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Office of the Chairman

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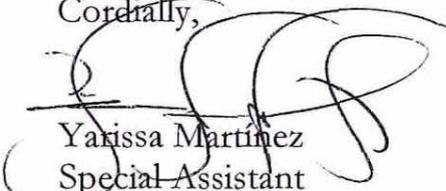
Mr. Christopher T. Penny
US Navy
NAVFAC ATLANTIC
6506 Hampton Blvd
Norfolk, VA 23508-1278

**RE: COMMENTS TO REPOSSES FROM VARIOUS DOCUMENTS RELATED TO
THE MILITARY MUNITIONS RESPONSE PROGRAM IN VIEQUES, PR**

The Puerto Rico Environmental Quality Board (PREQB) has completed its review of the following three documents: Draft Expanded Range Assessment and Phase I Site Inspection Report Former Vieques Naval Training Range (VNTR), Vieques, Puerto Rico, March 2006; Draft Munitions and Explosives of Concern (MEC) Master Work Plan, Former VNTR, Vieques, Puerto Rico, April 2006; Draft Expanded Range Assessment and Phase II Site Inspection Work Plan, Former VNTR, Vieques, Puerto Rico, April 2006. Our review included a review by PREQB's contractor, UXO PRO, whose comments on the responses are given in the enclosed Technical Comments.

If you have any questions, please contact me at (787) 767-8181 extension 6137.

Cordially,


Yarissa Martinez
Special Assistant

Cc: Daniel Rodríguez, EPA Vieques Field Office
Richard Henry, FWS
Jim Pastorick, UXOPro
John Tomik, CH2M Hill



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Memorandum

From: Jim Pastorick
To: Yarissa Martinez
Date: August 17, 2006
Subject: Review of Navy Responses to EQB Comments on the Draft Expanded Range Assessment and Phase I Site Inspection Report Former Vieques Naval Training Range (VNTR), Vieques, Puerto Rico, March 2006

Yarissa:

I have reviewed the Navy's responses to EQB's comments on the subject report and I find that the responses are complete and appropriate. As indicated by the responses, the Navy and their contractor intend to make some significant changes to the document and I am looking forward to reviewing next version of the document when it is distributed by the Navy.

Please call or E-mail if you have any questions concerning this review.

Thank you,

A handwritten signature in black ink that reads "Jim Pastorick". The signature is written in a cursive, flowing style.



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Memorandum

From: Jim Pastorick
To: Yarissa Martinez
Date: August 21, 2006
Subject: Review of *Response to Second Comments on the Draft Munitions and Explosives of Concern (MEC) Master Work Plan, Former Vieques Naval Training Range (VNTR), Vieques, Puerto Rico, (April 2006)*

Yarissa:

I have reviewed the subject document, and have the following additional comment. The original comment, followed by the original Navy response, followed by the EQB follow-on comment, followed by the follow-on Navy response is cut and pasted directly from the document being reviewed. My additional comment is in red text.

EQB comment 6. Section 2.4.11, Pg 2-20: This section requires that Fort Gillem, Georgia be contacted in the event that RCWM is found. Please inform EQB why this unit has been selected. Other Navy units may be closer and able to respond faster. Is there a requirement to contact the 52nd Ordnance Group in this case?

Navy's Response:

“Currently the 52nd Ordnance Group is DoD's point of contact for all RCWM. After notification to the 52nd Ordnance Group they may elect to have a geographically closer unit respond.”

EQB reply: The plan may be correct that the 52nd Ordnance Group should be called in the event that RCWM is found. However, several indicators point to the fact that this is not the correct procedure including:

1. A reviewer from EQB called the number provided in the plan (404 469-3333) at 4:30 PM EST on April 5, 2006 and was forwarded to a voicemail box. It is not likely that a phone number that automatically directs the caller to voicemail is the correct phone number to be used in this potential emergency situation.
2. The U.S. Army Corps of Engineers Huntsville Engineering and Support Center



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Memorandum

From: Jim Pastorick
To: Yarissa Martinez
Date: August 12, 2006
Subject: Comments on the Document, "Response to Comments, Draft Expanded Range Assessment and Phase II Site Inspection Work Plan, Former Vieques Naval Training Range (VNTR), Vieques, Puerto Rico, April 2006"

Yarissa:

I have reviewed the subject document. Below I have pasted the original EQB comment and the Navy response. I then added my additional comments in red text.

