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NCBC DAVISVILLE
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LETTER AND COMMENTS FROM U S EPA REGION I ON DRAFT THIRD YEAR FIVE YEAR
REVIEW REPORT DECEMBER 2012 NCBC DAVISVILLE RI (PUBLIC DOCUMENT)
2/6/2013
U S EPA REGION I



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND - REGION I
5 POST OFFICE SQUARE, SUITE 100 (OSRR 07-03)
BOSTON, MASSACHUSETTS 02109-3912

February 6, 2013

Jeff Dale, Dept of the Navy, BRAC PMO Northeast
Code 5090 BPMO NE/JD, 4911 South Broad St
Philadelphia, PA 19112-1303

Re: *"Draft Third Five Year Review Report for former Naval Construction Battalion Center, North Kingstown, Rhode Island"*, dated December 2012, North Kingstown Rhode Island

Dear Mr. Dale:

Pursuant to § 7.6 of the Davisville Naval Construction Battalion Center Federal Facility Agreement dated March 23, 1992, as amended (FFA), the Environmental Protection Agency has reviewed the subject document and comments are below.

GENERAL COMMENTS

1. Based on a review of the subject FYR and without any independent investigation or verification of the data contained therein, EPA concurs that the information presented in the FYR, once the attached comments are satisfactorily addressed, is sufficient to support a finding of currently protective for the Site. The remedy at the OU1 Allen Harbor Landfill (site 9) is protective in the long term and the remedy at the OU8 Calf Pasture Point Solvent Disposal Area (site 7) is currently protective.
2. The 1999 OU8 ROD (site 7) is not consistent with EPA groundwater guidance in that it does not require groundwater to achieve federal drinking water standards. No chemical specific ARARs are identified in the ROD that require groundwater cleanup (consisting of MCLs, non-zero MCLGs, federal risk –based standards, and more stringent State groundwater standards). The identified RAO is only to “prevent human exposure to CoCs in deep and bedrock groundwater and to ensure that the discharge of groundwater to wetlands and offshore areas continues to pose no unacceptable risks from COCs.”, so the remedy’s RAO needs to be modified to be consistent with the groundwater RAOs created for OU9 (site 16). To meet guidance standards the Navy would need to demonstrate that under the current monitoring remedy the groundwater would eventually meet federal drinking water standards through natural attenuation. While this is a long term protectiveness issue, it does not affect current protectiveness. The soil ESD proposed should be expanded to include the groundwater cleanup standards and timeframe. This is the only issue EPA believes should be in the issue and recommendations table. The other concerns should be listed separately.

3. The Navy should add text to clarify the ROD for OU4 (sites 6, 11, &13). This ROD was written without a discussion of whether or not the groundwater meets MCLs or inorganic background levels. To meet current guidance and the NCP, since the groundwater is designated by EPA as a potential drinking water supply, the Navy needs to state that the groundwater is potable. While this is a concern, it does not affect protectiveness. A very short Memo to the File should be prepared.
4. Navy needs to add text clarifying the OU2 (sites 12 &14) ESD. At site 14 building 38 has been torn down; the asphalt floor has been removed. Therefore, the ESD should be clarified that the 95% UCL of the soil at both sites 12 and 14 has PCBs remaining at less than 2 ppm and that the 95% UCL of the concrete at site 12 is 1 ppm PCBs remaining. While this is a concern, it does not affect protectiveness. A very short Memo to the File should be prepared.

SPECIFIC COMMENTS

5. Summary Form: While I appreciate the need for a ("enforceable") schedule to keep us all honest, if the concerns aren't effecting protectiveness they should not be in the issues section of the FYR. I also appreciate that writing them down provides clarity to the team (tier 1 & 2) and to the public hence this compromise Army & I worked out last year. Please see document below. Pages 6 & 7 are the summary form where it is noted that there are no issues effecting protectiveness, but general concerns Army plans to 'remedy'.

<http://www.epa.gov/region1/superfund/sites/sudburyannex/448389.pdf>

6. Page iii, under the heading of due date, there is a typo. The report should be due 3/28/2013
7. Page iv (and incorporate into the rest of the document): Need to add an issue for OU8 (site 7) to issue an ESD to add cleanup timeframes and standards.
8. Page iv (and incorporate into the rest of the document): Need to add a concern for OU2 to issue and Memo to the File to clarify that the 95% UCL for soil and concrete is less than 1 ppm PCBs and that the asphalt has been removed at site 14.
9. Page iv (and incorporate into the rest of the document): Need to add a concern for OU4 to issue a Memo to the File to clarify that the groundwater is potable.
10. Page vi and Section 3.9: The protectiveness statement for Allen Harbor Landfill indicates that a state-enforced prohibition on shell fishing in Allen Harbor effectively prevents exposure to site-related contaminants. This is doubtful because there is evidence of ongoing shell fishing along the shoreline at the Allen Harbor Landfill despite signage forbidding it. The remedy may not be protective unless shell fishing is somehow prevented. Please explain the steps Navy has taken to reduce the trespassing.

