



## Naval Facilities Engineering Command - Atlantic Vieques, Puerto Rico

### Status Report for the Vieques Restoration Advisory Board

Through December 2008

This report provides the Restoration Advisory Board (RAB) with a status of on-going work at the Solid Waste Management Units and Areas of Concern (SWMUs and AOCs) on the former Naval Ammunition Support Detachment (NASD) property in western Vieques and an overview of the Environmental Restoration and Munitions Response activities on eastern Vieques. The following is a summary of the activities completed through December 2008, and the activities planned for completion for the next few months.

## ENVIRONMENTAL RESTORATION PROGRAM

### WEST VIEQUES

- PREQB approved the proposed No Further Action (NFA) under CERCLA for nine west Vieques sites (solid waste management units [SWMUs] 5, 10, 14, 15; areas of concern [AOCs] B, C, F, K, and L) in February 2007.
- **AOC E (Former Waste Oil Tank)**  
The Draft Final Remedial Investigation (RI) Report for AOC E was submitted to the RAB in June 2008. No RAB comments were received. The Final RI Report was issued in July 2008. Based on the recommendations in the RI Report, additional sampling to support the Feasibility Study (FS) for AOC E was conducted in July 2008. Evaluation of the data indicates the concentrations of contaminants at the site have declined over time since the removal of the UST in 1996. Evaluation of the data further suggests an onsite pilot study (in lieu of an FS) is appropriate to evaluate the capability of a particular remedial technology to accelerate remediation of soil and groundwater contamination at the site. A memorandum detailing the rationale and approach for the pilot study is currently being prepared.
- **AOC H (Abandoned Power Plant)**  
Based on the RI Report findings, a No Further Action Proposed Plan was made available to the public on January 28, 2008 for a 45-day public comment period. A public meeting to present and discuss the Proposed Plan was held on February 7, 2008. No public comments were submitted to the Navy or EPA (other than questions asked at the Public Meeting) during the public comment period. Based on the Proposed Plan, the Record of

**Note:** This summary is presented in English and Spanish for the convenience of the reader. Every effort has been made for the translations to be as accurate as reasonably possible. However, readers should be aware that the English version of the text is the official version.

**Nota:** Este resumen se presenta en inglés y en español para la conveniencia del lector. Se han hecho todos los esfuerzos para que la traducción sea precisa en lo más razonablemente posible. Sin embargo, los lectores deben estar al tanto que el texto en inglés es la versión oficial.

Decision was signed by the Navy, EPA, and PREQB in September 2008, which releases the site from CERCLA without restriction.

- **AOC I (Former Asphalt Mixing Plant)**

The Draft Final RI Report was prepared and submitted to the RAB in April 2008. No RAB comments were received on the Draft Final RI Report. The Final RI Report was issued in June 2008. Based on the recommendations in the RI Report, additional sampling to support the FS for AOC I was conducted in July 2008. Evaluation of the data indicates the concentrations of contaminants at the site have declined over time since termination of asphalt plant operations in 1988. Evaluation of the data further suggests an onsite pilot study (in lieu of an FS) is appropriate to evaluate the capability of a particular remedial technology to accelerate remediation of groundwater contamination at the site. A memorandum detailing the rationale and approach for the pilot study was submitted for regulatory consideration in November 2008.

- **AOC J (Former Operations/Staging Area Disposal Site)**

The Final RI Report for AOC J was issued in May 2007. Because waste at the site may pose a potential risk of future releases of contaminants, the RI Report recommended a waste removal action.

Regulatory agency approval of the Removal Action Work Plan was received in February 2008. Based on the approved work plan, waste profile sampling to determine the appropriate disposition of soil associated with the waste was conducted in February 2008. Risk assessments were performed on the sample data to help determine the appropriate disposition of soil that may be excavated as part of the waste removal action. The risk assessments were submitted for regulatory review in October 2008. Physical removal of the waste and confirmatory sampling is anticipated to occur in early 2009, pending finalization of the risk assessments and determination of the appropriate soil disposition option(s).

Following the removal action, a removal action report will be prepared that documents the removal action activities and the new risk assessments performed using the removal confirmatory data.