EQB Comments:

1. Pg 2-2, Sec 2.2, Lines 8-17, Pg 2-3, Sec 2.2, Lines 2-17, Pg. 3-1, Sec 3.1, Lines 4-9. Some of the descriptions of the various sites are getting confusing. There are many sites and they are called by various names. For example, on these lines we have Ranges 1 through 6, which are also referred to as other range numbers:
- Range 3 "here forth identified as Range 4"
 - Range 4 "here forth identified as Range 4B"
 - Range 5 "here forth identified as Range 3"

Note that the bullet on line 37 at the bottom of page 2-2 contradicts the text on lines 8 through 17. The text says that here forth the ranges will be referred to as Range 1, 2, 3, 4, 4B, and 6. The bullet on Line 37 refers to Ranges 3, 4, 4A, 4B, and 5. There is no mention of Range 4A in the text on lines 8 – 17, so which range is actually Range 4A?

There is also the discrepancy between the references to Range 6 in the text and Range 5 in the bullet. It is not possible to understand which range is which EMA MRS by the description provided here. Add to that the fact that the Phase I ERA/SI Report refers to Ranges 3, 4, 4A, 4B, and 6. There is no mention of Range 4A in lines 8 – 17 and we still have the discrepancy between Ranges 5 and 6.

MRSs. SIA-MRS 7 includes all land area within the SIA which is covered by artillery safety fans, excluding areas designated as other MRSs. Figure 2-2 will be revised, replacing in the notes range fan(s) with artillery safety fan(s).

Ranges: The discussion of range numbering will be clarified in the Expanded Range Assessment and Phase II Site Inspection Work Plan. In addition to the six EMA ranges mentioned in the draft document on page 2-2 lines 8-17, page 2-2 lines 18-22 discuss what were originally classified as nine ranges within the EMA. These ranges are ranges 1, 2, 3, 4, 5, 6, 7, 8, and 9. In historical documents, ranges 4, 4A, and 4B were considered one range, currently they are considered separate ranges. Thus, there are actually 11 ranges in the EMA (Figure 2-3). The text on page 2-2, lines 18-22 will be changed to: *“An aerial photograph analysis of the EMA and SIA (ERI, 2002) indicates that as many as 9 ranges (11 ranges now that range 4 has been subdivided into 3 discrete ranges, 4, 4A, and 4B) and up to 30 gun emplacements and positions may have existed historically at the EMA (Figure 2-5). These ranges are currently identified as ranges 1, 2, 3, 4, 4A, 4B, 5, 6, 7, 8, and 9. Additionally the aerial photograph analysis identified up to nine gun positions and eight observation posts within the SIA (identified on Figure 2-5 as GP for gun position, OP for observation post, or PI for photo-identified site, if the photo-identified site use could not be confirmed). These SIA sites may have been used for mortar or artillery gun training.”*

As discussed in the 6/1/06 CTC meeting Table 3-1, MRS 30 will be changed to include range 8. Also, items evaluated during the ERA Phase I SI will be removed from the table.

Page 3-1, lines 4-9 will be changed to:

“Based on the results of the ERA/Phase I SI, the following MRSs will be investigated during the Phase II SI:

- *MRA-ECA: The entire MRA-ECA.*
- *MRA Beach Area: The beaches in the EMA, SIA, LIA and ECA.*
- *MRA-SIA: A total of 7 MRSs, and one PI site, and one PAOC site.*
- *MRA-EMA: A total of 22 MRSs including five PI sites and three PAOC sites.*

In addition to the EMA-MRSs, PI sites, and PAOC sites noted above, two areas of interest (AOIs) identified during the LIDAR survey will be investigated during the ERA/Phase II SI. These AOIs are located within the boundaries of EMA-MRS 43 (Figure 3-1).”

