

**MEETING SUMMARY**  
**RESTORATION ADVISORY BOARD (RAB) FOR THE ENVIRONMENTAL  
RESTORATION AND MUNITIONS RESPONSE PROGRAM**

**VIEQUES ISLAND, PUERTO RICO**

**MEETING NUMBER 15- FEBRUARY 7, 2008  
MULTIPLE USE CENTER, ISABEL SEGUNDA,**

*Note: This meeting summary is based on informal notes taken at the meeting. They are not intended as a verbatim transcript and everything that was discussed may not have captured. If comments or additional notes are provided within 30 days of distribution of these minutes, those will be added as an attachment to this summary.*

### **CALL TO ORDER AND WELCOMING REMARKS**

The meeting began at 7:00 pm after the Public Meeting for AOC H Proposed Plan. Daniel Hood of the Navy welcomed the attendees.

### **MUNITIONS RESPONSE PROGRAM UPDATE**

Tim Garretson (CH2M HILL) provided a summary of the Munitions Response Program.

#### **Overall Goals**

- Conduct Munitions Response Program investigations
- Characterize Munitions Response sites (MRSs)
- Conduct Munitions Response Actions at those sites that pose an unacceptable risk to human health
- Final Response Action Objectives will be based on final plan land use

#### **Contractor Update**

CH2M HILL - Title II services.

USA Environmental - Removal Action Contractor (small business)

TriEco/Advent - Removal Contractor (8A-minority owned business)

PIKA International - Central Processing Center Contractor (8A-minority owned business)

#### **Personnel Status**

Approximately 112 personnel work on site daily. Approximately 82 of the workers, or 73 percent, are local residents.

#### **Time Critical Removal Action Update**

Tim showed the updated Time-Critical Removal Action (TCRA) areas and progress map, and stated that most of the work completed is in the western half of the former Live Action Area (LIA).

### ***Progress Report through January 2008***

A total of 581 acres have been surface cleared within the LIA. The following are the total number of munitions items that required detonation: live bombs -360; inert bombs- 3199; live projo/mortars - 3,876; inert projo/mortars - 2,595; live rockets - 273; inert rockets - 62; pyrotechnics - 256; and live ICM (sub-munitions or cluster bombs) - 1526.

### ***Material Processed and Shipped Off Island through January 2008***

Munitions Debris (MD) - 1,776 tons  
Range Related Debris (RRD) - 1,763 tons  
Total Material Recovered - 3,539 tons  
Crushing - 95 tons  
Shearing - 475 tons  
Cutting - 26 tons  
Thermal processing - 753 tons  
Total material shipped off island - 1,757 tons

### ***Recovery and Processing***

Tim stated that most processing operations were suspended during the holidays, including the off island shipping. During this time, the focus was on recovery and segregating the munitions into the appropriate stream/processing operation. Processing will continue when sufficient material for that particular operation is collected. The off island shipment will continue when sufficient material has been processed and certified as being free of explosives.

### ***Non Time Critical Removal Action***

Tim summarized the non-TCRA project, showing the areas of the digital geophysical mapping (DGM) of roads and beaches to identify the potential locations of buried munitions related metal. Specifically, 80 acres of beaches have been geophysically surveyed and 24 acres of roads have been geophysically surveyed. DGM operations were suspended on October 12. The DGM will resume when the sub-surface removal begins.

### ***Engineering Evaluation/Cost Analysis (EE/CA) Status***

The Draft Final EE/CA was sent to the RAB (September 28, 2007) and subcommittee (posted October 1 to website, mailed October 3, 2007). A public notice announcing the public comment period was placed in *El Vocero* and *Primera Hora* newspapers. The public review period was from October 3 through 5 November (and was extended to 3 December, 2007). Currently, the public comments have been received, are being reviewed, and responses will be posted on the Vieques public web site and included as an appendix to the final document.

### ***Subsurface Removal Work Plan***

Tim stated that the subsurface removal Work Plan will be completed after consideration of comments from public comment period on the EE/CA. The Work Plan approach (data usability procedure, periodic data reviews, depths of clearance) will be resolved with the regulators prior to submitting the draft final Work Plan. The Navy intends to have a final Work Plan by mid-2008.

### *Expanded Range Assessment*

The purpose and objectives are: 1) supplement previous information regarding the types and quantities of MEC believed to be present at the Munitions Response Sites (MRSs) investigated; 2) characterize sites to confirm MRSs; 3) identify types and locations of target areas; 4) identify potential MRSs where no future Munitions Removal Actions are necessary (additional site information/investigation will be required before recommending no further action); 5) identify MRSs that will require further investigation in order to arrive at a response action decision; and 6) identify high risk MRSs that may require immediate action due to explosive safety issues.

