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December 8, 2006

Project Number 112G00578

Mr. Valdis Jurka  
Naval Facilities Engineering Command, Mid-Atlantic  
Environmental Restoration  
Bldg N-26, Room 3208  
9742 Maryland Avenue  
Norfolk, Virginia 23511-3095

Reference: CLEAN Contract No. N62472-03-D-0057  
Contract Task Order 056

Subject: Draft Final Record of Decision for Operable Unit 2/Site 6, Responses to EPA Region I's  
November 8, 2006 Comments, and Draft Administrative Record Index  
Naval Submarine Base-New London, Groton, Connecticut

Dear Mr. Jurka:

Please find enclosed three copies of the subject documents for your review, comment, and/or approval. Copies of the documents were also distributed to Mr. Richard Conant at NSB-NLON, Ms. Kymberlee Keckler at EPA – Region I, and Mr. Mark Lewis at CTDEP per the distribution list provided below for their concurrent review, comment, and/or approval.

The Record of Decision was updated per the responses in the attached Response-to-Comment Document (December 4, 2006). Please note that the Connecticut Concurrence Letter (Appendix D) and Subbase IR Instruction (5090.18C) (Appendix E) are not included in this submission of the Record of Decision. They will be provided for inclusion into the document when they are available.

Hopefully, this version of the Record of Decision will serve as the final version; however, if there are any additional comments on the document, please provide them to me at your earliest convenience. If you have any questions regarding any of the documents, please contact me at (412) 921-8984.

Sincerely,

Corey A. Rich, P.E.  
Base Coordinator/Project Manager

Enclosure(s)

c: Ms. Lee Anne Rapp, NAVFAC Atlantic (w/o enclosure)  
Ms. Bonnie Capito, NAVFAC Atlantic (w/o enclosure)  
Mr. Richard Conant, NSB-NLON (3 copies)  
Ms. Kymberlee Keckler, EPA-Region I (1 copy)  
Mr. Mark Lewis, CTDEP (1 copy)  
Ms. Jennifer Stump, Gannett Fleming (1 copy)  
Mr. John Trepanowski, TtNUS-KOP (1 copy)  
Ms. Nina Balsamo, TtNUS-PITT (1 copy)  
CTO 056 – File Copy (1 copy)

**RESPONSES TO EPA REGION I's NOVEMBER 8, 2006 COMMENTS  
ON THE DRAFT RECORD OF DECISION FOR  
OPERABLE UNIT 2 – SITE 6 SOIL AND GROUNDWATER  
NAVAL SUBMARINE BASE – NEW LONDON, GROTON, CONNECTICUT**

**DECEMBER 4, 2006**

**GENERAL COMMENTS**

**Comment 1:**

EPA hopes to include the revised SOPA as Appendix E in place of the February 2003 version and trusts that our respective agencies can work cooperatively to accomplish this.

**Response:**

Agree. The Navy anticipates having SOPA NLONINST 5090C (December 2006) completed for inclusion in the final ROD.

**SPECIFIC COMMENTS**

**Comment 1: p. 1-2, §1.4**

Please also describe the interim remedy under the 1998 Interim ROD.

**Response:**

Agree. The following paragraph will be added to Section 1.4 on p. 1-2:

"An Interim ROD (B&RE, 1998b) was signed for OU2 that selected institutional controls and monitoring as the interim remedy. Institutional controls, consisting of maintenance of the existing cap, limitations to site access, and restrictions on land development, were implemented as part of the Interim Remedy. In addition, groundwater monitoring was conducted at the site to confirm that no significant contaminant migration was occurring. The results of 7 years of monitoring have shown that no significant contaminant migration has occurred from Site 6 and justifies the final remedy selected for OU2 in this ROD."

**Comment 2: p. 1-2, §1.4, ¶2**

Change the last sentence to: "...monitoring and maintenance of the existing asphalt and GCL cover on the site, institutional controls (including limiting site access; adherence to [list what "SOPA" abbreviates] (SOPA) Instructions regarding excavation, dewatering, and heavy equipment; at least annual monitoring of compliance with the restrictions; and, in the event of transfer from Navy Control, creating a deed for the property that would include land use restrictions that would meet all applicable state property law standards for placing environmental land use restrictions on contaminated property), continuation of the existing groundwater monitoring plan, and five-year reviews."