- **AOC R (Former Staging and Operations Area)**

The RI field work, comprising monitoring well installation and surface water, sediment, soil, and groundwater sampling, began in December 2005 and was completed in March 2006. Preliminary evaluation of the analytical data suggests additional data are needed to adequately delineate the nature and extent of contamination and assess potential risks. This additional data collection will take place subsequently to the planned removal action. See the discussion above under AOC J regarding the removal action work, which includes AOC R.

Human health and ecological risk assessments will be conducted and an RI Report prepared following the removal action and additional data collection.

- **SWMU 4 (Former OB/OD Unit)**

An RI was performed at SWMU 4 in 2007. Preliminary evaluation of the RI data suggested additional sampling was warranted to sufficiently characterize the site. The

rationale for additional sampling and the proposed locations was submitted to the regulatory agencies in November 2007. Regulatory comments on the proposed additional sampling were received in January 2008. The comments were resolved in March 2008. The Final Work Plan Addendum was submitted and the additional samples were collected between April and August 2008. Risk assessments for SWMU 4 are underway, the results of which will be included in an RI Report. It is anticipated that the Draft RI Report will be submitted for regulatory review in early 2009.

- **SWMU 6 (Mangrove Disposal Site at Kiani Lagoon)**

The Final SWMU 6 RI Report was issued in February 2007. Because waste at the site may pose a potential risk of future releases of contaminants, the RI Report recommended a waste removal action. See the discussion above under AOC J regarding the removal action work, which includes SWMU 6.

- **SWMU 7 (Quebrada Disposal Site)**

The Final SWMU 7 RI Report was issued in March 2008. Because the waste at the site may pose a potential risk of future releases of contaminants, the RI Report recommended a waste removal action. See the discussion above under AOC J regarding the removal action work, which includes SWMU 7.

## EASTERN VIEQUES

- **Original 12 SWMUs/AOCs Contained in the RCRA Consent Order**

The Draft Final PA/SI Report (which included 8 PI/PAOC sites, as stated below) was submitted to the RAB in April 2008. No RAB comments were received. The Final Report was issued in June 2008. Based on the findings in the PA/SI Report, an Expanded SI was recommended for 7 of the original 12 Consent Order sites; no action was recommended for 4 of the sites; and no action pending the outcome of a groundwater study was recommended for the remaining site.

A Draft SI/Expanded SI Work Plan for the aforementioned 7 Consent Order sites (together with 15 PI/PAOC sites [see below]) was submitted for regulatory agency review in July 2008. Regulatory comments were received in August (PREQB) and October (EPA) 2008. Resolution of the preliminary responses to the comments submitted to the regulatory agencies in November 2008 is currently underway. It is anticipated that the Draft Final SI/Expanded SI Work Plan will be issued to the RAB in January 2009 and that the SI/Expanded SI fieldwork will commence in February 2009.

A Draft No Action Decision Document for the aforementioned 4 Consent Order sites (together with 6 PI/PAOC sites [see below]) was submitted for regulatory agency review in August 2008. Regulatory comments were received in October 2008. The comments were resolved and the Draft Final No Action Decision Document issued to the RAB in December 2008.

- **PI/PAOC sites (24 sites currently in the Environmental Restoration Program)**

The Draft Final PA/SI Report (which included the Consent Order sites discussed above) for 8 PI/PAOC sites was submitted to the RAB in April 2008. No RAB comments were received. The Final Report was issued in June 2008. Based on the findings in the PA/SI Report, an Expanded SI was recommended for 5 of the 8 PI/PAOC sites discussed

above; no action was recommended for 1 of the sites; and no action pending the outcome of a groundwater study was recommended for the remaining 2 sites.

For the remaining 16 PI/PAOC sites, the regulatory agencies and Navy met in October 2007 to discuss the path forward for each of the sites. The meeting included a site visit to the majority of the sites. Five sites were determined to require no action. An SI was determined to be necessary for the remaining 11 sites.

The sites requiring an SI were included in the Draft SI/Expanded SI Work Plan discussed above. The sites requiring no action were included in the Draft No Action Decision Document discussed above.

