



COMMONWEALTH OF PUERTO RICO
Office of the Governor
Environmental Quality Board

102-10

Environmental Emergencies Response Area

July 21, 2008

Mr. Kevin Cloe, P.E.
Remedial Project Manager
Commander Atlantic Division
Naval Facilities Engineering Command
6506 Hampton Boulevard
Norfolk, VA 23508-1278

RE: Interim Deliverables for the "Waste Characterization" Human Health Risk Assessment – RAGS Part D Tables – SWMUs 6 and 7, and AOCs J and R

Dear Mr. Cloe:

The Puerto Rico Environmental Quality Board (PREQB) has completed its review of the Navy's Interim Deliverables for the "Waste Characterization" Human Health Risk Assessment – RAGS Part D Tables – SWMUs 6 and 7, and AOCs J and R, undated. Enclosed our comments.

If you have any questions or comments, please contact me at (787) 767-8181 X.6141.

Cordially,

Wilmarie Rivera
Federal Facilities Coordinator

cc: Daniel Rodríguez - EPA
Richard Henry - FWS
Brett Doerr - CH2M Hill
Daniel Hood - Navy
Christopher Penny - Navy

PREQB Technical Evaluation Technical Memoranda: Interim Deliverables for the “Waste Characterization” Human Health Risk Assessment – RAGS Part D Tables – SWMUs 6 and 7, and AOCs J and R, undated

I. INTRODUCTION

This evaluation is of Technical Memoranda: Interim Deliverables for the “Waste Characterization” Human Health Risk Assessment – RAGS Part D Tables – SWMUs 6 and 7, and AOCs J and R, undated.

Given the similarity between the four Human Health Risk Assessment (HHRA) Interim Deliverables for Solid Waste Management Units (SWMUs) 6 and 7, and Areas of Concern (AOCs) J and R, the below comments apply to all four locations. The comments are organized by Section of the Interim Deliverables.

II. GENERAL COMMENTS

1. There is insufficient detail regarding the soil sample results presented in these interim deliverables to concur with the proposed dataset as being representative of soils that will be excavated from these sites which represent the exposure point for the human health risk assessments (HHRAs) as discussed in Comment to Section 1.
2. The requirement to use ProUCL is not applicable to these HHRAs since the dataset is comprised of less than eight samples. However, the basis for this requirement should be presented for future HHRAs as this approach may be applied at other sites. Note that Section 1.4 of the ProUCL guidance recommends at least 8 samples when comparing site data to established criteria or conducting hypothesis testing. At the stage in the HHRA where EPCs are being calculated for use in calculating average daily exposures and doses, the comparison of site data to risk criteria has already been conducted (and the maximum detected concentration was used for each chemical). The only discussion of the recommended number of samples for calculating UCLs of the mean provided in this section of the ProUCL document is a statement that as the number of samples increase, the UCL approaches the actual mean of the dataset. Please clarify what guidance is being used to establish this requirement to only use ProUCL version 4.0 to calculate UCLs of the mean for use in an HHRA if the dataset is comprised of at least eight samples. Please note that the ProUCL output indicates if there are an insufficient number of samples to calculate an UCL of the mean. If this warning occurs, alternative methods could then be used.

III. SPECIFIC COMMENTS

1. Page 1, First Paragraph. This section refers to soil exposure following debris removal. For clarity, text should be included that explains soil will be excavated incidental to the excavation of debris at this site, and this soil is proposed for use as on-site fill or off-site landfill cover where exposure could occur.
2. Section 1. The table provided in Attachment 1 does not provide the depth of each sample. Please revise the table to include this information. Also, the in-situ sample results are being used to represent excavated soils. Therefore, the depth of the excavation should coincide with the depth of each subsurface soil sample at that location. For example, if data results down to six feet below ground surface are included in HHRA dataset at a particular sample location and the soil deeper than three feet below ground surface is clean, but soil and debris at that location was only excavated down to three feet, then clean soil sample results for soil that was not excavated are diluting the exposure point concentration. The resulting risks and hazards would then be underreported as well. Therefore, the excavation depth must coincide with the depth of the soil sample results used in the HHRA and this should be clarified in the text of the tech memo. Otherwise, the data used in the HHRA may not be representative of the soil excavated from this site. The Remedial Investigation Report must document the depth of the excavation and correlate that depth with the depth of the deepest subsurface soil sample that was included in the HHRA for each sample location.
3. Section 2. Although the introduction briefly indicates the purpose of this HHRA, please add a sentence or two to this section clarifying the purpose for this HHRA because the first sentence of each interim deliverable is different for each site. There are current receptors for the site, such as trespassers or recreational users, but since that is not the focus of this HHRA, the first sentence should be reworded to state that there are currently no receptors for the unexcavated soil since the purpose of this HHRA is to evaluate risks associated with disposal options for the excavated soil.
4. Section 4. Based on a review of Tables 2.1 and 2.2 for each site, there does not appear to be any chemicals with less than 8 data points that were identified as COPCs which would then require the calculation of a UCL of the mean. Therefore, please revise this section to reflect that all EPCs were calculated using ProUCL.
5. Section 5 and Table 4 Supplement C. Should the soil be used for daily cover, it will be stockpiled at the landfill. Therefore, the PEF for the industrial worker should be calculated using the areal extent and vegetative cover (none) that reflects the soil being stockpiled at the landfill, not values reflective of each site. The area and vegetative cover representing the distribution of chemicals at each site is not relevant to a stockpile at the municipal landfill. Please revise the PEF for the maintenance worker accordingly.

6. Table 1. The interim deliverable should also clarify why inhalation exposure by residents living near the landfill is not being considered as a complete exposure pathway, considering that the soil will be stockpiled at the landfill as a source of daily landfill material.

7. Table 4. Considering this soil is designated for daily landfill cover, a landfill worker would have daily exposure to soil stockpiled at the landfill moving the soil from the stockpile to the area where it would be placed as daily cover. Therefore, the exposure frequency of 52 days per year is not appropriate to characterize exposure by a landfill worker. This value should be changed to 250 days per year. Also, the receptor is not a maintenance worker; it is an outdoor worker who is moving soil from a stockpile to where it will be used as daily cover material. Therefore, labeling this receptor as a maintenance worker appears to be inappropriate as the Navy is applying the parameters presented in the Master QAPP for a maintenance worker. The Master QAPP states the following concerning the activities associated with a maintenance worker: "...as the nature of the activities assumed for a maintenance worker involve grounds maintenance, such as cutting grass, clearing brush, etc..." PREQB has agreed to the exposure frequency of 1 day per week for such a receptor. However, for SWMUs 6 and 7 and AOCs J and R, the actual receptor is an outdoor landfill worker working at a landfill moving daily cover material. Therefore, the industrial worker or outdoor industrial worker receptor is a more appropriate title for this receptor. Please revise the interim deliverables accordingly.