11. P 1-3, §1.2, please state that the Navy is the responsible party who will approve the TetraTech FYR and that under CERCLA the Navy is the lead agency responsible for the remedies. Also include that the Navy and EPA inspected the facility on February 13, 2013 and found the remedies intact.

12. Table 1-1, please add a column to this table to indicate which OU relates to which site:

Site	OU	Site Description
01*	7	Construction Equipment Department Drum Storage Area
02	7	Construction Equipment Department Battery Acid Disposal Area
03	7	Construction Equipment Department Solvent Disposal Area
04*	7	Construction Equipment Department Asphalt Disposal Area
05	3	Transformer Oil Disposal Area
06	4	Solvent Disposal Area
07	8	Calf Pasture Point Solvent Disposal Area
08	Soil: 3 Groundwater: 5	Defense Property Disposal Office (DPDO) Film Processing Disposal Area
09	1	Allen Harbor Landfill
10	5	Camp Fogarty Disposal Area
11	4	Former Fire Fighting Training Area
12	2	Building 316, DPDO Transformer Oil Spill Area
13	4	Disposal Area Northwest of Buildings W-3, W-4, and T-1
14	2	Building 38, Transformer Oil Leak

15*	00	Building 56
16*	9	Creosote Dip Tank and Fire Training Area

CALF PASTURE POINT

13. P 2-5 Table: last entry please update with actual date document was submitted.

14. P 2-6 3rd ¶ last sentence, add “under CERCLA after the word, “Additionally”.

15. In §2.3.2.3, please also address the possible, but unprobable, ecological risk due to the exceedances in PALs noted in tables 2-2 and 3-2. The agreed to February 2011 SAP with field work in summer of 2012 addressed the nearshore risk uncertainty with the following problem statement and screening values:

redlined worksheet 11 from the February 2011 draft final SAP states:

Problem 3: Evaluation of Risks Associated with CVOC-Contaminated Groundwater Discharging to the Entrance Channel. A salinity of 10 parts per thousand (ppt) will be used as the threshold for determining whether pore water field screening samples are representative of groundwater discharge to the Entrance Channel. The EPA Region III Marine Screening Benchmarks (EPA, 2006a) will be used as the Project Screening Levels (PSLs) for evaluating pore water and surface water laboratory data. If there are no Region III Marine Screening Benchmarks available for particular contaminants, the EPA Region III Freshwater Screening Benchmarks (EPA, 2006b) are the default PSL. EPA Region III Marine Sediment Screening Benchmarks (EPA, 2006a) are the PSLs for sediment. If there are no Region III Marine Sediment Screening Benchmarks available for particular contaminants, the EPA Region III Freshwater Sediment Screening Benchmarks (EPA, 2006b) or a Secondary Chronic Value (Suter and Tsao, 1996) are the default sediment PSLs.

The redlined worksheet table 15d gives the region 3 marine & freshwater numbers while the draft final includes mostly HHRA trigger levels which were used in the HHRA for the entrance channel.

The table 2-2 in the FYR used the CLTMP screening numbers from 2000 and there are a lot of exceedances for the area from P07-10 to P07-7 that need to be explained in an ERA type format.

Table 3-2 used SAIC derived numbers from 1998 and AWQC from 1999 and there seems to be less exceedances. Please reconcile the data tables and screening values used with the SAP.

16. Section 2.3.2.1, Page 2-12: Edit the first two sentences of the last paragraph.

17. Section 2.3.2.2, page 2-13: Edit the second sentence where “-24” is written.
18. Section 2.3.2.3, page 2-14: Edit the last sentence in the second paragraph where “wherein” is written.
19. §2.3.2.3, HHRA for site 7 uses sediment data from previous years since that was the maximum concentration found, however, the surface water COPCs were determined from data collected in 2012, EPA has only recently had the opportunity to evaluate the July 2012 data collection.
20. §2.4, Issues from the previous FYR: EPA agrees with the Navy that all recommendations have been implemented. However, the use of documentation from draft documents that were not followed through to the “official” final document (pages from the SAP dated March 2009) is not appropriate. EPA believes the 2011 SAP, the data dump provided in the fall of 2012, and the HHRAs performed in appendices E & F satisfactorily addressed most of the issues that effected protectiveness. The remaining important issue of the implementation of the ICs was addressed in May 2009 as noted in the report with the recording of the ELUR.