## MUNITIONS RESPONSE PROGRAM

- **Progress through November 2008**
  - 868 acres in the LIA and ECA have been surface cleared
  - All beaches (65 acres) have previously been surface cleared
  - Over 16,000 live munitions removed
  - Approximately 5,800 tons of munitions debris (MD) and range related debris (RRD) has been recovered and is being processed for eventual shipment to a recycler.
  - Over 1,700 tons of MD and RRD have been shipped off island to be recycled

### WEST VIEQUES

- A draft work plan for the removal of subsurface Munitions and Explosives of Concern (MEC) at selected roads and beaches was submitted to the regulatory agencies for review and comments from the agencies were received the week of May 5, 2008. The Navy developed responses to comments and the regulatory agencies are currently reviewing. The draft final document was completed by mid August 2008. The final work plan will be delivered October 2008.
- **SWMU 4 (Open Burn/Open Detonation (OB/OD) Area)**  
The Draft Munitions/Explosives Remedial Investigation Report dated April 2004 is currently on hold and will be revised to include data collected during future actions.
- A draft engineering evaluation/cost analysis (EE/CA) to remove munitions at selected areas in the vicinity of SWMU 4 and East Vieques was submitted for public review on October 3, 2007. All comments were received and addressed and the EE/CA was finalized February 2008.

### EASTERN VIEQUES – Munitions Response Actions

- The Time Critical Removal Action in the LIA continues to reduce risk to human health for 1,100 acres in the LIA and ECA. Eight hundred sixty eight acres have been surface

cleared within the LIA/ECA, significantly reducing explosive risk in these areas. During these removal efforts over 16,000 munitions items have been removed, including over 8,200 extremely sensitive sub-munitions. Additionally, 65 acres of beaches have previously been surface cleared of munitions.

- Air monitoring is being conducted along the LIA-SIA border to determine if there are metals or explosives releases above National Ambient Air Quality Standards from the BIP activities. To date no metals have exceeded the regulatory standards and no explosives have been detected at these near source locations.
- The Final Expanded Range Assessment/Phase II Site Inspection work plan was submitted December 2006 and further investigation efforts to determine the munitions extent across the east side has been initiated including the subsurface geophysical surveys for the beach areas. The Phase II Site Inspection will also address munitions response sites not yet investigated, by conducting surface evaluations to determine if munitions items are present. The actual field work associated with the Phase II Site Inspection commenced 3 March, 2008 and was temporarily suspended in June. Site inspection activities started again in October and include an aerial magnetometer survey.
- An amendment to the Phase II Site Inspection work plan was submitted to the regulatory agencies for review on July 14, 2007. This amendment includes inspection of additional areas at the former VNTR. As part of this work plan an aerial magnetometer survey will be performed. The aerial survey is expected to be conducted November 2008 through January 2009.
- Digital Geophysical Mapping (DGM) has been conducted on 80 acres of beaches and 24 acres of selected roadways. The mapping will identify anomalies that may indicate the presence of munitions and explosives of concern (MEC) below the ground surface. DGM operations were suspended on October 12, 2007 but will resume when the sub-surface removal begins. Eventually, approximately 300 acres of beaches and roadways will be geophysical surveyed and will undergo a sub-surface removal. Biological survey of the Eastern Conservation Area was completed to support future removal action activities. An Archaeological survey of the beach areas has been conducted and additional surveys across the entire range will be conducted as needed to support future removal action activities.
- Final EE/CA and Draft Work Plan were submitted for munitions removal action at beach areas and selected roadways on February 6, 2008. The Final work plan to support the subsurface removal efforts was submitted to the regulatory agencies on October 22, 2008.
- A Final Engineering Evaluation/Cost Analysis (EE/CA) was submitted to the regulatory agencies on October 22, 2008 for the removal of surface MEC in the former Surface Impact Area. The work plan to support the EE/CA was developed and the Draft Final work plan was submitted to the RAB for 30 day review on November 27, 2008.

A draft work plan for removal of MEC from the surface of the former Surface Impact Area was sent to the regulatory agencies for review on July 14, 2008.

### **OTHER DOCUMENTS AND ACTIONS**

- **Master Quality Assurance Project Plan**

A draft Master Quality Assurance Project Plan (QAPP) was submitted for regulatory review in May 2006. The Master QAPP provides standard procedures for data collection, analysis, and evaluation as part of the environmental restoration program. Although project-specific deviations from the Master QAPP may be warranted, the Master QAPP facilitates consistency and efficiency across the program. Regulatory comments were received in September 2006. Comment responses were prepared and submitted for regulatory consideration in November 2006. A meeting was held among the agencies in December 2006 to discuss the comment responses and reach concurrence on an acceptable set of responses and associated work plan revisions. The concurred-upon comment responses were incorporated into the Master QAPP and the draft final document was submitted to the RAB in February 2007. No comments were received from the RAB. The final Master QAPP was issued in May 2007.

