



**TETRA TECH**

C-NAVY-03-09-3100W

March 16, 2009

Project Number 112G01474

Ms. Kymberlee Keckler, Remedial Project Manager  
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1 Congress Street, Suite 1100  
Boston, Massachusetts 02114-2023

Reference: CLEAN Contract No. N62472-03-D-0057  
Contract Task Order No. 130

Subject: Response to Comments, EPA Letter Dated October 8, 2009  
Former Derecktor Shipyard,  
Naval Station Newport, Newport RI

Dear Ms Keckler:

On behalf of Ms. Winoma Johnson, US Navy NAVFAC, I am providing to you a completed response to the comment letter from USEPA dated October 8, 2008, which was in reference to the Draft Final FS Revision 1 for the Former Derecktor Shipyard. A preliminary response to that letter was issued on 11/17/08, and it was noted at that time that the Navy's legal group was reviewing several of the issues and that a final response would be forthcoming after that review was completed. This submittal provides Navy position on those issues as well as the other responses previously stated.

If you have any questions, please do not hesitate to contact me at 978-474-8434.

Very truly yours,

Stephen S. Parker, LSP  
Project Manager

SSP/lh

Enclosures

c: S. Bird, NAVFAC (w/encl.)  
J. Forrelli, TtNUS (w/encl.)  
W. Johnson, NAVFAC (2, w/encl.)  
P. Kulpa, RIDEM (2, w/encl.)  
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AR, c/o Glenn Wagner, TtNUS Pittsburgh (w/encl.)  
File 112G01474-3.2 (w/encl.)

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**RESPONSE TO EPA CORRESPONDENCE  
DATED 10/8/08  
FORMER ROBERT E. DERECKTOR SHIPARD  
NAVSTA NEWPORT, NEWPORT RI**

*General Comment:*

*As you know, two of the most pressing outstanding comments that require resolution are the potential for risk from TBT in sediments and concerns about contamination at depth in the Stillwater Basin. These comments both concern the potential for current or future risk that may not have been fully encompassed in the design of the Ecological Risk Assessment or the PRG development process. These documents addressed risk to biota in the most biologically active horizon of sediments, and the work performed therefore properly focused on sediment depths where most biota occur, in order to characterize current risk from sediments. Now that the remedial phase is nearing, the following outstanding issues should be discussed during the upcoming October 27, 2008 call:*

- *The Wade et al. (2004) paper on tributyltin at Derecktor identified horizons of TBT at depth in sediment cores that were higher than those found at the surface. This highlights the possibility that the areas that will be dredged as part of the remedy for Derecktor might be left with concentrations of TBT that were not present in the surficial samples evaluated in the BERA. TBT newly exposed in this fashion could pose a risk not previously identified/evaluated by the BERA. How will the Navy assure the protectiveness of the remedy in light of this concern? EPA recommends sampling at depth as part of the PDI.*

Response: The Navy has agreed to sampling at depth for COCs exceeding PRGs as part of the PDI. A PRG was not calculated for TBT in 1998, and at the conference call held 10/27/08, it was requested that the Navy do so now, using AWQC values and current equilibrium partitioning values.

A baseline PRG for TBT was calculated to be 6.58 based on this information. Refer to Attachment D for the basis of calculations, and discussion. Should this calculated PRG be applied as the rest were in the agreed-on process for the site sediments (RPRG = 10x BPRG) the recommended PRG would be 65.8 ug/kg TBT. However, locations exceeding this value do not correlate to toxicity data. Combined information from the bulk sediment chemistry, the tissue data, elutriate data and toxicity data all suggest a PRG for TBT is not appropriate for this site.

- *The Stillwater Basin was not determined to be a high risk area within the site, based on toxicity and sediment depths sampled for the BERA. Historically there was much sandblasting activity and grit storage adjacent to this area. Any proposed remedy for this site must ensure that no activities will expose contamination at depth. This could be addressed with core sampling, provided it is clear how to interpret the data, since the "limiting PRG" approach only provides a recommended PRG for lead. EPA remains concerned that distilling PRGs to one or two "limiting PRGs" by assuming co-location may not be protective of human health and the environment.*

Response: The process was conducted in 1998 and agreed upon at that time. The record shows that a letter from EPA dated 12/21/98 on the final PRG document had no comments. Current review of this process, provided as a separate document suggests that the approach used at that time is technically sound.

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- EPA anticipates that discussion of these points should focus on how to move forward and answer these issues in the PDI. At this time, EPA does not believe that the BERA or the PRG development document needs to be reissued.