Section 2.4.2, Issue 2: Uncertainty Regarding CVOC Source Area, Page 2-19

21. The last sentence of this section (page 2-20) indicates that the Navy published the Draft Final Document (SAP for Source Area Investigation) in February 2010. The Navy should verify that the Draft Final SAP for Source Area Investigation was published in February 2010 and not February 2011.
22. P2-21 for issue 3 there is a note that the draft sap had a figure 4 which was a decision matrix and on p 2-20 there is a note that worksheet 11 contains evaluation criteria for the sentinel well. Please re-write as referencing a document that was never used or agreed to is inappropriate. In addition, the tables in this draft 5-YR use criteria noted in the original LTMs as screening criteria. This issue should have been addressed with new screening criteria EPA has published on our website. Please clarify.
23. P 2-24 please provide a schedule for submission of the document noted as “in process”

Section 2.5.2.1.1, EPA Region 1 and EPA Kerr Research Center, Page 2-26

24. The discussion of the EPA Region 1 Investigative Work concludes with the statement that “additional details regarding the work completed, interpretations and conclusions have been provided under separate cover (Shaw, 2012).” However, the Shaw, 2012 document is the Removal Action Completion Report for the Site 7 Removal Action. The FYR should be revised to provide the correct reference for the EPA Region 1 Investigative Work.
25. P 2-26 Please revise the reference from Shaw to “EPA-New England in consultation with Gannett Fleming/CDW”

26. P 2-26 last ¶ remove the last sentence as the Navy's opinion of the work EPA has funded at the site has no place in this document as it is a combative statement. It is inconceivable to EPA that Navy would not utilize the data collected in either a subjective or substantive manner to improve the remedy at the site.
27. The discussion of the Kerr Research Center Work (page 2-29, paragraph 3) indicates that the data analysis of the tidal study is presented in Section 3.5.2.1. However, the tidal study is discussed in Section 2.5.2.3.4 of the FYR. Please correct the above reference to the tidal study.
28. Page 2-29, the tidal study reference in chapter 3 should be changed to 2.5.2.3.4

Section 2.5.2.3.2, Deep Zone, Page 2-39

29. The discussion of the groundwater flow in the deep zone should be revised to acknowledge the upward flow of groundwater from the deep zone into the shallow zone in the area upgradient and adjacent to the Allen Harbor Entrance Channel where the silt confining layer is absent.

Section 2.5.2.3.4, Tidal Study, Page 2-41

30. To avoid any confusion, the discussion of the tidal study should include a bullet that clearly indicates that while tidal cycles are observed to induce temporary reversals in flow directions in portions of the Site 07 study area, the predominate flow direction remains radial to the west, south, and east.
31. The discussion of the tidal study (page 2-42) states that "the collection of groundwater elevations at a specific point in the tidal cycle may not provide the correct data to interpret the groundwater flow paths," and that "it is more useful to interpret spatial contaminant distribution to determine actual contaminant migration pathways." While the distribution of contaminants is an important element in determining contamination migration pathways, water level data can also provide useful information regarding the migration of contaminants, particularly the future migration of contaminants. While tidal effects complicate the analysis of flow directions at Site 07, it is customary to adjust water level data at such tidally influenced sites based on tidal studies conducted at such sites. The data obtained from the tidal study conducted at Site 07 should provide the basis for adjusting measured water levels according to the point in the tidal cycle and the size of the tidal fluctuation.

Since the data and analysis of the tidal study has not been fully reviewed by the BCT team, and a consensus has not been reached regarding the conclusions regarding the study; it does not appear appropriate to include the above statement in current FYR.