- **Federal Facility Agreement (FFA)**

The Federal Facility Agreement (FFA) was signed by the agencies: U.S. Environmental Protection Agency (EPA), U.S. Department of the Navy, and the Puerto Rico Environmental Quality Board (EQB). The FFA had a Public Notice with a 45 days comment period. After the comments were addressed the Responsiveness Summary finalized. The FFA was effective beginning on March 28, 2008

- **Site Management Plan**

A Site Management Plan (SMP) was prepared in accordance with requirements defined in the FFA. The Final SMP for FY2009 was submitted to the regulatory agencies on November 27, 2008.

### **Public Involvement Activities**

- A RAB meeting took place on October 9, 2008 at the Lighthouse in Isabel Segunda. The next RAB meeting is scheduled for January 28 2009; more information will be available soon, including planning a conference call in early January to discuss the agenda with the RAB members.
- The Navy distributed the second Vieques Newsletter to the membership and interested parties.
- The Navy participated in the Second Child Health Fair held on Vieques on July 9, 2008. The Navy's message was safety: stay away from the restricted areas and obey the warning signs.
- Informational Flyers continue to be distributed widely on Vieques

- Warning buoys were installed in April 2008. The buoys were donated by the Coast Guard. The Coast Guard, the Army Corps of Engineers, and the National Marine Fisheries concurred with the petition for the installation of the buoys

## VIEQUES DOCUMENT SUBMITTAL UPDATE (As of December 2008)

Site	Document	Submitted By Navy To Regulators or RAB for Review	Regulator or RAB Comments Submitted To Navy
<b>West Vieques</b>			
AOC E	Draft (revised) RI Report	December 2007	February and March 2008
	Preliminary responses to regulatory comments	April 2008	Comments resolved in June 2008
	Draft Final RI Report	Submitted to RAB in June 2008	No comments submitted
	Final RI Report submitted in July 2008	Not Applicable	Not Applicable
AOC H	Draft RI Report	April 2004	October 2005
	Preliminary responses to regulatory comments	January 2006	Discussed in May, September, and December 2006
	Draft Final RI Report	Submitted to RAB in May 2007	No comments submitted
	Final RI Report submitted in July 2007	Not Applicable	Not Applicable
	Draft Proposed Plan	August 2007	September 2007
	Preliminary responses to comments on Draft Proposed Plan	November 2007	Comments resolved in January 2008
	Final Proposed Plan and initiation of 45-day public comment period	January 28, 2007	Not Applicable
	Draft Record of Decision	May 2008	July 2008
Final Record of Decision signed	Not Applicable	Not Applicable	

Site	Document	Submitted By Navy To Regulators or RAB for Review	Regulator or RAB Comments Submitted To Navy
	by Navy, EPA, PREQB in September 2008		
AOC I	Draft RI Report  Preliminary responses to comments  Draft Final RI Report  Final RI Report submitted in June 2008  Draft Pilot Study Memorandum	November 2007  March 2008  Submitted to RAB in April 2008  Not Applicable  November 2008	January 2008  Comments resolved in April 2008  No comments submitted  Not Applicable
AOC R	Final RI Work Plan submitted in November 2005  Draft EE/CA  Final EE/CA  Draft Removal Action Work Plan  Revised Draft Removal Action Work Plan  Response to comments and revised Removal Action Work Plan  Draft Final Removal Action Work Plan  Waste Characterization HHRA Interim Deliverables  Waste Characterization HHRA and ERA	Not Applicable  August 2005  Submitted to RAB/Public in December 2005  November 2005  April 2007  August 2007  January 2008  July 2008  October 2008	Not Applicable  October 2005  Not Applicable  March 2006  June 2007  January 2008  Regulatory agency approval in February 2008  August 2008
SWMU 4	Draft RI Work Plan  Preliminary responses to regulatory comments  Draft Final Work Plan	June 2004  April 2006  Submitted to RAB in November 2006	January 2006  Discussed in May and September 2006  Not Applicable