Response: The comment is noted and the Navy is in agreement with this point.

## ATTACHMENT A

### SPECIFIC COMMENTS ON THE SUMMARY OF ISSUES TABLE:

1. Issue #3: "Additional removal of sediment below 1 foot": The lack of a PRG for tributyltin and the irregular depth of contaminants of concern (COCs) will need to be addressed to ensure that a protective remedy is provided.

Response: Combined information from the bulk sediment chemistry, the tissue data, elutriate data and toxicity data all suggest a PRG for TBT is not appropriate for this site. Please refer to the response to the first general comment above.

2. Issue #4: "TBT is not adequately addressed": The lack of a PRG for TBT is problematic because due to the irregular depth of COCs in the sediment other COCs may be removed without adequately removing TBT located at the limits of the dredging depth. There is no identified cleanup goal in the FS to address this situation.

Response: Refer to the response to the cover letter comment above, and Attachment D.

3. Issue #6: Asbestos regulated under CERCLA: EPA recently issued a Record of Decision for the Blackburn and Union Superfund Site that included remediation requirements to address asbestos contaminated sediments (see [http://yosemite.epa.gov/r1/npl\\_pad.nsf/f52fa5c31fa8f5c885256adc0050b631/A5EED40083872BD48525690D0044967D?OpenDocument](http://yosemite.epa.gov/r1/npl_pad.nsf/f52fa5c31fa8f5c885256adc0050b631/A5EED40083872BD48525690D0044967D?OpenDocument)). EPA also released Framework for Investigating Asbestos-Contaminated Superfund Sites ([http://r7atwork.r07.epa.gov/intranet/workroomprojects/oswer\\_lead/supr\\_docs/asbestos\\_framework.pdf](http://r7atwork.r07.epa.gov/intranet/workroomprojects/oswer_lead/supr_docs/asbestos_framework.pdf)) that should be considered here.

Response: The comment requests that the Navy consider using the PRG for asbestos in sediment developed for Blackburn and Union Site. To include asbestos as a contaminant of concern, there needs to be a determination that there is risk to receptors associated with that COC. For risk, there needs to be an exposure, a receptor and a pathway. The Blackburn and Union site is much different than this site because asbestos was present in a confined water body (pond) and there was a high possibility for exposure on surrounding shorelines. Site conditions at Derecktor indicate that there is no likely completed exposure pathway, based on the assessment report prepared by NAVSEA dated October 2007, the industrial nature of the site, the depth of the water and the distance between the release area and the shoreline. Therefore, there should be no need to establish a PRG.

4. Issue #7: See Issue #6 concerning addressing asbestos contamination under CERCLA. In addition to the Navy's proposed statement regarding addressing asbestos in the FS text, the FS should identify asbestos as a contaminant of concern and include the PRGs, RAOs, and ARARs for asbestos that were cited in the Blackburn and Union Record of Decision for the sediment component of that remedy.

Response: To include asbestos as a contaminant of concern, there needs to be a determination that there is risk to receptors associated with that COC. Site conditions at Derecktor indicate that there is no likely completed exposure pathway, based on the assessment report prepared by

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NAVSEA dated October 2007, the industrial nature of the site, the depth of the water and the distance between the release area and the shoreline. Therefore, there should be no need to establish a PRG.

5. *Issue #8: The lack of a PRG for TBT is problematic – a cleanup goal for TBT must be developed.*

Response: Please refer to No. 2 above.

6. *Issue #9: "Usability of the underwater cad cell": In order for the Providence Harbor CAD to be suitable under the CERCLA off-site rule, the Navy must demonstrate that there is long-term O&M and monitoring of the facility (similar to the requirements for a land-based disposal facility). EPA has not identified any Superfund sites that have used off-site CAD, but there are a number of sites that have used on-site CADs. Accordingly, there are standards that have been developed for long-term O&M and monitoring.*

Response: Tetra Tech has contacted Ken Rota at USEPA at the request of Kymberlee Keckler. Mr. Rota stated that any waste generated from remediation of a CERCLA site is subject to the "Off Site Rule", section 121(d)(3) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The Off Site Rule states that the "receiving unit" (in this case the proposed CAD) needs to show documentation for compliance monitoring, documentation that the unit is permitted to accept the material, and documentation that the unit is not leaking. He stated that this is true for both RCRA C waste, and non-hazardous subtitle D waste. For standard on shore land disposal locations (landfill disposal), these requirements are addressed through air and groundwater monitoring programs operating under various other state and federal regulations. Mr. Rota stated that to do so in a CAD would be setting new precedence. Please refer to Attachment E for an assessment of the Off-Site Rule.