32. Page 2-41, the tidal figures should be included in the FYR, if the Navy includes the tidal discussion in the text.

Section 2.5.2.3.5, Impacts of Tidal Study on Primary Migration Pathways, Page 2-42

33. The Draft FYR provides estimates of migration rates and travel times from areas of the highest concentrations to the shoreline along the pathway to the Allen Harbor Entrance Channel. The discussion indicates that tides significantly impact the groundwater movement along this pathway. The discussion also implies that the rate and travel times estimates provided in this section are developed based on considerations of the impact of the tides. However, as noted in the presentation made previously to the BCT group on September 20, 2012, the effect of the tides is complex and temporary in nature. Little documentation has, as yet, been provided regarding the approach used to arrive at the above estimates. Accordingly, a consensus has not been developed regarding the impact of migration rates and travel times based on consideration of tidal fluctuations. Until the data and analysis of the tidal study are fully presented to the BCT team, presumably in the Long-Term Monitoring Data Summary Report that is in preparation, it appears most appropriate to refer to the migration rates and travel times in the current FYR in general terms. Perhaps, a statement indicating only that, “based on tidal considerations, travel times from the area of highest contaminant concentrations to the Allen Harbor entrance channel is expected to be on the order of decades” would be sufficient for the FYR.
34. When discussing the impact contaminant migration from MW07-42I to the shoreline, the Draft FYR (page 2-43) suggests that “contaminant migration (and contaminant mass/concentrations) approaching the shoreline environment are impeded, and concentration at the shoreline (are), in effect diluted and dispersed, when the tidal action results in a flow from the surface water system to the groundwater system.” It does not appear appropriate to imply that the tidal cycle impedes groundwater flow and the associated discharge of contaminants to surface water. The above statement only refers to the period of high tides. During periods of low tide, groundwater flow and associated contaminant discharge is actually facilitated by the tidal cycle. The net result is that plume discharge is based on upgradient average gradients not impeded by the tidal cycle. It is correct that a limited portion of nearshore area exists where fresh and saline groundwater will be exchanged during each tidal cycle. There may be some dilution due to dispersion in this area. However, the extent of this area is likely to be limited. Moreover the impact on contaminant concentration discharged to the surface water is uncertain. It is likely that the contaminant concentration of the discharge will vary with the tidal cycle, with few contaminants discharged during periods of high tide, some diluted discharge occurring during mid-tide periods, and contaminant concentrations reflective of the upgradient plume concentration during low tide. Such a discharge scenario would emphasize the importance of sampling near shore piezometers during or slightly after low tide. The Draft FYR review should be revised to more accurately reflect the impact of tidal cycles on the discharge of contaminants in the nearshore area. Perhaps it would be sufficient to say that tidal cycles will impact the contaminant concentrations observed in nearshore groundwater by introducing greater variability in the contaminant concentrations discharging to surface water.
35. The FYR (page 2-43) states that “tidal cycles also impact groundwater elevations, flow and migration towards Narragansett Bay as far inland as MW07-11D, while also

dominantly maintaining a downward gradient between MW07-11D and MW07-20S.” While this statement does not appear to be supported by any data provided in the FYR, water level contours maps for the shallow and deep groundwater zones included as part of the tidal study presentation made to the BCT team on September 20 2012 appear to indicate that vertical gradients in vicinity of MW07-11D are downward. However, the tidal cycles appear to have little influence on these downward gradients. These gradients are controlled by some other feature of the hydrogeologic system. The FYR review should be revised to more accurately reflect the flow regime in shallow and deep groundwater zones in the vicinity of MW07-11D. The FYR should reference or include any data in the FYR and/or analysis that is needed to support the analysis and conclusions regarding vertical groundwater flow in the vicinity of MW07-11D.

36. P 2-43, § 2.5.2.3.5 please clarify the statement "no consistent hydraulic connection between the source areas and the shoreline that would result in significant discharge of contamination at the Narragansett Bay shoreline"

Section 2.5.2.4, Groundwater Sampling Data, Page 2-43

37. The text (page 2-44) indicates “increasing trends for several principle CVOCs are consistently observed principal(ly) at MW07-11D, -19D, and -34D, each located immediately downgradient of elevated CVOC concentration areas, along each of the respective migration pathways.” The text continues by concluding that “this demonstrates that CVOC contamination continues to move along various identified migration pathways.” This language is somewhat ambiguous. It may be more appropriate to conclude that these increases in contaminant concentrations indicate that the main area of contaminant mass continues to migrate toward the shoreline. Since these increases in contaminant concentrations, most notably TCE, have been significant, it might be appropriate to quantify in the text the increase in primary contaminants that have been observed at these locations.
38. The text (page 2-44) states that “while increasing trends are observed for daughter products along the leading edges of the plume, no significant trends are occurring where the concentrations (parent and daughter products) are persistently elevated.” Based on this observation, the text concludes “this suggests that large-scale migration of the plume is not occurring, or is not occurring at a rate that is discernible, based on current LTM data.” The logic behind this statement is unclear. First, this conclusion appears to contradict the data discussed previously in the same paragraph (see Specific Comment No. 12). In addition, a pattern of increasing daughter products may indicate that the plume is passing through a nearshore environment where the primary contaminants are more readily degraded (e.g., a more reducing environment), resulting in the discharge of more daughter products rather than primary contaminants (PCA and TCE). The Draft FYR should be revised to clarify the meaning of the above cited statement.
39. P 2-45 last ¶ in §2.5.2.4 since Calf Pasture Point ground water quality designation is a potential drinking water source and the State has classified the area as a potable water supply, EPA requests Navy continue to analyze for metals (at least to support the FYR)

until such time as metals are below MCLs.

