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RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT COMMENTS TO
STUDY AREA SCREENING EVALUATION (SASE) SITE 4 CODDINGTON COVE RUBBLE
FILL AREA NETC WITH TRANSMITTAL NS NEWPORT RI

06/13/2011

RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT



RHODE ISLAND

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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13 June 2011

Maritza Montegross
NAVFAC MIDLANT (Code OPTE3)
Environmental Restoration
Building Z-144, Room 109
9742 Maryland Avenue
Norfolk, VA 23511-3095

Re: Study Area Screening Evaluation (SASE)
Site 04, Coddington Cove Rubble Fill Area, NETC

Dear Ms. Montegross,

The Office of Waste Management at the Rhode Island Department of Environmental Management has conducted a review of the *Study Area Screening Evaluation*, dated April 2011 for the Coddington Cove Rubble Fill Area, Naval Station Newport, located in Newport and Middletown, RI. As a result of this review, this Office has generated the attached comments on the *Study Area Screening Evaluation*.

Please be advised that based on the analytical data presented in this SASE, there are exceedances of USEPA Screening Criteria and RIDEM Criteria, RIDEM cannot support the conclusion in Section 8.5 of No Further Action at this site.

If you have any questions in regards to this letter, please contact me at (401) 222-2797, extension 7148 or by e-mail at gary.jablonski@dem.ri.gov.

Sincerely,

Gary Jablonski, Principal Engineer
Office of Waste Management

cc: Matthew DeStefano, DEM OWM
Richard Gottlieb, DEM OWM
Pamela Crump, DEM OWM
Darlene Ward, NSN
Ginny Lombardo, EPA Region I
Thomas Campbell, Tetra Tech

**Comments on the
Study Area Screening Evaluation
Site 04, Coddington Cove Rubble Fill Area, NETC**

1. Page E-2, Section E.2, Investigation & Analysis; 5th bullet.

“Sediment and surface water samples were collected from “six” locations in the onsite wetland and stream.”

Sediment samples were collected from “seven” locations Please revise the above sentence in the SASE.

2. Pages E-3 & E-4, Executive Summary; Headings.

Please correct the numbering for the last two section headings. “Possibility of Risk from Contaminants” should be E.4 and “Conclusions and Recommendations” should be E.5.

3. Page 2-12, Section 2.4, Surface Water/Sediment Investigation; 1st sentence.

“Seven sediment and six surface water samples were collected from the onsite wetland area and stream, as presented on Figure 1-2.”

Please add labels SW06 and SW07 next to SD06 and SD07 on Figure 1-2 to show these locations of surface water samples.

4. Page 4-3, Section 4.2.1, Surface Soil Sample Results; 3rd paragraph.

“PALs for soil consisted of USEPA Regional Screening Levels (RSLs) (2010). In addition, results were compared to RIDEM Residential DEC and RIDEM leachability criteria for discussion purposes only.”

Pursuant to the FFA and CERCLA, RIDEM’s Residential DEC and leachability criteria should be considered PALs when more stringent than USEPA’s. Please remove “*for discussion purposes only*” from this sentence as well as in the other sections of this document.

5. Page 4-5, Section 4.2.1, Metals; 2nd paragraph.

“For the purposes of this comparison it was assumed that before fill was placed at the site most of the soil was also Stissing Silt Loam (Se).”

The RI GIS soil map shows areas on or adjacent to the site containing soil types NP, UD, Ur and PmA. Therefore, please revise this section of the report to include all soil types in this assessment.

6. Page 4-13, Section 4.2.4, PAHs; Table.

The PALs listed in this table are presented in mg/kg not ug/kg that is shown in the top heading. Please convert the PALs in this table to µg/kg.

7. Page 6-1, Section 6.0, Evaluation of the Potential for Human Health Risk; whole section.

When the maximum concentration exceeds the acceptable risk range this demonstrates an unacceptable risk at the site. Please remove any proposal in this and other sections of this SASE to remove COPCs based upon average concentrations.

8. Page 6-3, Section 6.0, Evaluation of the Potential for Human Health Risk; Bullet.

"Comparison to RIDEM criteria is done to satisfy a RIDEM request. Because the investigation is being conducted under CERCLA, the USEPA criteria described above take precedence over these state criteria."