Approximately 367 acres within the EMA, SIA, and EE/CA will be investigated. The MRSs will be inspected using the transect approach with 10 percent of the MRSs being inspected. Specific Areas of Interest and Concern will be 100 percent inspected.

### *ERA Phase II SI Areas - Subsurface Removal Pilot study*

The Navy is working on a subsurface removal pilot study to verify the Work Plan, select the appropriate excavation equipment, determine anomalies clearing rate, and establish realistic costs to complete.

### *Discussion highlights:*

- Stacie Notine (RAB member) - Are different approaches required for different areas? Tim replied that the highest priorities are those areas that pose an immediate hazard if there is digging. Tim added that early investigations had gathered data on what to expect on specific areas, the Navy is addressing immediate issues at this time.
- Jose Giovanni Ojeda (public) - Are ICMS cluster bombs? Tim replied - Yes, and they are very sensitive and hazardous.
- Stacie asked if work for the subsurface, does it refer to beaches and roadways? What depth? Tim replied that the subsurface work proposed is for roads and beaches and the depth of removal depends on size of the anomalies and the site conditions.
- Stacie - In regards to roads and beaches, have you determined how deep you are going? Tim - we think 4 feet on beaches is sufficient, we don't think we can go deeper than that.
- Hector Julian Camacho (RAB member) - Do we know depth that we can detect at now? Tim - In general the geophysical surveys detect 11 times the diameter of the size of the item we are investigating.
- Pablo Connelly (RAB member) - The capacity of the instrument you are using now, how deep can you see? Tim - The depth of detection will depend on the size and shape of the anomaly.
- Cristina Corrada (RAB member) - the geophysics - where it is and how does it related to the work that's going on and the Health and Safety considerations? Tim - We provide agencies with raw and process data and follow the standard process for risk assessments.
- Pablo - There may be anomalies deeper than 6 ft, can you read a bomb at 4 or 6 ft? Tim - a large ones - yes, but the small ones no.

- Pablo – Can the equipment measure an anchor at 4 or 5 ft? Tim – Yes, depending on the size.
- Jorge Fernandez Porto (RAB member) – Some places in the west near the water there is approximately 4' of loose sand that gets replaced the following season due to erosion? Have you consider loss of sand? A bomb can be exposed in a storm. Tim – we are considering the loss of sand so far, we have not seen significant change on the beaches. This is part of a long-term monitoring; the results will help us understand our challenges. This is a very good comment, if a beach changes, we may need to come back and re-evaluate the strategy for that area.
- Stacie - Does the government of PR have the information on the number of bombs recovered? What areas have been finished, and what has been reported to government? Tim- All the data is presented to the technical teams and it is reviewed by the regulatory agencies. So far, nothing in subsurface has been removed.
- Stacie – But you opened Red and Blue Beaches? John Tomik (CH2M HILL) explained that those beaches were used for a different activity, mostly related to amphibious landing and not for military activity. The early investigation did not find anything on those beaches except buried metal pieces; no munitions were found.
- Daniel Hood (Navy Co-chair) added that the Navy completed 80 acres of beach work prior to beginning of active hurricane season, including areas around roads which are now part of removal action. The Navy will ensure when implementing the Work Plan that the action will be protective of human health and environment, based on the final land use, by removing the items found.
- Lirio Márquez (RAB member) – After the first removal of artifacts, do you continue to monitor the beach areas? Who will determine need for other actions? Tim – The Navy is required to come back and do long term monitoring, the frequency will depend on the situation.
- Stacie – Regardless, we know the use for the beaches. Who determines the criteria for this decision? Tim - All final decisions consider regulatory input and follow the law. The final remedy for the site is detailed in the final agreed ROD [Record of Decision]. Daniel Hood added that CERCLA requires a 5 year review of the action. If the remedy is no longer protective of human health and environment, the Navy is required to reassess the site.
- Pablo – What are you planning to do on the former runway next to the LIA? There are depth and height variations. Are you going to address this area, or because it is designated as a wilderness area, are you not doing anything? Tim – Everything we do is driven by future land use. If there are no plans to dig to 12 ft, it doesn't matter if a bomb is there; it won't hurt you, because it is not exposed. We can only do what technology allows us.
- Jose Giovanni Ojeda (public) – It disturbs me to hear that land use being proposed by USFWS is the only thing considered. Vieques people have a vision for other land uses. The public feels all the land needs to be left in the same condition found before Navy activities.