40. P 2-48, §2.5.2.7 the conclusions drawn here would be more persuasive with figures from each of the FYRs for the overall plume. How has the extent of the CVOC contamination changed over the past 15 years? Figures from 1 monitoring event do not illustrate the Navy's conclusion that the plume has not significantly advanced.
41. P 2-51 Last bullet, please provide the rationale for why the FYRs have concluded the remedy is not protective, i.e. plume movement could impact the shoreline with concentrations above 50,000 ppb CVOCs which could impact the benthic receptors negatively?
42. Section 2.6.2, page 2-57: Edit the last sentence of the next to last paragraph in this section where "39I" is written.
43. Section 2.6.3, page 2-57: EPA does not agree with the last sentence of the second paragraph. The migration from the source area through MW07-11D indicates that the extent of the plume is not stable, although it is agreed that the discharge would not affect protectiveness.
44. P 2-57, §2.6.3, second ¶, last sentence should be removed since the next paragraph explains why migration along this pathway does not affect protectiveness.
45. P 2-57, please add some clarification about the geology along the Narragansett Bay shoreline, i.e.; contamination beneath the silt layer possibly impeding contaminant migration.

Section 2.6.3, Question C: Has any other information come to light that could call into question the protectiveness of the remedy? Page 2-57.

46. When discussing the migration of the contamination recently observed at MW07-11D, the FYR (page 2-58, last sentence, first paragraph) concludes that "the same groundwater/surface water interactions observed along the Entrance Channel are likely to impede both groundwater flow and contaminant discharge along the Narragansett Bay shoreline." However, as indicated in Specific Comment No. 10 regarding discharges to the Entrance Channel, tidal fluctuations are not likely to impede the discharge to contaminant to the nearshore environment. Rather, tidal cycles will impact the contaminant concentrations observed in nearshore groundwater by introducing greater variability in the contaminant concentrations discharging to surface water. The draft FYR should be revised to accurately reflect in the impact of tidal cycles on the discharge of contaminants in the nearshore environment downgradient from MW07-11D.
47. P 2-58 second ¶, please note that the Navy has produced a recent HHRA with the conclusion that the contamination in the entrance channel does not pose a risk. When will an ecological risk evaluation be performed?

48. P 2-58 last paragraph, when will the most contaminated part of the plume discharge at either the entrance channel or Narragansett Bay?
49. Section 2.6.3, page 2-58: EPA asserts that ensuring “that the discharge of groundwater to wetlands and off-shore areas continues to pose no unacceptable risks from COCs” is not the only objective of the remedy. Another objective of the remedy is to ensure that the extent of the plume is stable or decreasing. The extent of the plume is clearly increasing as maintained by EPA in several rounds of comments. Although EPA agrees that unacceptable risk due to further migration of the plume is unlikely, Navy should include in an ESD cleanup timeframes and standards since the ROD did not include either.
50. On page 2-59, There seems to be an error on Issue 3 in the Table 2.7. The issue of an ESD for both soil and groundwater would affect future protectiveness.
51. P 2-59 the issues 1 & 2 noted in this table do not affect the protectiveness of the remedy. These concerns, while valid and important are not the type of issues that should be noted in a FYR. The issue noted on the previous page may affect protectiveness. Will the core of the plume with contaminant concentrations above 50,000 ppb (figure 2-14) daylight in the Harbor or the Bay in an area where human or ecological receptors could be exposed? If so, this is an issue that would affect protectiveness of the remedy.
52. Appendix B figures were revised and sent electronically on Tuesday January 8, 2013. Please include the revised figures in the revised FYR.

ALLEN HARBOR LANDFILL

53. P 3-6 first sentence, add ROD to the list of documents requiring LUCs
54. Section 3.3.2.3, page 3-16: Edit the next to last paragraph to correct the sentence “From 2007 through 2012, the Navy conducted annual has collected shellfish sampling from the landfill shoreline in the areas of P09-01, P09-09, and P09-10”.