**Based on this assessment, it appears that the CAD facility would not be readily available for disposal of sediments taken from the offshore areas of Derecktor Shipyard.**

7. *Issue #10: "Comments suggest that sediment is RCRA characteristic or RCRA listed waste": Most areas where sandblast grit was identified by SAIC have not been sampled. These and other areas impacted by site activities, especially areas where no samples have been previously collected, will need to be better characterized in a pre-design investigation to identify areas requiring remediation.*

Response: Sampling was conducted at agreed-upon locations as a part of the Ecological risk assessment. These samples encompass the area where sandblast grit was presumed to have been released. The scope and locations of samples for the PDI will be discussed at a later date.

8. *Issue #17: "Dumped sandblast grit in the ocean": The response from July 16, 2008 notes that sandblast grit may be a listed hazardous waste. This needs to be clarified since the grit itself is not a listed waste, but would become a listed waste if the sandblasting process used at the former shipyard contaminated the waste grit with a listed waste. As has been previously discussed, even if it is determined that the grit is not contaminated with a listed hazardous waste, it needs to be tested if the material exhibits hazardous waste characteristics.*

Response: This issue has been reviewed by the Navy's legal group. Historically, at Newport the Navy has tested sandblast grit for characteristic waste properties, not as a listed waste. Therefore Navy agrees that sandblast grit requiring disposal will be tested for hazardous waste characteristics and disposed of appropriately.

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9. *Issue #21: "Scope of the PDI- PDI should be more extensive": Agree that the details of the PDI do not need to be included in the FS; however, a much more extensive investigation than currently proposed for sediment areas impacted by site activities will be required for the scope of the PDI.*

Response: The Navy agrees with the statement above and the PDI can be scoped at a later time.

**ATTACHMENT B:**

**GENERAL COMMENTS ON NAVY'S RTCS:**

2. *Navy has indicated in the Summary of Issues Table that the conceptual model will be augmented to address the release of sandblast grit known to be present in the sediment per the SAIC investigation. The release of asbestos into the sediments should also be discussed (per the Summary of Issues Table).*

Response: The asbestos does not need to be included unless there is risk to receptors that needs to be addressed.

3. EPA does not concur that TBT will automatically be addressed by the removal of other main driver COCs. Because of the irregular presence of COCs in the sediment depth TBT may be exposed in the residual sediments when the limits of the dredging for other COCs has been reached. Furthermore, significant TBT concentrations have been found at depths much greater than 12 inches suggesting that a deeper dredging effort than proposed in the FS would be required to remove TBT and/or that FS alternatives will need to include institutional controls for residual sediment impacted TBT. However, the FS fails to identify TBT as a COC (Section 2.2.2 of the FS only identifies COPCs for ecological risk) so the rationale for institutional controls for TBT does not currently exist in the FS.

The Navy should include all sediment data in the next version of the FS not just the data used for the marine ecological risk assessment.

Finally, to recap the status of this issue, as discussed on September 17, 2008, it is understood that TBT had not been fully addressed in the RI. The Navy indicated that it will review the decision process for eliminating TBT from further evaluation in the risk assessment. Questions regarding PRG development, possible chronic toxicity tests to address uncertainty in the data, possible sampling as part of PDI, etc., are on hold until the Navy conducts this review.

Response: PRG for TBT was not selected in 1998 with EPA approval of the PRG document. New evaluations of TBT continue to suggest that a PRG for TBT is not needed for this site.

4. *EPA considers the stillwater basin area suspect not only because of the minimal presence of vegetative growth and animals but also because this area is immediately adjacent to Building 42 where large stockpiles of sandblast grit were stored. In addition to potential impacts from the many outfalls into this area, it is likely that the stillwater basin has been adversely impacted by runoff from the sandblast grit stockpiles including impacts from TBT. As noted in the Wade paper in Table 2 the concentration of TBT increases with depth at DSY-1 (up to 130 ng Sn/g at 22-24 centimeters depth – the deepest sample analyzed at DSY-1 and the deepest sample collected in the stillwater basin for all sampling events), indicating that the sediment there contains significant TBT and potentially higher concentrations at greater depths and in other locations in the stillwater basin. The TBT to TOC ratio in the deep sediment is high indicating that TBT is also likely impacting porewater within the stillwater basin. It is not apparent that Navy addressed this concern in its prior investigations of this area. Pending the Navy review of the TBT issue (see General Comment 3), further sampling of this area is warranted; however, due to the lack of a PRG for TBT a mutually-agreeable action level will also have to be established for TBT.*

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Response: PRG for TBT was not selected in 1998 with EPA approval of the PRG document. New evaluations of TBT continue to suggest that a PRG for TBT is not needed for this site.