- Felix Lopez (USFWS) stated that the refuge just finished a Comprehensive Conservation Plan which is a guiding document for the Restoration Plan & Public Use Plan. The refuge has plans to conduct habitat restoration. There will be active land management restrictions coordinated with the Navy.
- Hector - The concern is that people will not have the ability to live there again if the Navy is cleaning it only to the depth of needed for an ecological reserve.
- Cristina - We feel the land transferred to the USFWS is a temporary measure. Daniel Hood stated that it is up to Congress to determine if there is a need to re-allocate lands to clean to a different level.
- Hector - The community needs a clear understanding of proposed plans.
- Danny Rodriguez (EPA) - We can not force Navy or any other PRP (Potentially Responsible Party) to clean up beyond the designated use of the property, based on the protection of human health or the environment.
- Stacie - Multi-million dollars have been spent and you still don't know how to address all the areas.
- Cristina - What is timeframe for the areas to be clean and people can go visit? 20 or 30 years? Tim - First we need to know what's there.
- Cristina - Superfund has limited time; could be funded for 20 or 30 years? Tim - I don't think that is the case here; there is no time limit. As long as Navy gets funds, we will continue with the investigation and cleaning. At present, we are starting to learn about some areas where the high densities of munitions are present. Until we finish with this assessment, we can't make decisions; we are in initial stages of investigation. Vieques receives a lot of funds; there are a number of other places that would want the level of the funds Vieques is getting.
- Giovanni Ojeda (Public) - Since these processes are not new, can you not give us an approximate number of years it will take to address Vieques? Tim - I can't give you an estimate, since the answer depends on many factors, including accessibility to the site.
- Danny Rodriguez (EPA) - No two sites are the same. Density of vegetation is an important consideration. We need to determine where the UXO is first. The recently signed Federal Facility Agreement identifies how much time and money is needed to complete investigation. It must be updated every year and send to agencies for review and to the public. Right now, we are addressing the priority areas; we are at the prioritization phase.
- Pablo - The land needs to be clean so the people can use it.
- Wilmarie Rivera (EQB) - The Department of Natural Resources representative called me to tell me that he was scheduled to attend this meeting but his flight got cancelled.

## Summary of Wind Direction, Particulate Matter (PM10), Metals, and Explosives Detections at Boundary Monitoring Station

This summary is from April 2007 through December 2007 for PM10. Data for metals and explosives: April 2007 through September 2007.

- Wind direction from 5 of 13 events was in the direction of the boundary monitoring station (within 15° N or S). For the 5 events where boundary station was downwind: All data for particulate matter (PM10), metals, and explosives were either non-detect or below health based levels. Highest PM10 measurements were 17.73 ug/m<sup>3</sup> which is well below the health based criteria of 150 ug/m<sup>3</sup>. Highest metal detection (iron) was 0.19 ug/m<sup>3</sup>, which is well below the health based criteria of 140 ug/m<sup>3</sup>. No explosives were detected. There was no significant difference between downwind data and other data.

April 2007 through December 2007 Air Monitoring Data for Perimeter Monitoring Location

	Number of Events Data Available (1)	Number of Events Wind was in Direction of Monitor and Data Available (2)	Range (ug/m <sup>3</sup> ) for all Events	Range (ug/m <sup>3</sup> ) for Events with Wind in Direction of Monitor	Screening or Health Based Guidance Level (ug/m <sup>3</sup> )
PM10	13	5	1.84-19.82 (a)	1.84-17.73	150
Iron	9	3	0.021-0.2	0.023-0.19	140
Nickel	9	3	0.006-0.02	0.006 (b)	70
Copper	9	3	0.004-0.5	0.007 (c)	70
Arsenic	9	3	0.004 (b)	ND	0.7

(1) - lab data for last quarter not available at this time

(2) - within 15 degrees North and South of monitor

ND - not detected

(a) - detected day prior to demo event

(b) - only one detection

(c) - two detections of same concentration

### Discussion highlights

- Pablo - Do you know the wind speed? Tim - No, but we have data from 13 events, five with wind towards station.
- Jorge - What lands have already been cleaned under the TRCA? Tim - 600 acres cleared
- Kathy Gannet (public) - In the area around Red and Blue Beach, where FWS will be ripping roads, are you going to clear under? Tim - No, we are not, but we will have UXO escort and established procedures on standby. These areas are outside where munitions were expected to be located.
- Kathy - The agencies should try to advise tourists. She knows of situations where people have found things there when snorkeling. Danny added that could be due to tidal action; munitions can appear anywhere. We should have general caution in the area.
- Kathy - How often is this signage available? Is there a campaign for tourists? Susana Struve (CH2M HILL) responded that the agencies and the Navy have coordinated several activities to alert the public about the dangers of UXO and trespassing. The Navy distributes monthly flyers, as well as newsletters. EQB distributes a monthly bulletin. RAB meetings are open to the public.