Section 3.4.1, Issue 1, Page 3-17

55. The Navy and EPA need to reschedule the DQO meeting to support preparation of the SAP to revise the LTMP. Additionally, a comprehensive work plan/SAP for a revised LTMP is outstanding.

Section 3.4.3, Issue 3, Page 3-18

56. It is unclear whether the fact sheet posted at the public trail and bike path entrance in August 2009 is still present. The Navy should provide confirmation in the revised Five Year Review report. If a fact sheet is no longer present, a permanent fact sheet should be posted, especially in light of evidence of shellfishing in areas where such activity is banned.

Section 3.5.2, Data Review, Page 3-19

57. The second sentence indicates that data from 40 rounds of sampling are included in the review, but ME 40 data are not included in statistical analyses or discussion of results elsewhere in the Five Year Review Report. Likewise, page 3-22 (Section 3.5.2.2) states that 39 monitoring events were reviewed. Also, the name of the report mentioned in Section 3.5.2, “Long-Term Monitoring Summary Data Report (TetraTech, 2012a),” is not consistent with the reference in the appendix.

Section 3.5.2.1, Hydrogeology, Item 2, Page 3-20

58. P 3-20 please include some examples for the conclusions listed by way of data, graphs, or figures.
59. Item 2 concludes that since implementation of the landfill cap the vertical hydraulic gradients are upward in the southern portion of the landfill, suggesting that potential discharge zone may have shifted closer to the shoreline/landfill. However, it is unclear what evidence the Navy has that delineates the farthest eastern extent of the plume discharge location (1) prior to implementing the remedy and, likewise, (2) that the plume is no longer detected in these monitoring locations. If no such data exists to support this statement, then this statement should be revised accordingly.

Section 3.5.2.1, Hydrogeology, Item 5, Page 3-20

60. Item 5 concludes that established monitoring locations will continue to adequately monitor groundwater at the site. However, given the Navy’s uncertainty regarding the groundwater flow east of MW-20 and east of the breakwater, consideration should be given to performing additional groundwater monitoring (including piezometers) to confirm contaminant transport in groundwater through deeper stratigraphy beyond the breakwater.

Section 3.5.2.1, Hydrogeology, Page 3-20

61. In the final paragraph on this page, the text discusses hydraulic gradients based on data including three synoptic rounds of groundwater level measurements at low, mid, and high tide during ME40. While the text indicates that this is a preliminary discussion, the Five Year Review Report does not include the ME40 data on which the preliminary discussion is based. The Five Year Review needs to include the data that underlies a discussion in the text or the text should be revised and the discussion provided in the annual report.
62. Section 3.5.2.1, page 3-21: Please revise the incomplete sentence in item 3 “The potentiometric low for the whole site during high tide.”
63. §3.5.2.1, P3-22, #6, include the word “be” in the 2nd sentence, “Based on the surface

water elevation at mid and low tides, the potential groundwater discharge area is interpreted to near the Allen Harbor side of the breakwater structure and the adjacent areas.”

Section 3.5.2.1, Hydrogeology, Page 3-22

64. P 3-22 concluding paragraph of 3.5.2.1 seems to be premature since the conclusions are based on one set of measurements. Remove this section until such time as Navy has taken more measurements similar to the work done during the Calf Pasture Point tidal study.

Section 3.5.2.2, Groundwater Sampling Data, Page 3-23

65. In the first paragraph, the text states that the 1993 and 1995 RIs identified the CVOC groundwater plume extending beyond the footprint of the landfill to the south and east. At the end of the same paragraph the Navy indicates that 10 years of LTMP data do not indicate a spatially extensive plume. However, none of the LTMP sampling locations are outside of the landfill boundary. As a result, it is unclear if the Navy has data from beyond the landfill boundary to demonstrate that the plume is not spatially extensive.

Section 3.5.2.2, Groundwater Sampling Data, Page 3-23

66. In the second bullet the text indicates that CVOC concentrations in groundwater are stable or decreasing. While this may be true at selected groundwater monitoring locations, quite the opposite is true for CVOCs in MW-20. This statement gives the impression that the source of CVOC contamination would not present a future risk should the remedy fail. For example, the CVOC concentrations are indicative of a DNAPL source near MW-20. CVOC concentrations at MW-20I that increased over time include tetrachloroethene (PCE) and total 1,2-DCE. Likewise, total COVC concentrations at MW-20I are so highly elevated that the variation in concentrations over time is likely represent normal “noise” as opposed to a clear trend in concentration. A downward trend was reported for TCE at MW-2ID, yet concentrations are within a consistent range over time. Likewise, a downward trend was reported for 1,1,2,2-TCA at MW-20I, yet very high concentrations detected since 2003 do not appear to show a clearly increasing or decreasing trend. While the purpose of the Mann-Kendall analysis is not in dispute, the interpretation of downward trends for selected locations where contaminant concentrations are very high is somewhat misleading. Furthermore, the Navy should clarify whether a decreasing trend indicates a decrease in potential contaminant migration beyond the landfill.

