



TETRA TECH NUS, INC.

55 Jonspin Road • Wilmington, MA 01887-1020
Tel 978.658.7899 • Fax 978.658.7870 • www.tetrattech.com

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April 11, 2001

Project Number N5278

Ms. Kymberlee Keckler
U.S. Environmental Protection Agency
Federal Facilities Superfund Section
1 Congress Street, Suite 1100
Boston, Massachusetts 02114-2023

Reference: CLEAN Contract No. N62472-90-D-1298
Contract Task Order 0218

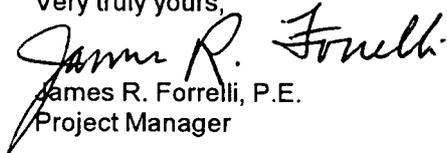
Subject: Response to EPA Technical Review of Response to Additional Comments
Revised Draft Final Remedial Investigation Report
Old Fire Fighting Training Area, Naval Station Newport, Newport, Rhode Island
Received in EPA letter to James Shafer of the U.S. Navy, March 15, 2001

Dear Ms. Keckler:

This letter is in response to your letter to Mr. James Shafer, dated March 15, 2001, providing a technical review of the Navy's responses to two additional comments on the Revised Draft Final Remedial Investigation Report for the Old Fire Fighting Training Area, Naval Station Newport, Newport, Rhode Island. The Navy's responses to these two comments (Numbers 6 and 28) were submitted to the EPA in a letter from Tetra Tech NUS, Inc on behalf of the Navy, dated February 20, 2001. The Navy's responses to EPA's additional comments are provided in Attachment A (two copies). Within your cover letter additional comments are made on a number of related issues. The Navy has also provided responses to these comments as well in Attachment B (two copies). EPA's comments are presented verbatim in italic type followed by the Navy's response in standard type. Comments contained in the EPA's cover letter have been itemized and presented as general comments. The report is being revised in accordance with the Navy's responses.

Please contact me or Jim Shafer of the Navy if you have any questions about this transmittal or would like to discuss this matter further.

Very truly yours,


James R. Forreli, P.E.
Project Manager

JRF:rp

Enclosure

c: J. Shafer, NORTHDIV (w/enc. - 3)
M. Griffin, NavSta (w/enc. - 2)
P. Kulpa, RIDEM (w/enc. - 4)
K. Finklestein, NOAA (w/enc.)
M. Imbriglio, NAVSTA/RAB (w/enc. - 5)
J. Stump, Gannet Fleming (w/enc. - 2)
D. Egan, TAG (w/enc.)
G. Tracey, SAIC (w/enc.)
J. Trepanowski/G. Glenn, TtNUS (w/enc.)
File N5278-8.0 (w/enc.)/File N5278-3.2 (w/o enc.)

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ATTACHMENT A
Responses to Additional Comments from the
U.S. Environmental Protection Agency
Old Fire Fighting Training Area Revised Draft Final RI (October 2000)
Comments dated March 15, 2001

No. Additional Comment/Response

6. *Additional Comment: The response indicates that site data is first screened against risk-based screening values, such as Region 3 RBCs or Region 9 PRGs (Please note that EPA Region 1 policy is to use the Region 9 PRGs). However, the screening tables contained COPCs that were eliminated with a "BKGD" rationale when the site concentrations were actually lower than their respective risk-based screening values. These constituents should have been eliminated based on the risk-based screening rather than based on a background comparison.*

If constituents are screened initially versus risk-based concentrations, as required in EPA guidance and as stated in the Response to Additional Comments, the only constituents eliminated based on background are antimony in surface soils and cadmium in subsurface soils. The risks from these chemicals should be evaluated either quantitatively in the risk assessment or qualitatively in the uncertainty section.

Response: The screening tables and associated text will be revised to show that the risk-based screening step is performed first in the COPC selection process and that the rationale for exclusion of COPCs will be cited as "below screening level" when this conclusion is reached in the first step of the process.