5. *The Navy's response is ambiguous and does not clearly state what the Navy's intent is regarding areas of sediment with PRG exceedances. In the first paragraph Navy appears to state that only selected areas with PRG exceedances will be remediated; however, in the second paragraph the text seems to imply, based on the inclusion of follow-up grid sampling, that all areas with PRG exceedances would be remediated. Please clarify the remedial intent for the FS. This is an important point because, as stated previously, EPA does not accept the limited area of remediation that was proposed by the Navy in the Draft FS and retained in the February 2008 Draft Final FS. EPA prefers that the remedial scope for the FS be broader and, if appropriate, subsequently reduced based on the PDI results.*

Response: The citations stated above are not found under No. 5 in the general comments section of the letter dated 8/29/08. However, the Navy responds as follows to the comment above: Areas where PRGs were exceeded in the BERA will be evaluated further in the PDI to determine vertical and horizontal extent of selected remedial actions. The PDI will need to establish boundary conditions vertically and horizontally to quantify the sediment action areas.

6. *It is noted that the TBT data summary table provided by the Navy did not include the core data collected in 1993 and reported in the Wade paper. In recent comments EPA pointed out discrepancies between the tissue data provided in Appendix A of the FS and data provided in the Wade paper. This may suggest that all of the Wade data were not incorporated into the evaluation. It is noted that the Wade paper states: "Based on these screening criteria, TBT is likely to be having a minor effect on the benthic biota at about half of the stations sampled but an adverse effect on the biota at 40% of the stations sampled." This appears to suggest a much broader and significant impact from TBT than is recognized in the Navy's site evaluation and is problematic in defending the FS. Recognizing that Wade's position is based on screening criteria, nevertheless, EPA expects the site evaluation to be rigorous enough to demonstrate that appropriate due diligence has been performed and that the alternatives considered in the FS are protective.*

Response: The comment has previously been noted. A summary paper provided by Tetra Tech NUS, Inc. dated October 2008 and discussed on 10/27/08 clarifies the TBT data that is available and the differences in how it has been reported and summarized over the years by different authors. It is the Navy's opinion that the October paper addresses the first part of the comment text above. The comment goes on to repeat that EPA feels that there should be a PRG for TBT. On this topic, please refer to No. 1 above.

8. *Asbestos is a CERCLA contaminant and needs to be addressed in the FS by including NESHAPs and other asbestos standards in the ARARs analysis and adding a PRG for asbestos (see comments on the Summary of Issues Table, above). In addition, the PDI will need to include analysis for asbestos so it can be addressed in the remedial design. As stated in Navy's response, asbestos will also need to be considered for disposal purposes. A separate sediment remediation effort for asbestos is not practical.*

Response: This issue has been reviewed by the Navy's legal group. The purpose of the asbestos NESHAP regulation is to protect the public health by minimizing the release of asbestos when facilities that contain asbestos-containing materials (ACM) are demolished or renovated. Neither renovation nor demolition of a facility with ACM is occurring in connection with the cleanup at the Derecktor site. Additionally, no asbestos removal or disposal is anticipated as part of this cleanup. Navy believes the asbestos NESHAP may be relevant and appropriate for disposal of the sediment removed from the water if it contains asbestos, and agrees to apply the NESHAP as an ARAR in that context.

The Navy acknowledges that a pipe wrapped in asbestos has fallen into the water under the pier at the Derecktor site. This issue is being separately handled by the Navy with the EPA

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Region I's Office of Environmental Stewardship, Toxics and Pesticides Unit with Peter Kudaruskas. Therefore Navy believes it is inappropriate to address this incident within the IR program.

**ATTACHMENT C:**

**SPECIFIC COMMENTS ON NAVY'S RTCS:**

2. *See comments on response to the Summary of Issues Table, Issue 6 and 7 and General Comment #8.*

*Regarding asbestos, the explanation about distance from asbestos-containing pipe release to shoreline area makes sense and it appears unlikely to connect asbestos deposit in the pier area to any asbestos found in the shoreline area. Please document this. It is not necessary to investigate (sampling/analysis) potential asbestos risks in the shoreline area, unless high levels of asbestos contamination are discovered under the pier that can be tracked back to the shoreline area.*

Response: The statements about the unlikelihood of finding asbestos in the shoreline will be provided in the FS report.