Section 3.5.2.2, Groundwater Sampling Data, Page 3-23

67. In the second bullet, the text states that well locations where an increase in an individual contaminant concentration is observed, the Navy interprets this as continued degradation of parent chlorinated ethenes within well clusters rather than advancement of contamination from upgradient locations. However, while it may be true, this statement

overlooks the potential migration of this degradation beyond these sentinel wells. It is unclear if the Navy has data to that demonstrates the full extent of these degradation products beyond the sentinel wells, particularly in deep and intermediate stratigraphy. Additionally, the increasing concentration of vinyl chloride in MW-20 and MW-21 well clusters presents a greater risk than the parent compound. There is no discussion in the text regarding this issue. As a result, the text should be revised as appropriate.

Section 3.5.2.2, Groundwater Sampling Data, Page 3-24

68. In the first sentence on this page, it is unclear what the Navy attributes the elevated concentrations of arsenic to in the well in which the concentration exceeds the PAL.

Section 3.5.2.2, Groundwater Sampling Data, Page 3-24

69. In item 3, the text indicates that selected SVOCs and PCBs have been detected in shellfish samples collected within and beyond the breakwater. What is the Navy's interpretation of the source of these compounds in shellfish, if not from the migration of contaminated groundwater into sediment and porewater? The Navy needs to provide an analysis of the ME40 data and indicate whether contaminants in shellfish present an ecological risk or a risk to human consumption, and, if a risk is present, what steps may be needed to achieve protectiveness. This discussion should take place in the annual report since the data is not included in this report.

Section 3.5.2.2, Piezometers, Page 3-28

70. In item 3, the text indicates that metals, namely nickel, detected in piezometer samples are not present due to migration of contaminated groundwater from the landfill. What does the Navy attribute the elevated metals concentrations to? Additionally, the text does not adequately discuss the risk from contaminants exceeding PALs.

71. P 3-27, §3.5.2.2, 3rd sentence, please add the phrase, "one foot long" before the word "screened" for clarity.

72. P 3-27, #1, remove the last sentence since the Allen Harbor Landfill tidal study was performed with only one set of data and as such may not be scientifically valid.

73. P 3-29 top of page, please clarify that the risk assessment was performed during the RI in the 1990s, not recently.

74. Section 3.5.2.6, page 3-31: Please include a discussion of the chemical analytical results from the recent shellfish sampling beyond the Allen Harbor breakwater, including the VOCs that were analyzed.

75. P 3-34, §3.5.2.8.1, concluding sentence, it is interesting to note that even with the high CVOC contamination upgradient at MW20I there is still a lack of confidence that the landfill contamination is migrating to the created wetlands. What is the Navy's plan to

determine if the landfill contamination is migrating into the wetlands?

Section 3.5.2.8.4, Color-Tec Surface Water Field Screening Beyond the Breakwater of the Constructed Wetland, Page 3-36

76. In the third paragraph the text indicates that Color-tec screening results from the surface water investigation will be compared to results for piezometer and shellfish samples collected within the same area. What is the status of this analysis?

Section 3.5.2.9, Summary of Data Review, Page 3-36

77. The Navy states that the VOC plume in shallow groundwater extends to the south of the landfill, but that the groundwater does not transport significant concentrations of landfill constituents into near-shore sediments. While EPA partially agrees with these statements, it is unclear what data the Navy has used to either support or refute the delineation of the CVOC plume beyond the near-shore sediments.

78. P 3-38, §3.6.1, 2nd ¶, RAOs do not need the word “objectives” after it, please correct the first sentence.

Section 3.6.1, Question A, Page 3-39

79. For Sediment, the second paragraph indicates that PALs have been exceeded for PCBs in sediment, yet later in the same paragraph is the statement that the remedial action has reduced contaminant levels below PALs and sediments are not being re-contaminated by landfill constituents. While the landfill may not be currently re-contaminating sediment with PCBs, the PALs have been exceeded; as such, this sentence should be revised accordingly.

80. Section 3.6.1, page 3-39: In the section on wetlands, edit the 4th sentence “Over the past several years, concentrations in piezometer samples are at near long-term lows and there are no increasing trends for any CVOCs.”