28. *Additional Comment: The original comment discussed that it was inappropriate to use background data sets where the frequency of detection does not exceed zero percent detections in statistical comparisons between site data and background. The original comment provided several examples of where background data sets containing zero percent detected values were used to compare to site data containing positive values. The original comment also indicated that for at least one other site in EPA Region 1, the Navy has developed a background comparison process where the first step is to reject from consideration any constituent where the frequency of detection in the background data set does not exceed zero percent.*

The response to this comment requires clarification. First, the response indicates that sodium in subsurface soil site data was not determined to be above background based on statistical tests. This is not correct. According to the conclusion column of Table Q-19, the concentration of sodium in the site data set was determined to exceed background (see "Y" in Conclusion column).

More importantly, the response appears to indicate that background comparisons will be considered to be not applicable for only selenium, silver and sodium in the surface soil data set and selenium and sodium in the subsurface soil data set based on the fact that the background data set for each of these constituents had zero percent detected values. However, this list is not comprehensive. As can be seen from Table Q-19, cadmium and mercury in the background subsurface soil data set lacked any detected values. Statistical comparisons to site data were performed using these data sets and, in fact, the site data for cadmium was determined not to exceed background even though 29 percent of the site data set consisted of positively detected values!

To restate the original comment, "comparisons of site data to background data using background data sets where the frequency of detection does not exceed zero percent will not be accepted by EPA and should be removed from this RI report." Therefore, for all constituents in all media where the frequency

of detection in the background data set was zero, this report should be revised to consider the background test results for these chemicals as not applicable and the decision to retain or discard these chemicals as COPCs should be based solely upon comparison to risk-based screening levels.

Response: Tables Q-18 and Q-19 will be revised to state that background test results are considered not applicable (NA) for chemicals with zero detects in background and for which background tests did not indicate site exceeds background. The decision to retain or discard these chemicals as COPCs will be based solely upon comparison to risk-based screening levels. This applies to selenium, silver, and sodium in surface soil and cadmium and selenium in subsurface soil. (The need to revise cadmium was overlooked in the initial comments and responses.) Rather than delete these entries from the tables, they will be footnoted appropriately to document that the zero frequency of detection is why the statistical tests have too little power to be capable of demonstrating that site data are similar to background.

Despite having zero detects for mercury and sodium in subsurface soil, statistical tests confidently showed that site exceeded background with a level of significance corresponding to a P-level of 0.00018 for sodium and less than 0.0001 for mercury. These results were based on the upper ranks test, which can sometimes demonstrate that site exceeds background even when there are nondetects in the background data set. The mercury and sodium background test results are valid because the existence of a preponderance of positive values in the site data set at concentrations higher than any hidden levels below the detection limit in the background data set is a statistically sound basis for concluding that site exceeds background.

ATTACHMENT B
Responses to General Comments from the
U.S. Environmental Protection Agency
Old Fire Fighting Training Area Revised Draft Final RI (October 2000)
Comments Contained in Letter Dated March 15, 2001

No. General Comment/Response

1. *Comment: Using the map provided on January 11, 2001, EPA was able to find at least 51 locations where the concentration of arsenic in the soil exceeded the 6.2 mg/kg background value. In other words, virtually all of the sample locations are above background for arsenic in soil. Although the Navy's response accurately cites CERCLA, it fails to recognize that when site-related contaminants or activities alter the natural form of background contaminants that such background contaminants no longer meet the limitations on response cited at CERCLA §9604(a)(3)(A). As a result, it is likely that cleanup of naturally occurring arsenic, as mobilized by site-related PAHs, may be required.*

Response: The Navy is not aware of any evidence of site-related activities or contaminants altering the natural form of arsenic. To show cause and effect, groundwater concentrations of arsenic would have to be elevated at the site, and there should also be research findings that demonstrate that leaching of arsenic is enhanced in the presence of PAHs. Please provide a literature reference that supports how PAHs can enhance the leaching of arsenic in soil. Also note, that of the 51 samples you are referring to, most of them are surface soil locations. The top 2 feet of surface soil at OFFTA is fill material that was brought in after the fire-fighting activities ceased on site.