3. *Please plan to present all data collected from the site not just those used for the environmental risk assessment (ERA). Note also General Comment #6; please confirm that the tissue data presented are correct.*

Response: As stated in the response, all data for the site including tissue data, will be presented in the revised FS report. This issue should be considered resolved.

5. *The proposed language is satisfactory.*

Response: Comment noted. The issue is considered resolved.

7. *Navy has agreed to the comment; however, an issue remains as to the scope of the remedial action that should be included in the FS. EPA prefers to show a larger area, including intermediate risk areas, that could be reduced based on PDI results. Further discussion is required.*

Response: Comment #7 originally requested a clarification on the area remediated under alternative 4, and this was agreed to in the response dated 8/29/08. The comment above now requests intermediate risk areas be included in alternative 4. CERCLA process calls for measurement of risk, then development of numeric PRGs based on that risk. The risk results alone don't dictate the action areas, particularly for ecological risk assessments where the risk is measured using a weight of evidence approach. The EPA letter dated December 21 1998 indicates concurrence with the PRG document, indicating concurrence with the areas proposed for remedial action.

10. *This issue is addressed in the Summary of Issues Table #15. MCL are the standards for groundwater remediation in Rhode Island for CERCLA actions, not the State groundwater standards.*

Response: In accordance with the Summary of Issues Table #15 (Navy letter dated 8/29/08), EPA rescinded comment no. 11 on Section 1.4 of the FS. The Navy takes that to indicate that this issue is resolved and no changes are needed.

14. *See comment on response to the Summary of Issues Table, Issue 6 and 7 and General Comment #8.*

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Response: To include asbestos as a contaminant of concern, there needs to be a determination that there is risk to receptors associated with that COC. Site conditions at Derecktor indicate that there is no likely completed exposure pathway, based on the assessment report prepared by NAVSEA dated October 2007, the industrial nature of the site, the depth of the water and the distance between the release area and the shoreline. Therefore, there should be no need to establish a PRG

15. See comment on response to Attachment B General Comment #4.

Response: Refer to response to same.

17. See comment on response to the Summary of Issues Table, Issue 6 and 7 and General Comment #8.

Response: See responses to same.

18. *The SASE presents in Section 2.4 a description of the activities and operations conducted at the Derecktor Shipyard but does not include a discussion of the violations and citations it received from the RIDEM. It is appropriate to include this information.*

Response: This information will be researched and included as appropriate. This will resolve this comment.

21. *The actual text in question is: "Chemical-specific ARARs and TBCs are usually health- or risk-based numerical values or methodologies which, when applied to site-specific conditions, result in numerical values that establish the acceptable amount or concentration of a chemical that may be found in, or discharged to, the ambient environment." EPA's comment should be retained since standards for the discharge of contaminants are action-specific, rather than chemical-specific ARARs.*

Response: The suggested revision will be included as requested for chemical specific ARARs. This comment is considered resolved.

22. See comment on response to General Comments #3, #4 and #6.

Response: See responses to same.

23, 24b & 25 *The proposed language is satisfactory.*

Response: Comment noted. The issue is considered resolved.

36a. *Because the areas under the piers are considered high deposition areas it is possible that these areas are the most highly contaminated areas at the site. It is therefore not reasonable to overlook these areas or to conduct only a superficial investigation or remediation of them. Therefore, EPA is pleased that Navy has agreed to include sampling beneath the piers in the PDI. EPA expects that core samples will be collected at depth under the piers because if the areas surrounding the piers are dredged and the sediment under the piers is not dredged the sediment beneath the piers would be more likely to migrate thus potentially exposing the deeper contaminated sediment and facilitating the migration of contamination.*

Response: Comment noted. The issue is considered resolved.

36b. *EPA agrees that asbestos sampling should be included in the PDI scope. Please confirm that this will be done (see Summary of Issues Table, Issues #6 and #7, above).*

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Response: The Navy confirms that asbestos analysis of sediments will be included in the PDI so that the sediments can be classified appropriately for handling and disposal. For issues on PRGs for asbestos, refer to the responses to Issues #6 and #7 Attachment A.

36c. See EPA Response to issue #9 in the Summary of Issues Table.

Response: The Navy agrees with the statement above and the PDI can be scoped at a later time.