Figure 3-1 will be revised to identify the northern AOI as AOI-1, and the southern AOI as AOI-2. If munitions response actions are determined to be warranted, the AOIs will become new MRSs.

Additional EQB comment: EQB agrees that the changes to the document proposed by the Navy are appropriate and should help correct some of the confusion that was created by the original discussion of the various sites discussed in the document. However, it is recommended that the Navy and CH2M Hill examine the numbering system and evaluate

site, potentially containing hazardous ordnance or MC can be disturbed by trespassers at any time.

Because of this EQB recommends that the description of this site be modified to recognize these potential hazards.

3. Pg 2-3, Sec 2-2, Lines 18-29. These lines describe recommendations from the Phase I ERA/SI Report. It should be noted that EQB has comments on these recommendations as reflected in our comment numbers 27 through 30 in our comments to the Phase I ERA/SI Report. It is recommended that the comments on the recommendations contained in the Phase I ERA/SI Report be resolved first and then this section of the Phase II Work Plan can be revised accordingly.

Response: As discussed in the responses to comments numbers 27 through 30 of the ERA and Phase I SI Report, the explosive hazard severity for EMA MRS 6 and EMA MRS 12 have been revised to follow the Site Prioritization Protocol's Table 1 classification within the EHE module munitions type. The explosive safety hazard screening category for EMA MRS 6 is moderate-high. The explosive safety hazard screening category for EMA MRS 12 is high. Because there is evidence that these sites have been impacted the recommendation is for further investigation; however, because all of the items found were expended, relative to some of the other sites they have a lower priority. The recommendations contained in the above mentioned section of the Phase II Work Plan are unchanged.

Additional EQB Comment: This comment deals with the hazard assessment protocol used in this document. The response describes revisions to the hazard assessments for these MRS that are contained in the Navy's responses to EQB's comments on the Phase I ERA SI Report. The Navy is correct that these changes were made in the Navy's responses to that report. However, the responses to EQB comments on the ERA SI Phase I Report are dated March 2006. Since that time, the Navy has agreed to revise the hazard assessment protocol at the last MR Committee meeting held in San Juan on May 31, 2006. As recorded in UXO Pro's report to EQB on that meeting:

- "The hazard assessment section of this document [note: "this document" is the Phase I ERA SI Report] was discussed at length. Jim Pastorick made the point that the current hazard assessment protocol is not useful to the project because it doesn't discriminate explosive hazards very well and it also doesn't accurately represent the ranking procedure of the Site Prioritization Protocol on which it is based. **It was decided that CH2M Hill would review the hazard ranking procedure and revise it within three weeks. Chris Penny said that the hazard assessment protocol should be a recurring topic of discussion for the MR Committee until it is resolved.**"

To date no revisions to the hazard ranking protocol have been discussed with EQB or received by EQB. Therefore, EQB considers this comment to be still unresolved and open for discussion and future resolution.

percent coverage of PI 1, PI 17, and PAOC Y will be used to evaluate surface MEC". The following will be inserted at the end of the last paragraph on page 3-2: "Transects will be used to evaluate surface MEC."

Additional EQB Comment: The explanation provided and the recommended text change resolves this comment.

7. Pg 3-5, Sec 3.2, Lines 9-16. The amount of acceptable failures described in this section on QC criteria appears to be inadequate. The allowable failure rate (the number of UXO allowed to be missed) is excessive. It also requires that only UXO be considered to be failures, not ordnance-like objects or even MEC. The allowable number of missed UXO specified is five in each quarter acre or twenty per acre. This is a very large number of allowable failures and is likely unprecedented.

It is recommended to:

1. Change the requirement for a failure to be a UXO (note, functioned BDU-33 practice bombs, large pieces of frag, etc, are not UXO but should be found by the geophysics) to being any metal object larger than 20-mm.
2. Please provide further explanation for how MIL-STD-1916 is being used to arrive at the amount of QC inspection and the allowable failure rate of 20/acre.
3. Explain how many square feet equal a lot for the transect survey. The only number given is 2,400 linear feet and, since the transect width is unknown, the overall size of a lot cannot be determined.
4. Revise the acceptable failure rate to a lower and more reasonable number.