2. *Comment: As stated in EPA's letters dated November 20, 2000 and January 16, 2001, Sections 1.1 (b), 2.6, and 6.1 of the Federal Facilities Agreement require that remedial investigations under CERCLA are conducted in accordance with EPA regulations, policy, and guidance. EPA guidance clearly states that the COPC list is to be developed based primarily on comparison to risk-based standards. These chemicals must be evaluated in the risk assessment and comparisons to background should be performed in both the risk characterization and the risk management processes. The risk characterization must divulge that there is an increased potential risk from site exposure owing to background contaminants. It is unclear to me why the Navy objects to this approach as it is clearly embodied in the Navy's interim final policy dated September 18, 2000.*

Response: The OFFTA RI will be revised to include a qualitative comparison of those constituents that were eliminated during the background screen to risk-based benchmarks.

- 3 *Comment: Based on the response to additional comments, the Navy claims to be screening versus RBCs first. However, the screening tables in the October 2000 version of RI contained COPCs that were eliminated with a "BKGD" rationale when the site concentrations were actually lower than their respective risk-based screening values. If constituents are screened initially versus risk-based concentrations, as required in EPA guidance and as stated in the Response to Additional Comments, the only constituents eliminated based on background are antimony in surface soils and cadmium in subsurface soils. The risks from these chemicals should be evaluated either quantitatively in the risk assessment or qualitatively in the uncertainty section.*

Response: You are correct that the Navy Background Policy does show that the first screen is a comparison to risk-based benchmarks. The next screen is a comparison to background. However, please remember that the RI for OFFTA has been ongoing for several years and the Draft Final was being completed, when the Navy Policy was being finalized. Therefore, the compromise with the EPA was not yet included in the Draft Final RI. We will add a qualitative risk evaluation of those COPCs that were screened-out of the HHRA. We will also switch the order of the screens, but please note the order of the screening will not affect the outcome of the screen.

Response to Additional EPA Comments (March 15, 2001)
Old Fire Fighting Training Area Revised Draft Final RI

4. *Comment: The last page of the Navy's policy (Figure 1: Use of Background Chemical Levels) lists three options for dealing with background sources. Two of the options involve retaining the chemical and continuing with the baseline risk assessment. The third option involves comparing the background level to benchmarks and documenting the background risks in the baseline risk assessment report. Clearly if the background level of a contaminant exceeds benchmarks there will be a contribution to overall site risk from background that must be documented in the baseline risk assessment report. Since site concentrations of antimony in the surface soil and cadmium in the subsurface soil are greater than the benchmark levels (i.e., risk-based concentrations), documenting the contribution to overall site risk is required per the Navy's September 18, 2000 interim policy. EPA therefore reiterates its recommendation that the RI focus its efforts on the risk characterization. The RI must appropriately communicate the risk from the site, including the contribution to the overall risk from background constituents, to the public. Qualitatively revealing in the risk characterization that overall site risks may have been underestimated because the contribution from background was not quantified is not only appropriate, but required. Alternatively, the RI could retain antimony and cadmium as COPCs and recalculate the human health risk estimates.*

Response: You are correct. Please see above response. A qualitative evaluation will be added.

5. *Comment: EPA takes issue with your statement that "...the Navy is not responsible for...evaluating risk associated with background constituents...." This statement is in direct conflict with the Navy's own policies on the issue.*

Response: The Navy is not responsible for quantitatively evaluating risk associated with non-site-related COPCs. The Navy background policy states as follows:

"Baseline risk assessments should not be conducted on chemicals that are present at levels less than background chemical levels. All chemicals that are screened out as a result of background considerations shall be discussed and documented in the risk characterization section of the baseline risk assessment report." ... "Once background chemical levels have been established those chemicals should not be carried through the remainder of the baseline risk assessment." ... "Elevated chemicals that were lower than background levels and screened out due to background considerations in the data evaluation step of the baseline risk assessment should be compared to the appropriate risk-based benchmark concentrations. The results should be documented in the Risk Characterization section of the baseline risk assessment report."

6. *Comment: As the RI currently stands, the risk to humans is not accurately computed or communicated and EPA therefore cannot concur with its findings. Please clarify how the Navy plans to provide "...information to the regulatory community and the public regarding natural and/or anthropogenic background conditions that may pose a risk..." in the Old Fire Fighter Training Area baseline risk assessment.*

Response: As stated in the responses to General Comments Nos. 3 and 4 above, a qualitative evaluation will be added to the risk assessment.