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U S NAVY RESPONSES TO RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL
MANAGEMENT COMMENTS ON CONCEPTUAL SAMPLING PLAN LONG-TERM
MONITORING PLAN OLD FIRE FIGHTER TRAINING AREA NS NEWPORT RI
4/27/2012
U S NAVY

**NAVY RESPONSES TO
RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT (RIDEM)
COMMENTS DATED APRIL 27, 2012
CONCEPTUAL SAMPLING PLAN, LONGTERM MONITORING PLAN
OLD FIRE-FIGHTING TRAINING AREA NAVAL STATION NEWPORT
NEWPORT, RHODE ISLAND**

Navy responses to RIDEM comments dated April 27, 2012 on the Conceptual Sampling Plan, Long Term Monitoring Plan, Site 9 Old Fire Fighting Training Area, Newport, RI are presented below. The RIDEM comments are presented first (in italics) followed by Navy's responses. Note that these responses have been incorporated in the Long Term Management Plan and the Sampling and Analysis Plan, which accompany these responses and replaces the subject document.

Specific Comments

1. **Comment:** *Page 1, Background; 3rd bullet.*

Please rewrite as follows: "Narragansett Bay is located downgradient of Site 9; therefore groundwater is saline and otherwise non-potable."

Response: The requested revision will be made.

2. **Comment:** *Page 1, Background; 5th bullet.*

RIDEM's Solid Waste Regulations require several wells to be located as close as practical downgradient to the waste boundary to ensure early detection of contaminants. Since the waste boundary is the shoreline (revetment area), please propose the installation of several downgradient monitoring wells inside the WMA as close to the revetment as possible, or within the sediment as close to the revetment as possible to allow the collection of pore water.

Response: Section 2.12.2 Paragraph 5 of the ROD discusses the monitoring requirements for the Site 9 remedy. Sub paragraph (a.) states that groundwater monitoring will be conducted upgradient of the compliance boundary and paragraph (b.) discusses downgradient monitoring and that sediment will be monitored downgradient. The ROD does not require downgradient monitoring of the groundwater therefore downgradient monitoring wells and sampling will not be included in the long term monitoring plan, however downgradient sediment will be monitored in accordance with the ROD.

Additionally, as provided in the Feasibility Study Technical Memorandum of July 15, 2010, "In accordance with the preamble to the NCP, "remediation levels...".... Downgradient groundwater is saline (ocean water), non-potable, and therefore, does not require monitoring..... Sediment monitoring will ensure that contaminated groundwater is not migrating offshore of the site, undetected." Therefore, downgradient groundwater monitoring is not required for this site.

3. **Comment:** *Page 1, Monitoring Objective; 3rd sentence.*

Please add "and downgradient of the Site" after "upgradient compliance boundary" and delete "for informal purposes" in this sentence.

Response: With regard to upgradient and downgradient please refer to the response to comment 2. The purpose of the monitoring for "informational purposes" was based on language in the final responses to comments on the Draft Final Feasibility Study Revision 1 for Site 9 Dated April 19, 2010. In the response to part 1 of the response (concerning the Waste Management Area) the Navy stated that:

"The Navy agrees to conduct groundwater monitoring at the compliance boundary to assure groundwater quality is not degrading, and proposes that the data be compared to risk based goals (PRGs) for informational purposes to meet the objectives of assuring that contaminants are not being removed from the soil and being transported outside the WMA."

4. **Comment:** *Page 2, Monitoring Objective; last sentence.*

If COC concentrations increase over any period, the team should convene to devise a response. A plan to address these increases should be devised, potentially with a higher sampling frequency.

Response: The frequency of monitoring will be revised. The Navy proposes to sample the groundwater on a semiannual basis. The results of the groundwater sampling will be evaluated and assessed annually in the annual report. In the event of an exceedance of the PALs, the exceedance will be discussed with the regulators in conjunction with the submittal of the annual report. If there is an exceedance of the PALs the annual monitoring report will make recommendations for sampling for the next year which could include an increase in sampling frequency. The sampling frequency would also be evaluated during the five-year review to determine if an increase or decrease in sampling frequency is appropriate.

5. **Comment:** *Page 2, Contaminants to Monitor, Groundwater.*

It is common practice to monitor for all contaminants periodically at waste management areas. This Office would like to see sampling for VOCs, SVOCs and metals as well on a less frequent basis than the listed contaminants to ensure permanence of the remedy.

Response: The soil, groundwater, and sediment were studied extensively during the various phases of the RI and FS to determine the contaminants of concern at this site. This site is not a waste disposal area but contains residual soil and groundwater contamination from specific activities that occurred at the site, and therefore it is unlikely that new contaminants would manifest themselves during the long term monitoring program. The long term monitoring plan will monitor for the COCs for which RGs are listed in the ROD.

6. **Comment:** *Page 2, Contaminants to Monitor, Sediment.*

Please also monitor for TPH in every sampling event since this site was a former fire-fighting training area with documented releases of petroleum.

Response:

Page 20 of the ROD states:

"Not evaluated in the risk assessments, but still of concern is residual petroleum from fire-fighting training operations. Petroleum is bound within the soil, particularly at the water table. Generally, petroleum is excluded from CERCLA risk calculations and CERCLA regulation and is normally remediated under other authorities, such as state regulations. However, the petroleum at this Site is comingled with other contaminants because of the routine burning of petroleum products, which occurred as part of the firefighting training operations at this site.

The CERCLA contaminants cannot effectively be addressed separately from the petroleum. Therefore, although these petroleum products are not identified as a concern for health and ecological risk, the Navy, EPA and RIDEM have agreed that this cleanup will address the petroleum in order to effectively address the comingled CERCLA contaminants."