Pursuant to the FFA and CERCLA, the USEPA and RIDEM criteria are equally applicable. The most stringent of the USEPA and RIDEM Criteria should be used in this SASE. Please rewrite the sentence above to clarify this.

9. Page 6-3, Section 6.1, Qualitative Risk Evaluation of Surface Soils; 1st sentence.

"For purposes of this risk evaluation, surface soil samples are defined as any sample where the "top depth" of the sampled interval is less than or equal to 1 ft bgs."

Please be advised that according to the RIDEM's Remediation Regulations for industrial and commercial use the surface soil depth should be 0-2 feet. Failure to collect samples from this zone will preclude the placement of an ELUR for industrial and commercial use in the future.

10. Page 6-4, Section 6.1.1, Exceedances of Direct Contact Risk Standard and Criteria; 1st paragraph.

RIDEM does not concur with the background comparison in this report. Please refer to Comment 5 mentioned above. Please be advised that RIDEM, to date, has not accepted the "Base wide Background Study Report".

11. Page 6-5, Section 6.1.1, Exceedances of Direct Contact Risk Standard and Criteria; last paragraph.

It is not clear whether the evaluation for carcinogenic PAHs is based upon cumulative or individual contaminants. Please be advised that this SASE must evaluate cumulative and individual contaminant risk from all contaminants at the site. Please provide in the response to comments written clarification that individual and cumulative effects are being properly applied to this SASE.

12. Page 6-6, Section 6.2, Qualitative Risk Evaluation of Unsaturated Shallow Subsurface Soils; 1st sentence.

“For purposes of this risk evaluation, unsaturated, shallow subsurface soil samples are defined as any sample where the “top depth” of the sampled interval is greater than or equal to 1 ft bgs but less than 10 ft bgs.”

Please be advised that under RIDEM’s Remediation Regulations, the Residential Direct Exposure Criteria and Leachability Criteria apply to soils from the ground surface to the water table. Please add the appropriate language to the SASE.

13. Page 6-11, Section 6.7, Summary; 1st sentence.

“Table 6-7 presents a summary of the constituents detected during the SASE that exceeded the unadjusted USEPA RSLs, which should be considered the primary comparison criteria.”

Please refer to Comments 4, 7, 8, and 11 mentioned above.

14. Page 6-11, Section 6.7, Summary; 2nd paragraph.

As noted in the comments above, there are a number of concerns with the background comparison including not evaluating all soil types and unacceptable high background values. Please remove any and all statements in this SASE that propose to eliminate exceedances of RSL due to the back ground study.

15. Page 6-11, Section 6.7, Summary; whole section.

As noted in the above comments, cumulative and individual contaminants are applicable to the maximum concentrations. In addition, exceedances of maximums represent unacceptable risk at the site. Please revise the summary section in this SASE to reflect these requirements.

16. Page 6-11, Section 6.7, Summary; 3rd paragraph

This section of the SASE states that the maximum PAHs may pose an unacceptable EPA risk, however the average concentration does not. Be advised that this is not an acceptable risk according to RIDEM’s Remediation Regulations. Please provide a table in the response to comments similar to Table 6-7 in this SASE “Summary of Human Health Risk Screening” comparing site exceedances to RIDEM’s Direct Exposure Criteria to clarify the findings relative to RIDEM regulatory thresholds (For each carcinogenic substance does not exceed a 1×10^{-6} excess lifetime cancer risk level and the cumulative excess lifetime cancer risk posed by the Contaminated-Site does not exceed 1×10^{-5} ; and for each non-carcinogenic substance does not exceed a Hazard Index of 1 and the cumulative Hazard Index posed by the Contaminated-Site does not exceed 1 for any target organ for each carcinogenic).

17. Page 7-4, Section 7.3.1, Ecological Effects Evaluation; Tables 7-2 & 7-3.

Tables of this nature typically provide the values for all of the screening benchmarks for each contaminant and endpoint and the selected benchmarks, which is the more stringent, are listed. Please provide in the response to comments a table with all of the screening benchmarks and note in the table whether the screening benchmarks in this table represents the lowest overall screening benchmark for each contaminant and endpoint.

18. Page 7-4, Section 7.3.1, Ecological Effects Evaluation; Tables 7-2 & 7-3.

Please update the text in this section of the SASE and provide in the response to comments whether the cumulative or individual exposure routes were compared to the ORNL study. Please provide in this SASE and in the response to comments a table with the NOAEL and LOAEL from the various studies and provide justification for the particular study employed.