**Response:**

Agree. The text will be changed to the following:

"The Navy has determined that institutional controls and monitoring are appropriate for the contaminated soil and groundwater at this site. Potential exposure to soil and potential migration of contaminants into the groundwater and Thames River are the principal threats posed by the site. This remedy involves monitoring and maintenance of the existing asphalt and GCL cover on the site, institutional controls (including limiting site access; adherence to Standard Operating Procedure Administrative (SOPA) Instructions regarding excavation, dewatering, and heavy equipment; at least annual monitoring of compliance with the restrictions; and, in the event of transfer from Navy Control, creating a deed for the property that would include land use restrictions that would meet all applicable state property law standards for placing environmental land use restrictions on contaminated property), continuation of the existing groundwater monitoring plan, and five-year reviews.

**Comment 3: p. 1-2, §1.5**

At the end of the third sentence add: "in addition to regular monitoring of the integrity of the cover and compliance with institutional controls." Modify the fourth sentence as follows: "will be conducted at least every five years."

**Response:**

Agree. The third and fourth sentences in Section 1.5 on p. 1-2 will be changed to the following:

"Therefore, groundwater monitoring will be implemented to assess whether the remedy is achieving long-term remedial requirements in addition to regular monitoring of the integrity of the cover and compliance with institutional controls. A review of monitoring data and site conditions will be conducted at least every five years to ensure that the remedy continues to provide adequate protection of human health and the environment."

**Comment 4: p. 2-14, ¶4**

The second sentence states that federal and state human health standards for consumption of organisms were used for evaluating monitoring results. These guidances should be cited as action-specific TBCs for monitoring.

**Response:**

Disagree with clarification. The referenced standards are part of the federal AWQC and Connecticut WQs. A reference to the Connecticut WQs is already included in Table 2-17 (Action-Specific ARARs). The text on pp. 2-14 and 2-15 will be revised to clarify that Connecticut WQs were used as the secondary criteria and federal AWQC were considered but not selected for use. Therefore, a citation to the federal AWQC as action-specific TBCs will not be made. This approach was taken because Connecticut RSRs require the use of Connecticut WQs to calculate Alternative SWPC. The Alternative SWPC, which were calculated using the Connecticut WQs, are being used as primary criteria for the Site 6 monitoring program.

**Resolution:**

This comment was discussed with EPA during a conference call on November 29, 2006. EPA generally agreed with the response to the comment. They agreed that the Connecticut WQs were applicable to the site and that the federal AWQC should not be

listed as action-specific TBCs for the site. Applicable changes will be made to the text on pp. 2-14 and 2-15 to clarify the issue.

**Comment 5: p. 2-33, ¶2**

Add a new fourth sentence that states: "The Interim ROD Chemical-specific TBCs were changed to be consistent with standards for other remedies at the base." Change the old fourth sentence to: "...(TBCs) for this Final ROD are listed in Tables...." Remove the last sentence since all of the ARARs pertain to ongoing O&M obligations (see also specific revisions to the ARARs tables).

**Response:**

Agree. The requested text changes will be made.

**Comment 6: p. 2-33, ¶4**

Please add the new EPA risk guidance cited here to the Chemical-specific TBCs (see also specific revisions to the ARARs table).

**Response:**

Further clarification required. The two new EPA risk guidance were not used to calculate risks or cleanup goals for the site covered by this ROD. They may be useful in the future if the cap fails. Therefore, it does not seem appropriate to include them in the ARAR table. It would seem more appropriate to include EPA Cancer Slope Factors (CSFs) and Reference Doses (RfDs) since they were used to calculate the risks and they would also be used in the future to estimate risks .

**Resolution:**

This comment was discussed with EPA during a conference call on November 29, 2006. EPA and Navy agreed to include the two new EPA risk guidance as chemical-specific TBCs in Table 2-15. CSFs and RfDs will also be included in Table 2-15 as chemical-specific TBCs per the table provided by the EPA and shown below.

Requirement	Citation	Status	Requirement Synopsis	Evaluation/Action to Be Taken
<b>FEDERAL</b>				
Cancer Slope Factors (CSFs)		TBC	CSFs are guidance values used to evaluate the potential carcinogenic hazard caused by exposure to contaminants	The selected remedy would prevent exposure to contaminated media and thereby minimize human health concerns.
Reference Dose (RfDs)		TBC	RfDs are guidance values use to evaluate the potential noncarcinogenic hazard caused by exposure to contaminants.	The selected remedy would prevent exposure to contaminated media and thereby minimize human health concerns.

STATE OF CONNECTICUT

**Comment 7: p. 2-36, §2.9.1, ¶2**

Change sentence to: "This alternative would not comply with Chemical-specific ARARs and TBCs, specifically: (retain the CT RSRs, add EPA risk guidances, and remove federal floodplain executive order and coastal zone management since there are no location or action-specific ARARs for a no action alternative).