37. *Institutional controls (including alternative 3 if inaccessible contaminated sediment is left around the piers) are required for any alternative that leaves contaminants in place in excess of the PRGs. This resolution is noted in the Navy's Summary of Issues Table. However, it is recognized that institutional controls offer no benefit to ecological receptors at risk from site COCs.*

Response: The comment is noted. This comment is considered resolved.

38. *EPA agrees that the details of the PDI do not need to be included in the FS; however, a much more extensive investigation than currently proposed for sediment areas impacted by site activities will be required for the scope of the PDI.*

Response: The comment is noted. This comment is considered resolved.

40. *Same as 36b, the response indicated that asbestos analysis will be a PDI effort.*

Response: Please refer to the response to 36b. above.

41a. *See comment on response to Specific Comment #36a.*

Response: Comment noted. The issue is considered resolved.

41c. *See comment on response to Specific Comment #36c.*

Response: It is agreed that an extensive predesign investigation needs to be conducted. However, this is not the subject for the FS. The FS only needs to identify a rough cost for conducting the PDI, and the scope will be determined at a later date. This issue should be considered resolved.

43. *EPA does not accept the description of this alternative as written because it implies conditions that may not exist based on the limited chemical sampling conducted at the site and it also contains statements EPA does not consider accurate based on the data presented in the FS, such as "contaminant concentrations in shellfish at the site are similar to those found at the reference stations..." EPA maintains that the data show significant differences. Also, based on the ERA we already know that ecological receptors are being adversely impacted by site COCs so long-term monitoring is not needed to reach that conclusion. Therefore, this remedy cannot remain protective in the future as stated on page 4-4 because it is not protective now. This description will need to be toned down and corrected for the next revision of the FS.*

Response: Alternative 2 (Limited Action) will be revised to hot-spot dredging, monitoring and ELUR. This should resolve this comment.

47. *If an alternative leaves COCs in place in excess of PRGs the protectiveness of that alternative would have to be questioned unless it is assumed that the "inaccessible areas" are in fact inaccessible to ecological receptors, which seems unlikely. The site RAOs include the prevention of exposure of aquatic organisms to sediments with COC concentrations exceeding the recommended PRGs. Institutional controls will obviously not benefit ecological receptors.*

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Response: Same as No. 43 above. Alternative 2 will be revised to include hot-spot dredging.

48. *It is not clear why this alternative was carried through the screening process because it does not satisfy the remedial action objectives.*

Response: Please refer to the response to Comment 47 above.

50a. *If sediment is present with lead levels exceeding hazardous waste characteristic standards it must be addressed under the remedial alternative. Sediment that will be left in place needs to be tested to see if it exceeds the TCLP standards. If it exceeds the standards it can't be left in place, but under relevant and appropriate hazardous waste standards it must be either capped or removed.*

Response: This issue has been reviewed by the Navy's legal group. While the Navy concurs that RCRA would be an ARAR for disposal of contaminated sediments that are removed from the site, it does not concur that TCLP testing is appropriate for sediments left in place. If a decision is made to leave any sediment in place, it would be because risk assessment has demonstrated doing so would not pose an unreasonable risk of injury to human health and the environment. Both a marine Human Health Risk Assessment and a marine Ecological Risk Assessment were completed for this site. Based on these assessments, a conservative PRG level for lead was selected which was based on ecological exposures. No human health risk related to exposure to lead was found. Navy policy on Sediment Site Investigation of Response Action provides that a sediment clean-up must be risk-based. Likewise, EPA's Contaminated Sediment Remediation Guidance for Hazardous Waste Sites discusses RCRA as an ARAR only in connection with handling dredged material, not on sediment remaining in place.

50b. *The remediation of the sediments is regulated by TSCA is an ARAR; the 50 ppm threshold is irrelevant in regard to PCB remediation, instead the PRG for PCBs should be risk based as established under the PCB remediation regulations. To clarify EPA's comment, if all in situ PCB concentrations in sediment are less than 50 ppm then the sediment does not have to be disposed in a TSCA landfill. Please clarify these points.*

Response: This issue has been reviewed by the Navy's legal group. Navy concurs that sediment with concentrations less than 50 ppm will not be required to be disposed of in a TSCA landfill, and that a risk-based PRG for PCBs was established.

52. *See comment on response to Specific Comment #36c.*

Response: The comment is in regards to the usability of the cad cell. See item 6, Issue No 9 in Attachment A.

53. *See comment on response to Specific Comment #36c.*

Response: The comment is in regards to the usability of the cad cell. See item 6, Issue No 9 in Attachment A.

55a. *See comment on response to Specific Comment #50a*

Response: Refer to response to same.

