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Project Number 7752

Mr. James Shafer  
Remedial Project Manager  
Northern Division, Naval Facilities Engineering Command  
10 Industrial Highway, Mail Stop 82  
Lester, Pennsylvania 19113

Reference: CLEAN Contract No. N62472-90-D-1298  
Contract Task Order No. 0302

Subject: Response to RIDEM Comments on the  
Plan for Human Health Risk Assessment Derecktor Shipyard (Off-Shore)

Dear Mr. Shafer:

Attached are responses to comments received from the Rhode Island Department of Environmental Management on the subject work plan. These comments were received on February 24, 1998.

Please be advised that Brown and Root Environmental has completed the Human Health Risk Assessment, and provided the draft report prior to submittal of this response summary. This is an accelerated schedule to allow the PRGs to account for the HHRA results.

If you have any questions regarding this material, please do not hesitate to contact me.

Very truly yours,

Stephen S. Parker  
Project Manager

SSP/

attachment

c: K. Coyle, NETC (w/encl.)  
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P. Kulpa, RIDEM (w/encl.)  
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File 7752-3.2 (w/o encl.)

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bc: G. Maynard (w/encl. - 1)  
File 7752-8.0 (w/encl. - 1)

**Attachment A**  
**Responses to RIDEM Comments on the Plan for Human Health Risk Assessment**  
**Off Shore areas of the Former Robert E. Derecktor Shipyard**  
**Comments Received February 24, 1998**

**Comment 1: Page 1, Introduction, Last Paragraph**

This section of the report states that *The water depths within the study area are between 20-50 feet. This precludes the potential for human exposure to contaminants in the sediments in these areas.*

The Navy has indicated that the water depths within the study area range between 20 to 50 feet and therefore fore exposure to sediments is not an issue. This statement is in conflict with site conditions and with previous reports submitted by the Navy. Specifically, there is a large beach located on the southern section of Derecktor Shipyard. The water depth at this location is not 20 to 50 feet, in contrast, the area in question contains a shallow beach environment. This area was also reported in the 1993 Preliminary Assessment and most recently in the 1997 Site Assessment Screening Evaluation Report (for example page 7-2 of the latter report states *The vegetation in the South Waterfront includes a narrow corridor of upland shrub/scrub species, which parallel a dune beach strip along Narragansett Bay.... Certain portions of the upland and beach area have been significantly disturbed.*) In addition, this area was discussed with the Navy and the Navy's contractor during the recent Ecological Advisory Board Meeting. Specifically, it was pointed out that the beach in question was incorrectly identified as a dune beach.

Therefore, since it is a beach, it is inappropriate to state that the water depths in the area preclude potential for human exposure to sediments. Accordingly, the Work Plan should be modified and this exposure should be addressed in the Risk Assessment.

*Response: The South Waterfront area referred to in the comment is a gradually sloping beach environment. However, this portion of Coddington Cove was not included in the sediment sampling efforts in 1995 and therefore no sediment data was collected there. By providing this comment, the reviewer is inferring a request that samples should have been collected from this area, and that the risk assessment can account for this data.*

*The scope of this risk assessment was discussed at the RPMs meeting held on October 15, 1997, and at that time, the use of shellfish exposure alone was not contested. Therefore, the Navy has prepared the risk assessment using these exposure scenarios only.*

*It should be noted that the subtidal portions of the south waterfront were believed by the investigators to be beyond the area of impact from Derecktor operations. On-shore samples of the surface and subsurface soils collected from the south waterfront showed no contaminants present that could be directly attributed to site operations.*

**Comment 2: Page 1, Introduction, Last Paragraph**

This section of the report states that *The water depths within the study area are between 20-50 feet. This precludes the potential for human exposure to contaminants in the sediments in these areas.*

This section of the report indicates that water depths precludes exposure to site sediments. As a result, the only exposure route which is considered is ingestion of shellfish. Harvesting

of shellfish results in dermal exposure to sediment adhering to the shells. This represents a direct dermal and incidental ingestion exposure. Similar concerns were recently submitted in the comment packages, dated June 12, 1997, and August 28, 1997, for the McAllister Point Landfill Human Health Risk Assessment (i.e. the State noted that the total exposure for an individual harvesting shellfish would include ingestion of said fish and exposure to sediments). Therefore the Work Plan should be modified to include this potential exposure in the risk assessment.