Section 3.6.1, Question A, Page 3-40

81. In the second paragraph the text indicates a lack of vegetation is likely due to dead grass/vegetation accumulation. Is the dead grass/vegetation accumulated from the site, or off-site vegetation present in wrack debris?

Section 3.6.1, Question A, Page 3-40

82. For Shellfish, the text should indicate that evidence of shellfish harvesting from the landfill has been documented. While “no shellfishing” signs are present, it may be appropriate for Navy to recommend and take additional action to prevent future shellfishing at the site.

Section 3.6.2, Question B, Page 3-41

83. In the third bullet, the Navy should confirm whether the values in Table 8-2D need to be

updated in the revised report.

84. Section 3.6.2, page 3-41: In the first bullet it is stated that aquatic RSLs were reviewed by Tetra Tech in 2010 and determined that they were appropriate for all three sites with VOCs discharging to marine waters. Please provide documentation the Navy agrees with this determination and confirm that there are no changes appropriate since 2010.
85. Section 3.6.2, page 3-41: In the 3rd bullet it is stated that RIDEM Allowable Emission Rates for some chemicals may have changed and therefore it may be necessary to update Table 8-2D of the QAPP. Please ensure that this action item is addressed in Section 3.7.
86. Section 3.6.2, page 3-42: In the 2nd bullet on this page in the section entitled “Changes in Toxicity and Other Contaminant Characteristics”, please edit “The CSFs currently recommend by the USEPA for PCE and TCE...”
87. Section 3.6.2, page 3-43: In the section entitled “Changes in Risk Assessment Methods” it is asserted that the dermal risks of arsenic and PAHs would increase previously calculated risks. Please provide documentation for these calculations as an appendix.

Section 3.6.2, Question B, Page 3-44

88. In the first paragraph the text indicates that the effects of using the new guidance on the Site 09 data are not known. The Navy should confirm the effects in the revised report.
89. Section 3.6.4, page 3-47: in the last paragraph on this page, it is indicated that changes in risk assessment methods and toxicity may have increased the risk of recreational exposure to surface soils and sediment above 10E-4, however, remedial actions taken at the site have addressed these exposures and do not present a protectiveness concern. This should be confirmed by collecting and analyzing sediment in the area(s) where there is evidence that trespassers have been shell fishing despite the signage. Alternatively, such trespassing and shell fishing should be prevented by extension of fencing into the intertidal zone at both ends of the landfill and between the breakwater, riprap area and the landfill proper.

Section 3.6.4, Technical Assessment Summary, Page 3-47

90. The third paragraph indicates the RIDEM Allowable Emissions Rates used to evaluate gas vent emissions may need to be adjusted to reflect recent changes to RIDEM Air Resource Regulations. The Navy should confirm whether the adjustment is necessary and the impacts in the revised report.

Section 3.6.4, Technical Assessment Summary, Page 3-48

91. The third paragraph indicates “...the lack of increasing concentration trends in sediments/piezometers...” This statement should be revised to indicate that increasing trends are generally not observed. For example, upward trends for total arsenic in piezometers have been documented during the LTMP.

Section 3.6.4, Technical Assessment Summary, Page 3-48

92. The fourth paragraph indicates that further study to delineate the extent of CVOCs in groundwater beneath the harbor may be appropriate if CVOC concentrations increase from their current levels and unacceptable risks as suspected. It is unclear how and when the Navy would make this determination. Additionally, it is unclear how the Navy has concluded that unacceptable risks are not currently present beneath the harbor. Clarification is needed.
93. P 3-48 the issues noted in this table does not affect the protectiveness of the remedy. These concerns, while valid and important, are not the type of issues that should be noted in a FYR.
94. Appendix A Interview Records, no page numbers- electronic page 469, there is no time or date on the form and the header indicates the form was for the interview of Philip Bergeron but the text seems to be with the National Park Service, please clarify and correct. In addition, please clarify if the condition of the conveyance for both OUs is that they are not open to the public. It seems that Ms LaForest should be included on the RAB minutes mailing list to provide her with up to date information concerning the OUs.

If you have any questions with regard to this letter, please contact me at (617) 918-1384.

Sincerely,



Christine A.P. Williams, RPM
Federal Facilities Superfund Section

cc: Richard Gottlieb, RIDEM (via e-mail only)
Joan Taylor, RIDEM
Dave Barney, BEC (via e-mail only)
Johnathan Reiner, ToNK
Steven King, RIEDC
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