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March 17, 2009

Project Number 112G00949

Ms. Kymberlee Keckler, Remedial Project Manager
U.S. EPA Region I
1 Congress Street, Suite 1100
Boston, Massachusetts 02114-2023

Reference: CLEAN Contract No. N62467-04-D-0055
Contract Task Order No. 458

Subject: Response to Comments, EPA Letters dated 9/16/08 and 3/4/09
Site 17, Gould Island,
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 U.S. EPA dated September 16, 2008, which was in reference to the Draft QAPP for Phase 2 RI and Baseline Ecological Risk Assessment at Site 17, Gould Island.

You will recall that several submittals have been provided to your office since that letter was issued, including a discussion on chromium speciation (resolved in November, 2008) and a preliminary response to dated January 29, 2009. Additionally, U. S. EPA provided another comment letter on March 4, 2009. This submittal provides Navy position the issues cited in the September 16, 2008 letter as well as those cited in the March 4, 2009 letter.

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

Enclosures

c: D. Barclift, NAVFAC (w/encl.)
A. Bernhardt, TtNUS (w/encl.)
K. Finkelstein, NOAA (w/encl.)
B. Hoskins, USEPA (w/encl.)
W. Johnson, NAVFAC (2, w/encl.)
P. Kulpa, RIDEM (2, w/encl.)
C. Mueller, NAVSTA (2, w/encl.)
S. Parker TtNUS (w/encl.)
AR, c/o Glenn Wagner, TtNUS Pittsburgh (w/encl.)
File 112G00949-3.2 (w/encl.)

Tetra Tech NUS, Inc.
55 Jonspin Road, Wilmington, MA 01887-1020
Tel 978.474.8400 Fax 978.474.8499 www.ttnus.com

ATTACHMENT A
Response to Comments From USEPA
Re: RTC on QAPP for Draft Phase 2 RI and BERA
Comments dated September 16, 2008 and March 4, 2009

Page	Comment
LC1	*EPA recommended that samples analyzed for metals include speciation of chromium, because chromium VI is likely to occur on-site, given the former plating operations at the site. The response argues that chromium speciation is not needed for human health because the agreed upon approach using RIDEM DEC values does not distinguish between forms of chromium. Regarding ecological risk, the response argues that the ecological screening value is based on total chromium and not hexavalent chromium. This is true and toxicity testing will evaluate the potential effects of chromium, whether the form in sediment is Cr (VI) or Cr (III). There are two aspects of the ecological risk assessment where the form of chromium is relevant: the selection of literature TRVs for the biota tissue comparison and the selection of TRVs for piscivores. Without speciation data, Cr (VI) must be assumed when selecting these TRVs. The argument at the end of the response is accurate but does not fully support assuming chromium is in the Cr (III) form on-site. While the RI discussed the geochemical factors affecting speciation of chromium - that Cr (VI) is not very stable and is readily reduced to Cr (III) - it does not provide a technical basis for how specific site conditions would likely favor the reduction of Cr (VI) to Cr (III) (see also SC23).*
Final Response:	The Navy has provided a separate submittal dated October 2, 2008 on this subject. EPA provided comments on the document, and it was revised and resubmitted November 12, 2008. The document provides a basis for not conducting chromium VI speciation. EPA provided concurrence with the revised document on December 10, 2008. Thus the issue and comment is considered resolved.
LC3	*EPA noted that comparing COC with LOEC and using average tissue concentrations, rather than maxima, is not the most protective approach for ecological risk assessment. The response asserts that a less conservative approach is appropriate for this BERA, as it is not a screening evaluation. It is true that removal actions may not be driven by risk estimates based on maximum values and NOEC TRVs. Nevertheless, risk decision about remediation and further evaluation can be better supported if the risk assessment presents a matrix showing the HQs based on 1) maximum EPC and NOECs, 2) maximum EPC and LOECs, 3) average EPC and NOEC, and 4) average EPC and LOEC. A thorough presentation of the data, including the conservative approaches, is particularly important, as this BERA is not simply a reevaluation of the Phase I RI risk assessment using updated methodologies but will incorporate new, unevaluated site data.*
Final Response:	This issue was discussed on a conference call on January 20, 2009 with USEPA and NOAA. At that call it was agreed that an ERM quotient approach can be utilized. The ERM-Q approach will be added to the flow chart and dthe text of the SAP, as will a box to "consult with EPA, RIDEM, and Trustee Agencies" in cases where the dose-response is not clear. See revised flow chart. In addition, the Navy agrees to conduct food chain modeling using maximum and average chemical concentrations and NOAELs and LOAELs as the TRVs to present the range of risks.
SC7	*Response is acceptable as long as the soil pile is going to be investigated as part of the FUD Site.*