19. Page 7-12, Section 7.4 Tier 2, Step 3A: COPC Refinement; whole section.

This section of the SASE proposes to eliminate a number of COPCs due to frequency and/or magnitude. To support the Navy's position and in order for the project team to evaluate overall contaminant distribution at this site, please create and provide in the response to comments a series of figures similar to Figure 4-1 for the various endpoints.

20. Page 7-14, Section 7.4.1, Terrestrial Plants; 1st paragraph.

Since exceedances of screening criteria which were observed at approximately one third of the sampling locations, it would seem prudent to retain these VOCs at this junction of the CERCLA process.

21. Page 7-14, Section 7.4.1, Terrestrial Plants; 1st paragraph.

This section of the SASE notes that certain VOCs which did not have specific screening values were eliminated if they were detected at concentrations below most of the other screening values. Typically what has been done at other sites at NETC, is a comparison to similar VOC compounds and if that is not possible, then the most conservative screening value is employed. Please modify this section and all other sections of the SASE that evaluate the endpoints.

22. Page 7-14, Section 7.4.1, Terrestrial Plants; 2nd paragraph.

This section of the SASE proposes eliminating a number of SVOCs due to a comparison to a 1988 study and/or use of benzo (a) pyrene value as a surrogate. The 1988 study employs an EC₅₀ and the benzo (a) pyrene value of 30,000 ppm is significantly higher than the majority of the other PAHs in this same study which have values in the hundreds. It would seem prudent to select a value in line with the majority of the PAHs in this study which would have a value in the hundreds. Please modify this SASE accordingly.

23. Page 7-15, Section 7.4.1, Terrestrial Plants; 1st paragraph.

This section of the SASE proposes eliminating iron based upon lack of knowledge of the pH at the site, perceived limited bioavailability, and the fact that while the site did exceed the average background concentration, it did not exceed the one highest value in the background study; therefore, the iron concentrations at the site should be considered indicative of background. Lack of information and presumptions are not sufficient to eliminate a contaminant of concern. In regards to the background study, the site was a known dump which would be consistent with the fact that the iron concentration is higher than background. Please remove the proposal in this SASE to remove iron as a COPC.

24. Page 7-15, Section 7.4.1, Terrestrial Plants; 2nd paragraph.

This SASE notes that all samples except one had manganese concentrations greater than the ecological screening values and as such there is no clear source for the manganese found at the site as well as the vegetation density at the site were used to support removal of manganese as a COPC. The site was a known dump and manganese has been detected above screening criteria throughout the site in surface and subsurface soils please retain manganese as a COPC in this SASE.

25. Page 7-15, Section 7.4.1, Terrestrial Plants; 3rd paragraph.

This SASE proposes eliminating selenium based upon the fact that it is only found in half of the samples above the soil screening criteria, the site is vegetated and the oxidation state, pH and other factors of the soil matrix which affect bioavailability is not known. Lack of knowledge concerning bioavailability factors, the presence of vegetation and the lack of knowledge concerning the oxidation state of the contaminant is not sufficient to justify removal as a COPC. The site was a known dump and the fact that selenium has been found throughout the site in surface and subsurface soils above screening criteria please retain selenium as a COPC in this SASE.

26. Page 7-16, Section 7.4.1, Soil Invertebrates; 1st paragraph.

Please refer to comment 25 mentioned above in regards to iron.

27. Page 7-17, Section 7.4.2, Sediment; 1st paragraph.

This section of the SASE proposes eliminating benzaldehyde and carbazole due to their frequency of detection, and the lack of a PAL. Typically if a PAL is not available, surrogates are selected based upon the chemical structure. If this is not possible, the lower screening value is selected. Please perform this analysis and provide in the response to comments.

28. Page 7-17, Section 7.4.2, Sediment; 2nd paragraph.

The Navy proposes to use the impacts associated with PAHs to be based upon an evaluation of total PAHs. Screening values are available for individual PAHs. Please provide in the

response to comments a performance evaluation for the individual PAHs and a cumulative risk screening for all PAHs.