55b. *See comment on response to Specific Comment #50b.*

Response: Refer to response to same.

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57a. *See comment on response to Specific Comment #36c.*

Response: The comment is in regards to the usability of the cad cell. See item 6, Issue No 9 in Attachment A.

57b. *See comment on response to Specific Comment #36b.*

Response: The Navy confirms that asbestos analysis of sediments will be included in the PDI for the purpose of characterizing sediments for disposal. This comment is considered resolved.

61a. *To be consistent with resolutions established for other CERCLA sites, only the CERCLA risk range should be presented and a cancer risk of  $1 \times 10^{-5}$ , which falls within the CERCLA risk range, should be selected.*

Response: The Navy concurs and this comment is considered resolved.

61b. *See comment on response to Specific Comment #36b.*

65b&66b *This guidance needs to be added and the Navy must assess the risk posed from asbestos that has been released to site sediments. See Items #6 and #7 for the Summary of Issues Table comments, above.*

Response: For issues on PRGs for asbestos, refer to the responses to Issues #6 and #7 Attachment A.

68a *The sentence that states that contaminated sediment exceeding hazardous waste standards is not expected is not accurate because testing has shown some areas with lead levels over twenty times the TCLP threshold. EPA reiterates its request that the sentence be removed or modified.*

Response: This issue has been reviewed by the Navys legal group, and the Navy will remove this sentence.

68b *Under the limited action alternative monitoring of sediments is required. Therefore the asbestos standards apply to any asbestos that is handled during the monitoring process.*

Response: Regarding the need for a PRG for asbestos, please refer to the response to Comment #4 in Attachment A. Regarding "asbestos standards" that apply to monitoring, appropriate OSHA standards will be used to protect workers during any actions taken. This comment should now be considered resolved.

70c&71b *These RCRA standards are relevant and appropriate if sediments exceeding characteristic hazardous waste standards are left in place underwater. Specifically the requirement is that hazardous waste not be left in place in the environment uncapped so that it is free to be released into Narragansett Bay.*

Response: Please refer to the response to Comment 50a.

72a. *To the revised response, add that the requirement also applies the sediments generated during monitoring as well as from excavation and disposal.*

Response: This is the same comment as 68b above. This issue should be considered resolved.

72b *This is an ARAR, not a "potential ARAR."*

Response: The rule applies to discharge of waste to POTW. If waste is not discharged to a POTW, it would not be an ARAR. Thus it is termed potential. Regardless, this is not a matter for

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argument, and the citation is going to be included in the FS as EPA requests. The issue should be considered resolved.

72c *There is the strong potential for the deposition of cap material, if not properly managed, to cause the dispersion and release of contaminated sediments that could negatively affect water quality. Therefore these water quality regulations are applicable.*

Response: The clarification is accepted, the change will be made (though slightly revised for clarity), and the comment should be considered resolved.

74b *See comment on response to Specific Comment #65b.*

Response: The Navy confirms that asbestos analysis of sediments will be included in the PDI. For issues on PRGs for asbestos, refer to the responses to Issues #6 and #7 Attachment A.

77a *See comment on response to Specific Comment #36b.*

Response: See response to same.

80. *The response states that samples were collected from the areas (around pier 1) where the dry docks were formerly located; however, review of all the sample locations indicates no samples were collected from the former dry dock areas except possibly at DSY-5, which is close to the general area of the former dry docks. Please clarify why the Navy believes that the former dry dock areas have been sampled.*

Response: The original comment #80 requested the aircraft carriers be depicted on a figure and noted concern that sampling for the PDI may be hindered by the carriers. The statement above now suggests existing samples may not adequately characterize the possible locations of sandblast disposed. Sampling was conducted at agreed-upon locations as a part of the ecological risk assessment (ERA). Those stations were selected based on hydrodynamics of the cove, the locations of the dry docks and the sandblast investigation conducted by SAIC prior to the ERA. Thus these samples encompass the area where sandblast grit was presumed to have been released.

85. *Alternative 1 is the No Action Alternative – there will be no new data to review so the 5-year review effort will be significantly less than for other alternatives.*

Response: The response provided previously stands. However, in an effort to move forward, the costs for five year reviews will be adjusted for the revised FS and this comment should be considered resolved.

March 16, 2009

**Attachment D**  
**Basis of Calculations**  
**Possible Bedded Sediment PRG for Tributyltin (TBT)**

Per request of the regulatory review parties, a bedded sediment PRG for TBT was calculated using the same approach done in 1998 by SAIC for other COCs. This is now possible because an accepted AWQC is available, and Koc values are also available.