Response: See response to EPA specific comment 6.

Additional EQB Comment: The explanation provided and the recommended text change resolves this comment.

8. Pg 3-6, Sec 3.2.1, Lines 9-11. This section says that rocky areas near beaches will not be mapped. While it is agreed that geophysical mapping of rocky areas is not productive, numerous MEC can be easily observed on these rocky areas between beaches. It is recommended that these areas be walked and visually inspected during the Phase II ERA/SI. This can easily and quickly be done and identifying these surface MEC for disposal will help to further decrease the MEC hazard in the area.

Response: These areas will be cleared as part of the upcoming EE/CA. Any effort as part of the Phase II ERA/SI would be duplicative.

Additional EQB Comment: The explanation provided resolves this comment.

9. Pg 3-6, Sec 3.2.2, Line 28. There is an important typo in this section. This line should refer to "roads" not "beach areas".

Response: The sentence will be changed to refer to road areas.

Workplan.

Additional EQB Comment: The explanation provided and the recommended text change resolves this comment.

13. Figs 3-4 and 3-5. This figure is very confusing. It is not a decision flow diagram because there are very few decision points identified and what decision needs to be made is not identified. For example, refer to the left side of this diagram:

1. MEC is found. Then the “CH2M Hill Safety/QC Supervisor Cliff Walden” is brought into the loop.

2. He then goes to two entities, the “UXO Subcontractor Team” and the “CH2M Hill Superintendent Heather Blackwell”. But, it is assumed the “UXO Subcontractor Team” found the UXO in the first place, so what are they supposed to do at this point in the flow chart?

3. The chart then seems to ask if it is safe to move.

4. If safe to move it goes to removal which sends it to “CH2M Hill MRP George Overby”, who sends it to Stacin Martin who sends it to Carlton Finley/Madeline Rivera. What is being done by these persons? Are they just notifying each other or are they taking some action? When this chain dead-ends at “Carlton Finley/Madeline Rivera”, what happens now?

As another example, this process may or may not go through “CH2M Hill Superintendent Heather Blackwell”. What is the difference in the situation that determines whether she is or is not in this loop?

There are many more examples of questions that are unanswered by the figure and the same can be said of Figure 3-5. There are no decisions represented on Figure 3-5 and only a few instances where one organization notifies another.

It is recommended that true decision trees be developed for these functional areas.

Response: Figure 3-4 and section 3.5.1 will be deleted as unnecessary. The original Figure 3-5 (the Blow In Place Decision Tree), which now becomes Figure 3-4, has been revised, and is attached to these comments.

Additional EQB Comment: The explanation provided and the recommended changes to the figures resolve this comment.

14. Pg 5-1, Sec 5.2, Line 18-28. This section references the hazard evaluation and site prioritization performed as part of the Phase I ERA/SI. However, EQB had several comments (comment numbers 25 – 30) on the hazard evaluation and site prioritization in the Phase I ERA/SI which have not been resolved. It is recommended that EQB’s comments on the hazard evaluation and site prioritization in the Phase I ERA/SI be discussed and resolved before the results of that evaluation and screening process are implemented in this work plan.

The intent of the documents is to state that the DGM systems are to be tested against the DQOs established in the work plans and if a particular DQO cannot be met, the system or process will be modified to attempt to meet the DQO and if the DQO still cannot be met then discussion regarding a modification to the DQO will ensue. {You may want to add something here regarding any text changes you will make to clarify the intent.}

The procedure outlined here is also not in compliance with Bullet #9 of Appendix F of the Master Work Plan (no page number is provided, this bullet is on the fifth page of text in this appendix) which states, “If the DQOs cannot be met by The DGM Contractor, the Title 2 Services Contractor QA Geophysicist will meet with the U.S. Navy to discuss a resolution (i.e. modification of a DQO) prior to completing the GPO.” Note that this bullet doesn’t say that the DQO will be established after the GPO to comply with the results of the GPO. This is because the DQO is established prior to performance of the GPO.