**Response:**

Agree. The subject text will be changed as follows:

"This alternative would not comply with the following key ARARs:

- CTDEP RSRs (direct exposure criteria would be applicable in the future if the existing cap deteriorates and the contaminated soil is no longer considered "inaccessible").
- EPA Risk Guidance (methodologies would be applicable for estimating risks if the existing cap deteriorates and the contaminated soil is no longer considered "inaccessible")."

**Comment 8: p. 2-36, last ¶**

Add at the end of the last sentence: ", except for the cost of statutorily required five-year reviews."

**Response:**

Agree. The last sentence will be changed to the following:

"There are no costs associated with this alternative, except for the cost of statutorily required five-year reviews."

**Comment 9: p. 2-37, ¶5**

In the first sentence remove "30 years" and in the second sentence remove "to" after "reviews would."

**Response:**

Agree. The requested text will be removed.

**Comment 10: p. 2-37, ¶6**

Cite Table 2-16 and include a bullet for each location-specific ARAR.

**Response:**

Agree. The requested change will be made.

**Comment 11: p. 2-37, ¶7**

Please put the Chemical-specific paragraph before the location-specific paragraph. Cite Table 2-15 and include a bullet for each chemical-specific ARAR. Remove the text after "ARARs and TBCs" since the CT RSRs are action-specific for this alternative (since they are used for monitoring not clean up).

**Response:**

Agree with clarification. Per the response to Specific Comment 6, the citations that will be included in Table 2-15 are the two new EPA risk guidance, CSFs, and RfDs. All of these are chemical-specific TBCs. The requested text changes will be made.

**Comment 12: pp. 2-37 & 2-38**

Add a paragraph for the action-specific ARARs that cites Table 2-17 and lists each ARAR and TBC with a bullet.

**Response:**

Agree. The requested text will be added.

**Comment 13: p. 2-38, ¶1**

The cost of the remedy should be calculated as 30 years after signature of the ROD not 30 years from the Interim ROD (which is how it is described elsewhere in the text. See also comment for page 2-48).

**Response:**

Further discussion required. The cost estimate would essentially be the same because the selected alternative in the Interim ROD is the same as the selected alternative in the Final ROD. In addition, the costs were already presented in the Proposed Plan and discussed with the public at the November 2, 2006 Public Meeting. It appears that no change is required.

**Resolution:**

This comment was discussed with EPA during a conference call on November 29, 2006. EPA and Navy agreed to update the baseline-year for the cost estimate from 1998 to 2006 and to estimate costs for 30 years into the future. In addition, the cost estimate will only consider future costs and not any actual costs from 1998 to 2006. It was noted that groundwater monitoring will be conducted every 2 years in the future. The EPA indicated that it is okay to change the cost estimate after the Public Meeting.

The revised cost estimate was subsequently prepared and the net present worth cost for Alternative 2 is \$482,000. The net present worth for Alternative 2 in the draft ROD was \$805,000.

**Comment 14: p. 2-39, ¶1**

In the second sentence insert “land use restrictions would be enforced,” before “and the DRMO would....”

**Response:**

Agree. The requested text will be added.

**Comment 15: p. 2-39, §2.10.2, ¶1**

Change the first sentence to: “...chemical-specific ARARS. No location-specific or action-specific...”

**Response:**

Agree. The requested text change will be made.

**Comment 16: p. 2-39, §2.10.2, ¶2**

At the end of the last sentence add: “or during any future O&M activity.”

**Response:**

Agree. The requested text will be added.

**Comment 17: p. 2-39, last ¶**

Change the first sentence to: “Alternative 2 would be effective in the long-term.”

**Response:**

Agree. The requested text change will be made.

**Comment 18: p. 2-40, §2.10.5, ¶1**

At the end of the last sentence, add: “, other than conducting five-year reviews, which would be easily implementable.”

**Response:**

Agree with clarification. The comment incorrectly references Section 2.10.5, but the correct section is Section 2.10.6. The requested text will be added.

**Comment 19: p. 2-41, §2.10.7**

The cost of the No Action alternative must include the costs of conducting a statutory five-year review because wastes will be left in place.

**Response:**

Agree. A cost estimate for the No Action Alternative will be prepared and included in the ROD. The costs of conducting statutory five-year reviews will be included in the estimate.

The revised cost estimate was subsequently prepared and the net present worth cost for Alternative 1 is \$32,300. The net present worth for Alternative 1 in the draft ROD was \$0.

**Comment 20: p. 2-42, §2.12, ¶2**

In the first sentence add “maintaining” after “in addition to” and in the third sentence add “and maintenance of the other components of the remedy” after “continuance of these institutional controls.”

**Response:**

Agree. The requested text will be added.