The baseline PRG value was calculated as follows:

Given:

Ambient (chronic) water quality criteria (target pore water concentration) = 0.0074 ug/L – (EPA 2003)

Koc = 32,000 (unitless, per NOAA)

foc = % TOC /100 (site average TOC concentration of 2.78%)

Equation used from SAIC 1998:

Concentration in pore water (ug/L) = Concentration in sediment (ug/kg) / (foc\*Koc)

Application for TBT:

0.0074 ug/L = Concentration in sed (ug/kg) / (0.0278 \* 32,000)

Then:

Conc in sediment = concentration in porewater \* (foc\*Koc)

And:

6.58 ug/kg = 0.0074\* (0.0278\*32000)

In the 1998 PRG document, the baseline PRGs that were calculated based on conservative target pore water concentrations were multiplied by 10x to assure that peripheral areas with ambient concentrations of COCs present as a result of typical commercial port activities were not identified to be addressed during the remedial actions. The application of the 10x multiplier helps to provide a risk-based value that reflects the conceptual site model, and focuses the remedial actions. Use of this multiplier on this calculated value would result in a recommended PRG (RPRG) value of 65.8 ug/kg.

Samples that exceed this value include only two stations collected in 1995 from the 0-18 cm interval: stations 29 and 31. However, these locations do not correlate with mortality in *Ampelisca* toxicity samples collected during the ERA (Figure 5-2.1 of SAIC 1997): The station with the highest TBT concentration (DSY 31; 228 ug/kg TBT) showed no mortality in the toxicity sample collected. The two sample locations with the lowest survival rate normalized to the control<sup>(1)</sup> (DSY-27 at 79% and DSY-28 at 70%) had TBT concentration of 8.52 ug/kg and 65.4 ug/kg, respectively. The sample collected at DSY-31 had the greatest TBT concentration (228 ug/kg) but also had 101<sup>(1)</sup> percent survival. Therefore, there is not a dose-response relationship for TBT and sediment toxicity, and this provides a "No Observed Effects Concentration" (NOEC) for TBT of 228 ug/kg for this site. A Lowest Observed Effects Concentration (LOEC) can not be established.

Only three locations have TBT at concentrations that exceed the NOEC (DSY-2, DSY-3, and DSY-22). Of these three locations, DSY-2 and DSY03 are in areas that will be remediated for other contaminants. DSY-22 is not in an area that will be remediated but the TBT concentration at this location (244 ug/kg) only slightly exceeded the NOEC so it is not likely that sediment invertebrates are being impacted at this location.

The sediment PRG calculated above using equilibrium partitioning and chronic AWQC (which is based on a NOEC (EPA, 2003) should be used as a screening value only; not as a PRG. This limitation is supported by the toxicity test data at the site, as described above. Because a dose-response relationship was not observed between the TBT concentrations in the sediment samples and the toxicity tests, a PRG for TBT is not needed at the site.

<sup>(1)</sup> Survival is reported as "mean survival as percent of the control". Unadjusted survival rates are as follows: DSY-27 = 79%; DSY-28 = 68%; DSY 31 = 96%.

March 16, 2009

**Attachment E**  
**Summary of CAD/Off-Site Rule**

The Off-Site Rule implements CERCLA's requirement to prevent wastes generated from remediation activities conducted under CERCLA from contributing to present or future environmental problems at off-site waste management facilities. Only facilities that meet EPA's acceptability criteria can be used for off-site management of CERCLA waste.

All RCRA facilities that are considered for use in off-site management of CERCLA waste must be in compliance with RCRA and/or other applicable federal and state laws. Specific requirements must be met for each category of facilities. Non-RCRA facilities must control environmentally significant releases from the receiving and non-receiving units.

Typically, CAD cells are used for disposal of dredged navigation channel sediment not suitable for open water disposal. The dredged sediment is loaded onto a barge and transported to the CAD cell. The cell is then filled with the sediment, and the sediment is allowed to consolidate before being capped with clean material.

The CAD cell facility proposed for receiving for Derecktor Shipyard sediments would be required to be acceptable under the Off-Site Rule. According to Ken Rota of US EPA the following are required for EPA to begin the process of making an acceptability determination for dredge material from the Derecktor Shipyard to be provided to the CAD cell in the Providence River:

1. Letter from the CAD facility that the contamination level in the sediment is acceptable;
2. CAD long-term monitoring program;
3. Documentation that the unit is not leaking; and
4. Copy of CAD permit