**Response:** *The scope of this risk assessment was discussed at the RPMs meeting held on October 15, 1997, and at that time, the use of shellfish exposure alone was not contested. Therefore, the Navy has prepared the risk assessment using these exposure scenarios only.*

*It is anticipated that if these scenarios were evaluated, the risks would be inconsequential in comparison to the risk calculated for direct ingestion of shellfish collected.*

**Comment 3: Page 2, Data Evaluation, Second Paragraph**

"Deployed mussels will also not be evaluated in this HHRA, because the indigenous blue mussels present in the sediment are expected to represent more realistic or actual conditions for human consumption at Derecktor Shipyard."

This work plan is a public document. Therefore, in addition to the above justification for exclusion of deployed mussels the plan should indicate why deployed mussels were used at the site. In addition, the report should note whether the concentration of contaminants were higher in deployed or in indigenous mussels.

**Response:** *The Navy concurs that there should be a more complete explanation of the use of the deployed mussels in the ERA and why they are not useful for evaluation of risk to persons ingesting shellfish from the site. This revision will be accounted for in future editions of the risk assessment report.*

*Although the indigenous mussels likely contained higher concentrations of contaminants, this is not pertinent to the risk assessment, it is factual that indigenous mussels are the ones that will present an exposure to the receptors.*

**Comment 4. Page 2, Data Evaluation, Third Paragraph**

This section of the plan discusses the protocols for non-detects. Please be advised that one half of the detection limit may not be appropriate for all samples evaluated in this risk assessment. The following are examples where one half of the detection limit may not apply.

The detection limit should be employed for non-detects if the detection limit exceeds a human health criteria or if there is reason to believe that the concentration is closed to the detection limit as opposed to one half of the detection limit (as an illustration, high concentrations observed in positive detects, few non detects in sample population).

**Response:** *All contaminants detected were included as COPCs for this risk assessment. Maximum concentrations detected in the sample group were used for characterization of risk, increasing the conservatism of the assessment and removing any possibility for underestimation from non-detects.*

**Comment 5 Page 2, Identification of Chemicals of Potential Concern**

This section of the plan indicates that a chemical may be eliminated as a COPC if it was detected in less than five percent of the samples. This criteria may result in

the elimination of hot spots from the assessment. Therefore, any positively detected compound should be included in the risk assessment.

*Response: The reviewer is asked to refer to the response to comment 4, above.*

**Comment 6. Page 7 Exposure Assessment**

This section of the report indicates that the shellfish consumption rate is 1.2 g/day and 15.6 g/day for the adult and subsistence fisherman respectively. This issue was previously discussed at length during the review of the McAllister Point Human Health Risk Assessment. At that time it was determined that consumption rate was underestimated. Specifically, it was determined that the consumption rate of 15.6 g/day was appropriate for the adult resident and not the subsistence fisherman. The subsistence fisherman consumption rate was considerably higher. A consumption rate of 80 g/day was applied for the prime harvest months, adult values would be used for the rest of the year.

*Response: While our records show these, and numerous other values were discussed during the development of the McAllister risk assessment, it should be clear that the Navy never agreed to use these values, and actually requested that the State substantiate the plausibility of a subsistence fisherman exposure scenario in this area.*

*However, in the spirit of a developing a conservative assessment of risk, the Navy is willing to accept the possibility of such a scenario with the values stated in the work plan.*

*Put into perspective, the exposure parameters that the Navy proposed suggest the following:*

*That an adult recreational fisherman will collect clams, mussels, or lobsters from the investigation area and eat 5.3 ounces of meat from these animals almost three times each year for 30 years, and*

*that a subsistence fisherman will collect these animals from the site and eat 5.3 ounces of meat 36.5 days each year for 30 years.*

*The State is suggesting the following:*

*That a recreational fisherman will collect these animals from the site and eat 5.3 ounces of meat, 36.5 days each year for 30 years, and*

*that a subsistence fisherman will collect these animals from the site and eat almost 3 ounces each day everyday for the six months of summer, and then go back to the frequency of the recreational fisherman the other six months of the year.*

*The Navy is not contesting the likelihood of a subsistence fisherman collecting shellfish in this manner, however, we do contest the plausibility of the use of the areas in and amongst the piers at Coddington Cove as a sole food source. This is the reason that the risk assessment used the values described in the work plan.*