**Comment 21: p. 2-42, §2.12.1, ¶2**

Change the first sentence to: “Institutional controls will include limitations on site access, restrictions on land use, and monitoring and enforcement of compliance with land use restrictions.” This section should refer to Appendix E.

**Response:**

Agree. The requested text change will be made.

**Comment 22: p. 2-42, §2.12.1.1**

This section should refer to the O&M manual.

**Response:**

Agree with clarification. A reference to the O&M Manual is already provided in the second sentence of the first paragraph of Section 2.12.1.1.

**Comment 23: p. 2-43, ¶1**

In the last sentence add: “, monitoring wells, and any other remedy components” after “asphalt layer.”

**Response:**

Agree. The requested text will be added.

**Comment 24: p. 2-43, ¶3**

In the second sentence add “(Appendix E)” at the end. Please update the language if we are able to include the updated SOPA as Appendix E.

**Response:**

Agree. The requested text will be added. See the Response to General Comment 1. The Navy anticipates having SOPA NLONINST 5090C (December 2006) completed for inclusion in the final ROD.

**Comment 25: p. 2-44, ¶4**

In the last sentence remove "or residential land" and add a new last sentence: "Residential use would be limited by soil contamination restrictions."

**Response:**

Agree. The requested text changes and additions will be made.

**Comment 26: p. 2-45, Bullets 6&7**

Time periods for the Navy taking action and notification of EPA and CTDEP should be consistent with FFA requirements (a breach of the ICs will be viewed as remedy failure).

**Response:**

Further clarification required. The time periods specified in Bullets 6 and 7 are consistent with the recently prepared Remedial Design for Land Use Controls for Sites 3 and 7 (June, 2005). The EPA reviewed and provided approval of this document.

**Resolution:**

This comment was discussed with EPA during a conference call on November 29, 2006. It was agreed that each party would review the FFA for New London to determine if there are any time periods specified for notification or taking action. The Navy RPM and TtNUS Project Manager subsequently reviewed the FFA and did not find any relevant information. All time periods specified in the FFA are related to completion of primary and secondary documents or dispute resolution related to the documents. The Navy will keep the current time frames specified in the draft ROD to be consistent with the Remedial Design for Land Use Controls for Sites 3 and 7.

**Comment 27: p. 2-46, ¶1**

Time period for notifying the regulators of a transfer or sale should be consistent with the FFA.

**Response:**

Agree with clarification. See Response and Resolution to Specific Comment 26.

**Comment 28: p. 2-47, ¶2**

In the first sentence replace "30 years" with "as long as contamination on-site poses a CERCLA risk."

**Response:**

Agree. The requested text will be added.

**Comment 29: p. 2-47, ¶14**

At the end of the first sentence, add “, monitoring well network, and any other components of the remedy.”

**Response:**

Agree. The requested text will be added.

**Comment 30: p. 2-48, ¶1**

In the third sentence replace “(zero cost)” with “(cost estimate for conducting five-year reviews)” and in the sixth sentence add “and enforces” after “the Base maintains.”

**Response:**

Agree. The new cost estimate for the No Action alternative will be added. The requested text will be added.

**Comment 31: p. 2-48, ¶2**

Remove the second sentence since the remedy cost should be based on 30 years from the final ROD not the Interim ROD.

**Response:**

Agree. The sentence will be removed.

**Comment 32: Tables 2-5 to 2-8**

Please explain how the criteria were selected. For most of the chemicals, the less restrictive criteria were selected. There should be a consistent rationale for monitoring chemicals against either the State criteria, the Federal criteria, or all site-specific criteria.

**Response:**

Agree with clarification. Criteria selection and data evaluation for the groundwater monitoring program at Site 6 have evolved over the past 7 years. Changes to Connecticut WQSs, methods for calculating Thames River dilution factors, and other information have resulted in several changes to the criteria for the monitoring program. Therefore, it was difficult to present all of the information used through the years for selection of the criteria. Tables 2-5 and 2-6 summarize the initial criteria and Tables 2-7 and 2-8 summarize the latest criteria used in the monitoring program. To avoid confusion, simplify the information, and make the tables consistent with the response to Specific Comment 4, the following changes will be made to Tables 2-5, 2-6, 2-7, and 2-8:

- The Background Concentration and Selected Criterion columns will be removed from Table 2-5. The background data presented in this column was incorrect in

the original Groundwater Monitoring Plan (February 1998) and should not have been reproduced in this table. Background concentrations of inorganics in groundwater were not developed until 2002. The Selected Criterion column is not required. Notes 1 and 5 will also be deleted from the table and the remaining notes will be renumbered.