TPH is not identified in the ROD as a COC and therefore, will not be monitored as a part of this remedy. Furthermore there are no regulatory TPH groundwater standards to meet. However, constituents that may contribute to TPH will be monitored, since groundwater cleanup levels have been established in the ROD.

7. **Comment:** Page 2, Monitoring Points, Groundwater.

It would seem prudent to include several wells downgradient of the Site as monitoring points as well. Please revise the document accordingly.

Response: Please see response to Comment 2.

8. **Comment:** Page 2, Monitoring Points, Groundwater.

Please provide ample rationale for proposing two monitoring wells for a WMA that is 8.2 acres in size. This Office believes additional monitoring points are warranted; please propose a sufficient amount of monitoring wells for this WMA.

Response: A limited number of groundwater monitoring points are proposed because it is unlikely that a flow reversal would occur which could carry contamination to upgradient areas. A limited groundwater monitoring program is appropriate due to the low likelihood of contaminants and groundwater moving upgradient. The number of monitoring wells will be revised to include two side gradient wells, however, one of the upgradient wells will be removed due to the possibility of the proposed surface water infiltration structure in affecting the groundwater in this upgradient area (See EPA Comment 6 concerning the infiltration structure).

9. **Comment:** Page 2, Monitoring Points, Sediment.

In addition to the five previous intertidal sampling points, please also include three additional locations at the former discharge points from the two oil/water separators and the unknown pipe. Also, please include the proposed depth for the sediment samples as they should be taken at the original depth where elevated levels were observed.

Response: The objective of the sediment sampling is to assure that contaminants are not migrating out of the Waste Management Area (WMA) in the groundwater and being deposited in the sediment. The point sources of contamination that may have been associated with the previous discharge points have been remediated during the removal actions, therefore, the purpose of the sediment sampling is not to investigate these point sources but to evaluate the potential groundwater to sediment migration pathway.

The sediment sample locations will be shifted to be more evenly spaced across the site in response to EPA comment 6b on the Conceptual Long Term Monitoring Plan.

10. **Comment:** Page 2, Project Action Levels, Groundwater.

Please delete "MCLs or upgradient concentrations prior to remediation, whichever are higher." The PALs for groundwater should be the cleanup levels in the ROD.

Response: As discussed in response to Comment 3, the Navy agreed to monitor groundwater upgradient to the risk based levels for informational purposes. The Navy agrees that the groundwater should be compared to ROD cleanup levels; however, the Navy proposes to also use MCLs to determine if contaminants are being transported out of the WMA. The Navy also proposes to use the arsenic MCL (10 µg/L) as the PAL because the ROD cleanup level for arsenic (0.04 ug/L) is below the lowest available laboratory detection limits (SW-846 6020A inductively coupled plasma-mass spectrometry).

11. **Comment:** Page 3, Project Action Levels, Groundwater, table.

Please change the Project Action Levels to be equivalent to the ROD Cleanup Levels. Also, please verify the ROD Cleanup Level for 2-methylnaphthalene, should it be 128 ug/l?

Response: See the response to comment 10. The cleanup level for 2-methylnaphthalene has been corrected.

12. **Comment:** Page 3, Project Action Levels, Sediment.

"Compare to previous data and see if there is an upward trend..."

Please specify in this section the data to be used in this comparison (i.e. all previous sampling rounds, most recent, etc.).

Response: To establish a trend from post remedial action, it is more appropriate to use the most recent historical sampling round for comparison. This will be indicated in the sampling plan. The earlier historical data would have included samples collected prior to removals that addressed some contributors to the PAHs in the sediment, therefore, using the older historical data might artificially skew the concentrations used for comparison to post closure samples higher than the conditions when sediment was removed as a media of concern. The mean historical sediment concentration(s) of the 2005 data, plus two standard deviations will be used as the sediment PAL.

13. **Comment:** Page 3, Sampling Frequency

RIDEM does not agree with the Navy's proposed sampling frequency. In accordance to our Solid Waste Regulations Section 2.1.08(c) listed in the ARAR Table A-3 of the ROD, please state in this section that the sampling frequency shall be semi-annually. During the 5-year review, the data should be evaluated to determine if a change in the sampling frequency is warranted.

Response: Please see response to Comment 4.

14. **Comment:** Page 4, Decision Rule #1; 2nd sentence.

Please rewrite this sentence as follows: "If monitoring data exceeds site historical groundwater data and/or the site cleanup levels, the sampling frequency may be increased to a higher frequency if necessary; otherwise, continue to monitor as scheduled."

Response: The decision rule will be modified to be in agreement with the response to Comment 4. Please see the response to Comment No. 4.

15. **Comment:** Page 4, Decision Rule #2; 2nd sentence.

Please rewrite this sentence as follows: "If monitoring data exceeds site historical sediment data during one monitoring period, the sampling frequency may be increased to a higher frequency if necessary for both sediments and groundwater; otherwise, continue to monitor as scheduled."

Response: The decision rule will be modified to be in agreement with the response to Comment 4. Please see the response to Comment No. 4.

16. **Comment:** Page 4, Decision Rule #3.

RIDEM believes a Decision Rule #3 should be inserted into The Conceptual Monitoring Plan for a situation that allows for more active treatment (i.e. not just a higher frequency of monitoring) if it becomes necessary.

Response: The decision rules define that a suitable response to an increase in COC concentrations will depend on the location and magnitude of the contamination. The intent of the decision rules are to allow the Project Team to determine the best response to future conditions. Note however that formal documentation of a change to the remedy is required, prior to implementing any changes. That is not the purpose of a SAP.