Final Response: To clarify, it is the Navy's understanding that the coal pile area adjacent to Site 17 is identified as a site under the FUDs programs, but the Navy cannot speculate on the location and distribution of samples and other details (such as analytes) on the investigation at that site. The Navy has proposed limited sampling in this area to determine if it is a source of oil contamination that was found at Site 17 during the RI in 2005. The effort proposed is appropriate to make this determination, and no revisions are appropriate.

SC11 *EPA looks forward to further discussion of the reference location selection.*

Final Response: The reference station locations were briefly discussed on January 20, 2009 with USEPA and NOAA. The decision at that point was to utilize the previously sampled reference stations (Potter Cove and points north, sometimes referred to as Jamestown Cranston Cove) at Jamestown Island as reference for this site.

SC15 *EPA questioned the adequacy of the subsurface and intertidal sediment sample coverage. The response suggests that the Phase I RI characterization was sufficient as only three of nine subsurface samples had exceedances. These data suggest that further subsurface sampling is warranted:*

Sample location	*Results*
Northeast Shoreline	
G32-SD304	*Low MW PAHs and pyrene exceeded ER-M and were about 3 times the collocated surface concentration; PCBs exceeded the ER-M but were about 3 times less than the surface concentration.*
G32-SD305	*nothing problematic*
G32-SD306	*nothing problematic*
Stillwater Basin	
G32-SD312	*Many PAHs, some pesticides, and PCBs exceeded ER-Ms and collocated surface concentrations.*
G32-SD316	*Some pesticides and PCB exceeded ER-M and collocated surface sample locations. Many PAHs exceeded ER-L but none exceeded ER-M or collocated surface concentrations.*
South Shoreline	
G32-SD301	*Some exceedances of ER-L but no exceedances of ER-M and concentrations comparable to collocated surface concentrations.*
G32-SD303	*Nothing problematic. PAHs much lower than in collocated surface sample.*
G32-SD311	*Antimony exceeded the ER-M and was much higher than the collocated surface concentration.*
G32-SD314	*Nothing problematic*

The results for the samples in bold suggest that there was significant contamination in subsurface sediment samples that may not be captured by collecting only surface samples. In light of this, further discussions should not be limited to the intertidal coverage but should include the adequacy of subsurface characterization as well.

Final Response: This was discussed on January 20, 2009 with the USEPA and NOAA. It was recognized that new surface sediment samples will be collected to provide data for the baseline ERA, and subsurface samples are only needed for extent of contamination determination. Thus it was determined that subsurface sediment samples proposed for the Stillwater area near locations SD 312 and SD 316 would address the request for additional data in these locations. The Navy agreed to

collect additional subsurface sediment samples at the previous locations SD 304 and SD 311 to attempt to resolve the vertical extent of contamination exceeding ERM.

SC17 *EPA believes that the Navy may have misinterpreted the toxicity testing manual. The word "control" is intended to indicate a non-contaminated sediment, not the laboratory control. The laboratory control is solely used to establish that the test is run using viable test organisms and that laboratory procedures were adequate. EPA continues to believe that the site data should be compared with the reference, not the laboratory control.*

Final Response: This was discussed at the Conference call held January 20, 2009. Several suggestions were made and discussed. It was recognized that the laboratory control needs to have a survival of 80% or better, and another level down would be appropriate for comparison to the reference samples. However, that would lead to a survival rate too low to define toxicity in the site samples. The possibility of not needing a 20% difference between the site and reference samples was discussed, and it was also noted that having hard and fast rules for management of toxicity data are difficult to live by once the data is in. It was decided that Tetra Tech would review internally and provide a suggestion and revised flow chart. Suggested revisions are below, the flow Chart is provided as Attachment B.