## **ENVIRONMENTAL RESTORATION PROGRAM UPDATE**

Brett Doerr (CH2M HILL) gave a summary of the Environmental Restoration Program (ERP) investigations.

### **Status of West Vieques Environmental Sites**

#### **AOC E**

Draft Remedial Investigation Report submitted to regulatory agencies in December 2007. Anticipate Feasibility Study with additional data collection in 2008.

#### **AOC H**

Public Comment Period on Proposed Plan was January 28 – March 12, 2008. Public Meeting: February 7, 2008. Anticipate Record of Decision in 2008.

#### **AOC I**

Draft Remedial Investigation Report submitted to regulatory agencies in November 2007. Anticipate Feasibility Study with additional data collection in 2008.

#### **AOC J, AOC R, SWMU 6, SWMU 7**

Draft Final Work Plan for Removal Action submitted to RAB in January 2008. Anticipate waste profiling and initiation of removal actions by Shaw Environmental in 2008. Action Item: provide information on Shaw - where staff are coming from (what offices) who are working on removal sites.

#### **SWMU 4**

Anticipate collecting several additional samples in early 2008, followed by preparation of the Draft Remedial Investigation Report.

### **Status of East Vieques Environmental Sites**

#### **12 Consent Order and 8 PI/PAOC Sites**

Draft Preliminary Assessment/Site Inspection Report (PA/SI) was submitted for regulatory agency review in November 2007. The Navy is currently preparing responses to agency comments.

#### **Remaining PI/PAOC Sites in the ERP (16 total)**

Sites were visited by EPA, EQB, and Navy personnel in October 2007. The PA/SI to be conducted at 10 PI/PAOC sites; work plan is to be prepared in 2008.

No further action at 6 PI/PAOC sites; no further action decision document to be prepared following finalization of PA/SI Report for 12 Consent Order and 8 PI/PAOC Sites.

#### **ERP Documents for RAB Review**

##### ***1st Calendar Quarter (January – March) 2008***

No Further Action Proposed Plan for west Vieques AOC H. Draft Final Removal Action Work Plan for west Vieques AOCs J and R, SWMUs 6 and 7

##### ***2nd Calendar Quarter (April – June) 2008***

Draft Final Remedial Investigation (RI) Report for AOC E. Draft Final Remedial Investigation (RI) Report for AOC I. Draft Final PA/SI Report for east Vieques 12 Consent Order Sites and 8 PI/PAOC Sites

#### *4th Calendar Quarter (September – December) 2008*

Draft Final SI/Expanded SI Work Plan for various east Vieques PI/PAOC Sites. Draft Final No Further Action Report for various east Vieques SWMUs, AOCs, and PI/PAOCs

#### *Discussion highlights*

- Jorge – Why do you need to do more data collection? Brett – First samples are to provide the magnitude of environmental impacts, the next set of samples is to further define extent of impacts.
- Jorge – When will you deal with underwater issues? Nothing's been done under water. It seems you are going very fast on land, but half of SWMU 4 is under water
- .Dan Hood – It is Navy policy that underwater investigation will be done after terrestrial work is completed. We planned to give you a presentation on the types of technologies available for underwater. We'll do that at the next meeting or through a conference call.
- Danny Rodriguez – Could be 2 different operational areas; 1 action in submerged and 1 in non-submerged. Higher priority is given to the areas where people walk. It doesn't mean that the submerged areas won't be addressed; they will be dealt with later.

#### *UFP QUAPP*

DOD, DOE, EPA came out with a new UFP QAPP procedure in 2007. This is being adopted across agencies as the standard process for developing Work Plans.

- Danny – Achieves consistent approach by all agencies, accelerating the review because we will know what information is what sheet; the presentation is standardized.

#### **CLOSING**

Due to the lack of time, the participants decided to schedule a RAB call in the near future. Susana Struve – Next RAB meeting will be tentatively scheduled for April to May.

## ACTION ITEMS

Item	Comments	Status
Navy - Provide RAB members with more information about SHAW (as a company)		
Discuss the status of the project related to lack of funding.	Requested by Pablo Connolly	
Navy to schedule a conference call to discuss the agenda topics not addressed at this meeting including: underwater technologies and burn plan update.		