29. Page 7-17, Section 7.4.2, Sediment; 2nd paragraph.

The report proposes eliminating all PAHs as COPCs due to the fact that while exceedances of TECs were observed, exceedances of PECs were not. PECs are not PRGs for the site. PRGs for contaminants can be below TECs, in between TECs and PECs or above PECs. Please remove the statement that PAHs will be removed from the COPCs list as exceedances of PECs were not observed and retain PAHs as COPCs for the site.

30. Page 7-17, Section 7.4.2, Sediment; 3rd paragraph.

Please refer to Comment 29 mentioned above and apply it to pesticides.

31. Page 7-18, Section 7.4.2, Sediment; last 2 paragraphs.

It is noted that a number of metals exceeded TECs while others exceeded both TECs and PECs. Despite the exceedances of PECs, the report proposes eliminating all of the metals as the majority of the wetlands samples were collected in the vegetated portion of the wetlands at a time when water was not present in these sections. The sediment ecological PALs apply to all of the wetlands samples independent of the status of the water present at the time of sampling. Therefore, please retain all of the cited metals in the report.

32. Page 7-19, Section 7.4.2, Surface Water; 1st paragraph.

This section of the SASE notes that the EPA screening value for the DDT pesticides is a residual value and is not a value protective of aquatic organisms. Please elaborate in more detail why this ORNL Secondary Chronic Value is used over the Screening Value and provide the page of the cited reference which supports the Navy's position in the response to comments.

33. Page 7-19, Section 7.4.2, Surface Water; 3rd paragraph.

This section of the SASE states that the final chronic values for PAHs should be used in lieu of the screening value. Please elaborate in more detail and provide the page of the cited reference which supports the Navy's position in the response to comments.

34. Pages 7-19/7-20, Section 7.4.2, Surface Water; 4th-6th paragraphs.

This section of the SASE proposes eliminating aluminum, barium and iron as their concentrations in soil and sediments were similar to background values. A background study has not been conducted for sediments, and surface soil background would entail the evaluation of various soil types. Further, if SD-07, which is adjacent to the site, was considered upgradient, an evaluation of the data shows significantly higher concentrations of

certain metals such as aluminum and iron in other samples collected at the site compared to SD-07. Please remove these statements from the report.

This section of the SASE also states that the filtered samples are considered more representative of what is bioavailable and therefore the comparison should be to the filtered samples. Please be advised that while the criteria for certain metals are based upon filtered samples, the criteria for aluminum, barium and iron is based upon totals (non-filtered). Please remove this statement from the report and simply note that surface water samples exceed criteria for these metals.

35. Page 7-20, Section 7.4.2, Surface Water; 3rd paragraph.

This section of the SASE notes that while the total sample results for lead exceed criteria, the filtered samples do not. The report proposes eliminating lead as a COPC. The lead criteria require the concurrent measurement of hardness in the comparison to surface water criteria. Without hardness information, it is not possible to state whether the filtered value did or did not exceed criteria. Please remove the proposal to eliminate lead and simply note that the lead will be retained as it is not known whether it exceeds criteria.

36. Page 8-4, Section 8.3, Possibility of Risk from Contaminants; 1st paragraph.

Please submit the table requested in Comment 16 mentioned above comparing site exceedances to RIDEM direct exposure criteria. Exceedances of RIDEM criteria will show an unacceptable risk associated with the site. Please revise this section accordingly.

37. Page 8-4, Section 8.3, Possibility of Risk from Contaminants; 1st paragraph.

Due to the risk associated with the exceedances of organics and when compared to RIDEM criteria, and observed exceedances of risk ranges, RIDEM does not concur with eliminating these contaminants as COPCs. Please retain these COPCs in this SASE.

38. Page 8-4, Section 8.3, Possibility of Risk from Contaminants; 3rd paragraph.

Due to exceedances of benchmarks and RIDEM criteria observed in soils, sediments, and surface water samples taken at the site for various metals and organics sited in the comments above, RIDEM does not concur with the elimination of these contaminants as COPCs. Please retain these COPCs in this SASE.

39. Page 8-5, Section 8.5, Conclusions and Recommendations; whole section.

Based upon the exceedances of benchmarks, USEPA screening criteria, and RIDEM criteria, RIDEM does not concur with the recommendation for No Further Action. Please eliminate this recommendation proposed in this SASE and proceed to the next step in the CERCLA process.