- The Federal AWQC column (Aquatic Life and Human Health) and Selected Criterion column will be removed from Table 2-6. The Federal AWQC were not used as secondary criteria. The Selected Criterion column is not required. Notes 1, 3, and 7 will be deleted from the table and the remaining notes will be renumbered.
- Note 5 will be changed to the following on Table 2-7: "5 Criteria selected for comparison against groundwater concentration. The selected criterion for VOCs is the most conservative of the Site-Specific SWPC and CTDEP Volatilization Criteria. The selected criterion for SVOCs, PAHs, and Inorganics is the Site-Specific SWPC. The CTDEP SWPC were not considered because they use a default dilution factor which does not consider site-specific conditions."
- The Federal AWQC column (Aquatic Life and Human Health) and Selected Criterion column will be removed from Table 2-8. The Federal AWQC were not used as secondary criteria. Notes 1, 3, 7, and 10 will be deleted from the table and the remaining notes will be renumbered. Note 6 will be renumbered to Note 4 and changed to the following on Table 2-8: "4 Criterion selected for comparison against groundwater concentrations. The lesser of the aquatic life and human health Connecticut WQS was selected as the monitoring criteria because the Connecticut WQSs were used to calculate the Alternative SWPC on Table 2-7 following CTDEP RSRs."
- The selected criteria for cadmium in Table 2-8 will be changed to 9.3 µg/L and the selected criteria for silver will be changed to 107,692 µg/L. The aquatic life WQS for silver is not applicable because it is for acute conditions versus chronic conditions.

These changes will subsequently be incorporated into the Second Five-Year Review and O&M Manual Volume II – GMP.

**Resolution:**

This comment was discussed with EPA during a conference call on November 29, 2006. It was generally agreed that the changes specified in the response would be made to the tables.

**Comment 33: ARARs Tables**

Add a status column for "Applicable," "Relevant and Appropriate," or "To Be Considered" to all three tables.

**Response:**

Agree. The column and descriptors will be added to Tables 2-15 through 2-17.

**Comment 34: Table 2-15**

There are no State chemical-specific ARARs or TBCs

To the federal TBCs add the two new cancer risk guidance cited in the comment for page 2-33:

- Guidelines for Carcinogen Risk Assessment, EPA/630/P-03/001F (March 2005)
- Supplemental Guidance for Assessing Susceptibility from Early-Life Exposure to Carcinogens, EPA/630/R-03/003F (March 2005)

**Response:**

Agree. See response to Specific Comment 6.

**Resolution:**

This comment was discussed with EPA during a conference call on November 29, 2006. Table 2-15 will be updated per the response provided for Specific Comment 6.

**Comment 35: Table 2-16**

Add a status column and list all standards as "Applicable."

For the Current Status/Applicability text for each standard, add at the end of the last sentence: "and O&M of the remedy" after "This requirement is applicable during well abandonment."

**Response:**

Agree. The requested changes will be made to Table 2-16.

**Comment 36: Table 2-17**

Add AWQCs to federal ARARs for monitoring:

- Clean Water Act, Ambient Water Quality Criteria (AWQC)/ 40 C.F.R. §122.44 / Applicable/ Federal water quality standards for the protection of human health and the environment./ Text from the CT Water Quality Standards except in the second sentence change "Connecticut WQS" to "federal AWQCs."

**Response:**

Disagree. AWQC were not selected for use as monitoring criteria. Revisions to the text will be made to clarify this issue.

**Resolution:**

This comment was discussed with EPA during a conference call on November 29, 2006. The EPA agreed with the response and retracted their comment. Federal AWQC will not be added to Table 2-17.

**Comment 37: Table 2-17**

Add a status column; All of the cited federal and state statutes and regulations are "Applicable." Guidances are "To Be Considered."

**Response:**

Agree. The requested changes will be made.

**Comment 38: Table 2-17**

For Current status for the Federal PCB Guidance, change the last sentence to: "This guidance will be followed when conducting O&M or if the site use changes, such as if the site is used for Yacht Club parking."

**Response:**

Agree. The requested text change will be made.

**Comment 39: Table 2-17**

CT Noise and Soil Erosion Guidance: For the Current Status/Applicability text for each standard, add at the end of the last sentence: "and O&M of the remedy" after "This requirement is applicable during well abandonment."

**Response:**

Agree. The requested text will be added.

**Comment 40: p. 3-1, §3.3**

Change 'was' to 'were.'

**Response:**

Agree with clarification. The requested text change would be appropriate if no comments were received during the public comment period; however, comments were received and all of the text for Section 3.3 will be changed as appropriate to respond to the comments.