Also note that the procedure outlined in the text is not consistent with the process shown in Figure 1 which clearly identifies modifying the DQOs (Step 8) as the “Secondary path”. The figure is consistent with the intent.

Response: The DQOs for the geophysical prove out and survey will be added to the work plan. The Draft ERA SI and Phase II SI WP sections cited above in the comment will be revised to reflect the following: After establishing DQOs, the system and processes will be tested to see if they can meet the DQOs. If the system cannot meet DQOs, the system and/or the process will be modified to try to meet the DQOs. If these changes still don’t allow the system and processes to meet DQO requirements, then and only then will a discussion start about modifying the DQOs.

Additional EQB Comment: The explanation provided and the recommended text change resolves this comment.

17. Table B2 and Pg C-13, Sec B.25, unnamed figure. This is a very useful table. However, there appear to be a few important issues associated with it:

1. There is no requirement listed in this table for the blind seeding program that is required by Section B.23 of this appendix. It is recommended that this QC requirement be added to Table B-2.
2. There is an audit requiring checking to “Verify data checks specified in the QCP and SOPs”. In order to ensure that this is accomplished it is necessary to list these checks and who is responsible for performing them. This is because these checks are contained in several places and in some cases the guidance conflicts.

The unnamed figure on Page C-13 contains some QC checks that should be added to Table B-2 (QC review performed on field forms, QC review performed on pre-processing, QC review performed on processing).

Response: 1) The blind seeding program requirements will be added to Table B-2:

18. Pg C-12, Sec B.24. This section lists in three places some of the QC checks that are performed (“The following items are among the QC checks performed”). Since Table B-2 is designed to list all of the required QC checks, it is recommended that this section be deleted because it can only cause confusion and conflict with Table B-2. It is recommended that any QC checks in this section that are not included in Table B-2 be added to Table B-2 and that this section be removed from the plan to prevent conflict with the definitive requirements of Table B-2.

Response: Section B.24 will be replaced with a reference to the specific DFOWs in Table B-2, and the bulleted items inserted in Table B-2. See response to EQB comment 17 above.

Additional EQB Comment: The explanation provided and the recommended text change resolves this comment.

19. App B Attachment and Table 1. Much of the Attachment to Appendix B (the GPO Plan) repeats the requirements of Appendix F to the Master Work Plan. Inclusion of this information only serves to cause confusion where the Appendix B Attachment doesn’t agree with Appendix F to the MWP.

For example, both documents contain an introductory section on “Purpose.” However, the attachment to Appendix B excludes two of the requirements contained in Appendix F to the MWP: “Document system reliability” and “Evaluate estimated field production rates and estimated false positive ratios, as related to project cost”. Is the deletion of these requirements a formal modification to the MWP which means that documentation of system reliability and field production rates is not part of the function of the GPO? If so, why? Why was it included as part of the purpose in the MWP and not in the Phase II ERA/SI? And why repeat all of the other requirements verbatim if they are unchanged?

It is recommended that the attachment to Appendix B be scrubbed to eliminate all text that is duplicative to the existing requirements of the MWP because this duplication with only minor changes causes confusion.

Also, the section on DQOs is slightly different that that contained in the MWP. For example, the requirement for “Downline Data Density” is not in the MWP and the text for “Survey Coverage (Lane Spacing)” is different than that in the MWP. Are these formal changes which should be reflected in the next version of the MWP or are they errors in the attachment to Appendix B?

Also, Table 1 on “Project Data Quality Objectives” contains numerous conflicts with the text in the work plan and the MWP. Project DQOs are contained in several places in this document and the MWP so it is inevitable that there will be contradictions. For example, Table 1 says that the DQO for transect spacing is for no more than a 2-ft. gap. Is this the same as the MWP requirement for “Lane Spacing (Sensor Separation)” contained in the MWP? They appear to be different (the MWP contains a 2% requirement and a 1-ft. radius requirement). Another difference is the Table 1 requirement for “Search transect

21. Pg 4, Sec 2.2.1, Line Attachment to App B. The discussion of FAR is confusing. If there is "... no absolute rule to determine an acceptable FAR", then how will an acceptable FAR be determined? Can any criteria be established? The MWP Appendix F says the criteria is for FAR to be no greater than 15%. Is this requirement no longer valid?