The Navy does not believe that it is appropriate to set a target level for percent survival (or other measure) in the reference samples. However, the reference data (chemical and toxicological) will be reviewed to determine whether data from the reference stations are acceptable. Note that because the proposed reference stations have been used as reference stations for many other investigations at Naval facilities, if sample results are similar to previous results, the Navy will consider the reference stations acceptable.

However, the Navy agrees to delete the reference of a 20 percent reduction of effects compared to the reference stations to differential between high and low magnitude effects. The Navy also agrees not to make decisions based on the comparison of effects in site samples to effects in laboratory control samples. The attached flow chart has been modified to address this comment as well as other EPA comments regarding including comparisons of site concentrations to NOECs to use of maximum and average concentrations in food chain models. Page 42 of the QAPP will be revised to reflect this approach.

Tetra Tech also proposes to augment the reference data set for the site with reference toxicity samples and data collected through the long Term Monitoring Program at McAllister Point Landfill. For that program, five stations at Jamestown Cranston Cove (JCC) are sampled annually for bulk sediment chemistry and toxicity (Arbacia fertilization, Ampelisca 10 day survival, and Leptocheirus 28 day survival. These data are reported by ECC periodically. Mean data are reported for 2007 and 2008 as follows:

Summary of JCC Reference Stations Toxicity Results

Test	Mean result for 5 stations 2008	Mean result for 5 stations 2007
Amplelesca 10 day survival	64%	97%
Leptocheirus 28 day survival	82.6%	81%
Arbacia Fertilization	96%	93%

This previous toxicity test data from Jamestown Cranston Cove will be used two ways: 1) Data from 3 new reference stations proposed in the QAPP for Jamestown Potter Cove (JPC) will be compared to previously collected data from Jamestown Cranston Cove (JCC). If the survival rates in the new reference samples collected from JPC are within the range of the survival rates in the previous toxicity test data from JCC, the new JPC reference samples will be considered acceptable. 2) Presuming the new JPC data are acceptable, a statistical comparison will be conducted between the site samples and the reference samples collected from new JPC station, as well as the reference stations collected from JCC from 2007, 2008, and 2009 (if available). Note that for each comparison, statistical comparison of data from each station will be made to each reference station to determine whether the site sample is considered impacted. When comparing site data to reference data, the decision will be if the site sample has statistically lower survival than more than half of all the reference samples available (both JPC and JCC), that sample would be considered "toxic."

SC20 *The comment sought rationale for the 20-foot depth for the soil sampling at the rigging platform and noted that shallower samples may characterize depth of contamination in the area. The response states: "The maximum depth of 20 feet was selected based on the assumption that these soils were the deepest interval that could potentially be contributing to observed sediment contamination in the Stillwater Basin area." The response is a little confusing and does not explain why characterization of contamination in shallower soil is not proposed. Please clarify the meaning of the response and provide a reason for not collecting samples in shallower intervals where contamination might exit.*

Final Response: Shallower soils may be collected. The purpose of the borings are to identify any contaminants still present in the soils eroding into the Stillwater area from the soils behind (south of) the rigging platform. The soil will be sampled in accordance with SAP worksheet 14 which describes sampling from 0-20 feet below ground surface, however it will be clarified that one sample will be collected from the 0-6 inch interval, and the second will be selected from the soil samples collected up to 20 feet below ground surface. Continuous samples will be collected through the soil column, but one sample will be selected for lab analysis based on field screening as described in that section.

Please note that the QAPP Page 67 of 149, 1st paragraph, second sentence, and second paragraph third sentence both state that continuous samples will be collected while soil borings are advanced. This comment should be considered resolved.

SC22 *If elevated PCBs are detected, the depth of contamination will then be thoroughly characterized.*

Final Response: If PCBs are found in this area, additional investigations may be warranted. No change to the QAPP is needed on this comment.

