the Proposed Plan stating that active remediation is not needed for site groundwater. EPA also reminds the Navy that LTM could indicate a need for action in the future if, for example, Mn and

As concentrations increase. The Navy does not address the latter issue and offers no language for the Proposed Plan to acknowledge the potential for future actions in the event of changing conditions identified during LTM. Please note that, when it comes to developing the LTM Plan, one of its objectives should be to verify the effectiveness of the remedy. If the data then indicate that the remedy is failing (e.g., As and Mn concentrations rise to unacceptable risk levels), then some action would be required.

EPA General Comment # 10: The Navy has added language to clarify that soils on the upland area adjacent to the wetland will be sampled following excavation to confirm that the removal has been effective. This is satisfactory; however, please note that under the scenario outlined here, the Navy assumes the risk that the supplemental sampling may identify additional area(s) of contamination that could require further excavation. The motivation behind performing the sampling after-the-fact appears to be more semantic than substantive at this time, as the Proposed Plan does not contain sufficient detail to support one approach over the other. As EPA has previously stated, a data gap exists here, and the proposal for addressing it does not warrant in-depth discussion in the Proposed Plan other than to indicate for the reader when and how the issue will be addressed. In any event, the BCT will need to reach consensus on these and other technical "design details" prior to ROD signature and implementation of the remedy.

EPA General Comment # 14: The matrix has been updated to include mention of the role of iron oxyhydroxides in controlling arsenic and manganese transport. As noted in EPA's original comment, this may be the predominant control on the inorganics in groundwater, and it is a strong argument in favor of the soil cover over the impermeable cover.

EPA's comment also asked that the matrix be expanded to address the relative merits of the two options with respect to PCB transport. The Navy responds that the matrix was intended to address only the COCs identified as significant risk drivers (As, Mn, BAP), and that PCBs *on the RDA itself* were not shown to pose risks. (The area of elevated PCBs is in the adjacent wetland area and will be excavated.) It states that the matrix's evaluating effects on As, Mn, and BAP is in accord with EPA's original request and the subsequent agreement to develop the matrix. We note however, that our intent with regard to the matrix was somewhat broader and included weighing not only the alternatives with respect to As, Mn, and BAP transport, but also any other concerns to be mitigated by the cover.

Because PCBs are demonstrably present, and no removal is ever 100% complete, it is appropriate to include PCBs on the list of compounds to be evaluated with respect to remedial performance. This is not a new issue. As noted in many previous discussions concerning this site, the PCBs in the wetlands adjacent to the site are believed to have originated at the RDA. Thus, given the uncertainties inherent in site characterizations in general, and this one in particular, it is reasonable to assume that additional areas of PCB contamination will be covered by the cap, and that performance of the cap with respect to PCBs is a relevant issue.

Even though the Navy declines to expand the matrix to address PCBs, it gives an assessment of

PCBs in its response that indicates that the two caps are essentially the same in their influence on PCB mobility. The main function would be to isolate any PCB-contaminated soils physically (i.e., from erosion and particle transport by wind and/or runoff). Solubilization is not an issue, so the soil cover is presumed to be just as effective as an impermeable cover in this regard; however, since groundwater does not appear to be the most significant transport mechanism *with respect to PCBs,,* evaluation of cap performance *with respect to PCBs* needs to focus on the physical integrity and durability of the various cap types relative to expected erosional processes. Clearly, a complete evaluation of "overall performance" needs to also consider these issues.

EPA's previous comments sought more specific information to support the Navy's conclusions, *particularly with respect to cap erosion* (i.e., the performance characteristics of the proposed permeable cover materials in comparison to those of an impermeable cover *with respect to erosion and particle transport by wind and/or runoff, etc.*). In particular, EPA's comments sought assurances that the proposed remedy had considered the "special case" concerning the substantial and potentially catastrophic erosion potential accompanying a significant river flood event. (In the absence of evidence to the contrary, we presume, due to the site's location, that it is within the 100 year flood-plain of the Old Swamp River.) In particular, how would an impermeable cap be expected to perform as compared to an impermeable cap during a "normal" or "severe" flood event? What limitations with respect to design are dictated by the cap type choice? Are any design constraints, such as slope factors, adequately represented in the remedial alternatives as presented in the FS? Should the remedy consider armoring or other design elements in order to supplement the cover? EPA has been raising these issues for some time now. Further response that speaks directly to these specific issues is still needed.

EPA General Comment # 15: The comment requested that effects of high water levels be considered in weighing the choice of the best remedy and the design. The Navy states that it will perform the evaluations requested by EPA in the design phase, but it commits to such analysis in only very broad terms (e.g., "Conducting, as necessary, further data evaluation or collection to support the design"). The Navy also states clearly in the Proposed Plan that these items will be worked out with the involvement of the regulators. It seems appropriate to leave the language of the Proposed Plan fairly open-ended; however, as stated above, a pre-design investigation work plan would be an appropriate means of obtaining the requested information and detail needed to support a consensus for a final design.

It appears that by failing to address these issues at an earlier phase (i.e., the FS Report), the Navy has implicitly taken a position that issues related to cap erosion potential and flooding potential are not significant with respect to cap design. In other words, no significant design changes or cost impacts are expected relative to the proposed remedial alternative as presented in the FS Report and Proposed Plan. In the absence of any substantive analysis on these issues, the Navy's approach assumes a degree of risk. It is therefore in the best interest of all parties to collect the requested information at the earliest possible date, so that consensus can be reached, and the project may move forward not only expeditiously but with confidence. Please see EPA Response to General Comment # 14, above, and Landfill Cover Evaluation Matrix, below.

Landfill Cover Evaluation Matrix: Although EPA concurs with the Navy's Landfill evaluation matrix, perhaps it is useful to re-phrase previous comments that bear on the cap decision *from a larger perspective.*

The matrix concludes that a permeable cap is preferred due to enhanced oxygen input. The purported benefits include (a) greater stability of redox sensitive metals, i.e., arsenic and manganese, and (b) enhanced biodegradation of BAP. Although these points are not disputed at a conceptual level, EPA's previous comments attempts to examine the issue from a practical level. The following points therefore need to be considered:

- As the Navy acknowledges, a meaningful improvement in BAP biodegradation rates is not expected to occur as a result of a permeable cap; and

- Although an impermeable cap would allow a "lesser level of aeration," it has not been quantified whether the enhanced oxygen input can be expected to result in a meaningful increase in aquifer oxygen levels given the relatively small area to be capped in comparison to the large area of the greater ground water catchment area. (As previously requested, the Navy should provide calculations that more quantitatively demonstrate the oxygen benefits of the permeable cap.)

In view of these points, EPA has previously pointed out that a more comprehensive evaluation should also consider the relative effectiveness of cap type with respect to erosion concerns, which now take on a greater level of significance. In the absence of responses to previously raised issues regarding erosion, it remains possible that the erosion is a more significant factor in overall remedial performance than the selective fate and transport evaluated in the Navy's simplified matrix. Clarification is still needed with respect to cap type and expected remedial performance in response to erosion, flooding, etc. Please see EPA Response to General Comment ## 14 and 15, above.