Response: The requirement for less than 15 percent FAR will be removed from the next version of the MWP. No absolute FAR will be determined. It is of more value to look at FAR as the project progresses, and evaluate the FAR against the anomaly selection criteria and other metrics, than to set a fixed limit for FAR.

Additional EQB Comment: The explanation provided resolves this comment. However, it is recommended that this change to the MWP be documented in a Document Change Notice.

22. Pg 4, Sec 2.2.2 and 2.2.3, Line Attachment to Appendix B. The requirements here for "Downline Data Density" and "Survey Coverage" are not contained in the MWP. Should they be added to the MWP or are these criteria only valid to this one project?

Response. Downline Data Density and Survey Coverage will be added as potential DQOs in the MWP. The requirements of site-specific geophysical work plans differ, depending on scope, These two requirements are applicable to this plan and potentially future ones.

Additional EQB Comment: The explanation provided resolves this comment.

23. Pgs 4,5, Sec 2.3, Line Attachment to Appendix B. This section contains two requirements for delivery of data packages: "within 1 working day of data collection" and "within 3 working days of data collection". Which is correct?

Response: The requirements are: one working day for raw data for GPO, and three working days for final processed data for the GPO. The DQO for the project data is 3 days for raw field data and 5 days for final project data. The paragraph will be revised: "...the measurement performance criterion for data handling during GPO activities will require that data packages of raw data for the GPO (see Section 8) be completed and delivered to the CH2M HILL Project Geophysicist within 1 working day of data collection. Final processed data for the GPO shall be delivered to the CH2M HILL Project Geophysicist within 3 working day of data collection. "

Page 15, Section 8, last bullet will be revised with the correct data submittal time requirement.

Additional EQB Comment: The explanation provided and the recommended text change resolves this comment.

24. Pg 7, Sec 4.0, Line Attachment to Appendix B, Comment 24, Pg 10, Sec 5.1, Line

adequate for the beaches because the geological conditions (no imported gravel, different geology) will be much different than those at the road GPO. It is recommended that an evaluation of the number of targets emplaced on the beach validation strip be performed to determine if three are adequate or whether additional targets are required to establish that the DQOs are being met on the beaches.

Response: The road is anticipated to be the most difficult environment for the geophysical instruments, because of the anticipated heterogeneity of the fill materials over native materials. The GPO constructed on a section of road should suffice for geophysical work done along roadways. Beach sand is generally the easiest environment for geophysics because of the lack of imported materials, the lack of significant quantities of ferrous minerals in the material, and the homogeneity of the material. A test strip in the beach environment should suffice to confirm and measure the geophysical instruments and procedural responses.

Additional EQB Comment: The response is accepted. However, it is important that the number, location and types of seed items in the test strips be provided in the interim deliverable so that the final GPO plan can be understood by all reviewers.

28. Pg 12-13, Sec 6.0, Attachment to Appendix B. This section on QC almost completely repeats the text of the MWP, but not quite. What is the significance of the fact that the MWP contains an "Octant Test" and that this has been replaced by a "Repeat Data" test in the attachment to Appendix B? Is this requirement for the "Octant Test" in the MWP no longer valid?

Response: The octant test will be required, and will be re-inserted in the text. The repeat data test will be included also.

Additional EQB Comment: The explanation provided and the recommended text change resolves this comment. Also, this is an example of the difficulty in making wholesale changes to an MWP by only issuing a site-specific plan. Some important requirements may be accidentally excluded. Again, it is highly recommended that the changes to the MWP be documented in an abbreviated Change Notice to the MWP so that reviewers can be informed of all of the changes to this important document.