SC26 *Please change "no risk" to "no actionable risk."*

Final Response: In Appendix A, Tables 1-5, on the far right column, entries noted as "NA" will be revised to "No Actionable Risk". This will resolve this comment.
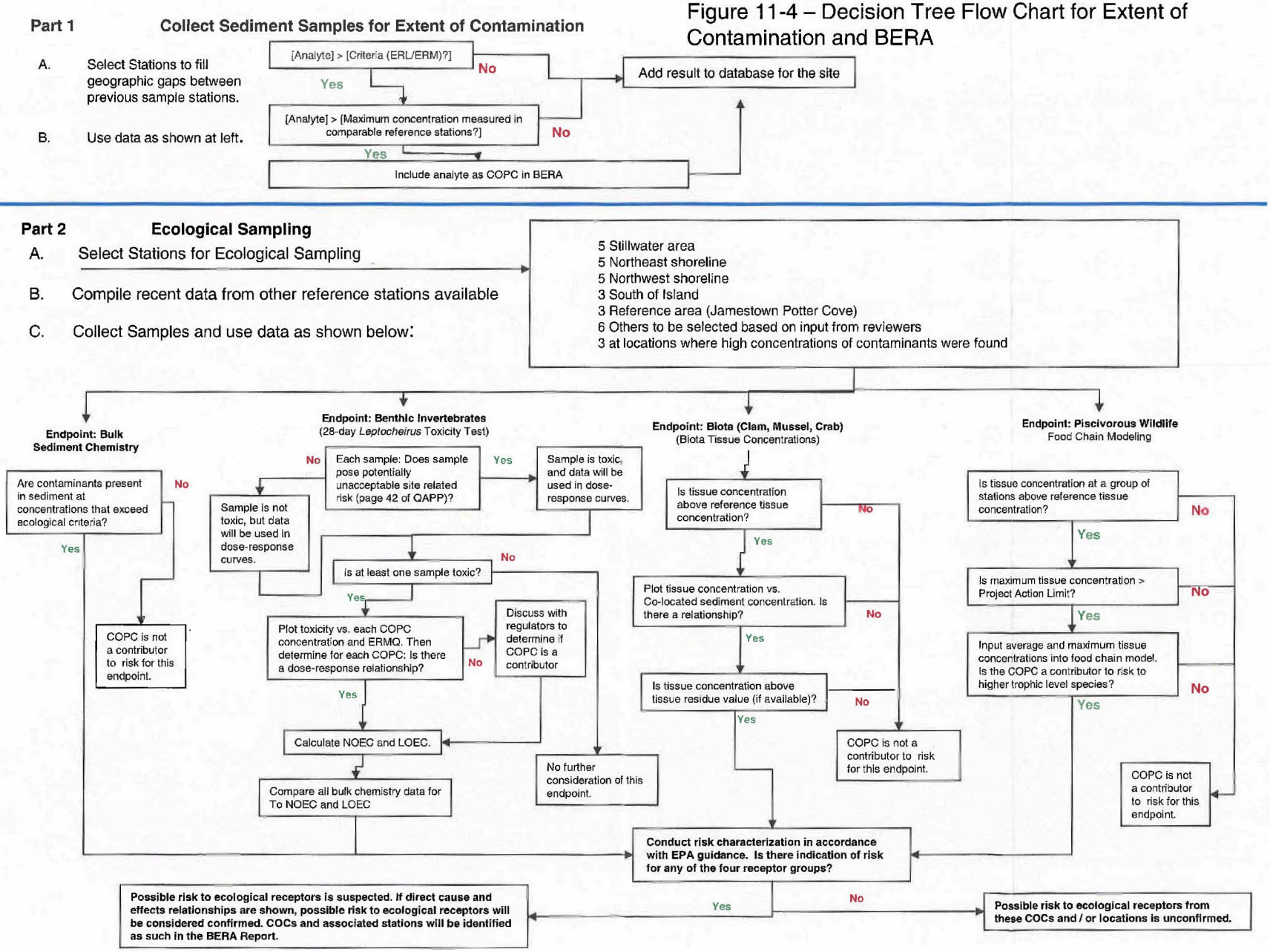
Figure 11-4 – Decision Tree Flow Chart for Extent of Contamination and BERA