Site	Document	Submitted By Navy To Regulators or RAB for Review	Regulator or RAB Comments Submitted To Navy
	Final Work Plan submitted in January 2007  Proposed additional sampling locations  Preliminary responses to comments  Final Work Plan addendum submitted in April 2008  HHRA Interim Deliverable	Not Applicable  November 2007  February 2008  Not Applicable  October 2008	Not Applicable  January 2008  Comments resolved in March 2008  Not Applicable  October 2008 (EPA) November 2008 (PREQB)
SWMU 6	Draft RI Report  Preliminary responses to regulatory comments  Final RI Report submitted in February 2007  Draft EE/CA  Final EE/CA  Draft Removal Action Work Plan  Revised Draft Removal Action Work Plan  Responses to comments and revised Removal Action Work Plan  Draft Final Removal Action Work Plan  Waste Characterization HHRA Interim Deliverables  Waste Characterization HHRA and ERA	April 2004  August 2006  Not Applicable  August 2005  Submitted to RAB/Public in December 2005  November 2005  April 2007  August 2007  January 2008  July 2008  October 2008	June 2006  Discussed in December 2006  Not Applicable  October 2005  Not Applicable  March 2006  June 2007  January 2008  Regulatory agency approval in February 2008  August 2008
SWMU 7	Response to comments on Draft	November 2004	Discussed in September 2006

Site	Document	Submitted By Navy To Regulators or RAB for Review	Regulator or RAB Comments Submitted To Navy
	RI Report  Final RI Report submitted in March 2008  Draft EE/CA  Final EE/CA  Draft Removal Action Work Plan  Revised Draft Removal Action Work Plan  Responses to comments and revised Removal Action Work Plan  Draft Final Removal Action Work Plan  Waste Characterization HHRA Interim Deliverables  Waste Characterization HHRA and ERA	Not Applicable  August 2005  Submitted to RAB/Public in December 2005  November 2005  April 2007  August 2007  January 2008  July 2008  October 2008	Not Applicable  October 2005  Not Applicable  March 2006  June 2007  January 2008  Regulatory agency approval in February 2008  August 2008
AOC J	Draft RI Report  Preliminary responses to regulatory comments  Final RI Report submitted in May 2007  Draft EE/CA  Final EE/CA  Draft Removal Action Work Plan  Revised Draft Removal Action Work Plan	April 2004  May 2006  Not Applicable  August 2005  Submitted to RAB/Public in December 2005  November 2005  April 2007	January 2006  Discussed in December 2006  Not Applicable  October 2005  Not Applicable  March 2006  June 2007

Site	Document	Submitted By Navy To Regulators or RAB for Review	Regulator or RAB Comments Submitted To Navy
	Responses to comments and revised Removal Action Work Plan	August 2007	January 2008
	Draft Final Removal Action Work Plan	January 2008	Regulatory agency approval in February 2008
	Waste Characterization HHRA Interim Deliverables	July 2008	August 2008
	Waste Characterization HHRA and ERA	October 2008	
NFA Sites	PREQB Response to Public Comments on No Further Action Report	Not Applicable	Not Applicable
	Final NFA Report submitted in October 2006	Not Applicable	PREQB issued a Resolution and Notification concurring with NFA in February 2007
<b>Eastern Vieques</b>			
SIA	Draft Work Plan for Removal of Surface MEC	July 14, 2008	
	Draft Final Work Plan for Removal of Surface MEC	November 27, 2008	
SIA	Draft EE/CA for Surface MEC	June 24, 2008	
	Draft Final EE/CA for Surface MEC	August 2008	
	Draft Final EE/CA for Surface MEC Removal	September 2008	
	Final EE/CA for Surface MEC Removal	October 22, 2008	
LIA, SIA, EMA	Draft ERA/Phase II SI Work Plan Amendment	July 14, 2008	
	Final ERA/Phase II SI Work Plan Amendment	September 2008	
LIA, SIA, EMA	Revised Draft ERA/Phase I Site Inspection Report	May 2007	
Former VNTR	Draft EE/CA for subsurface removal of MEC of roads and beaches	May 2007	July, 2007
	Draft Final EE/CA for subsurface removal of MEC at roads and beaches	To RAB October 3 2007	
	Final EE/CA for subsurface removal of MEC at roads and	February 6, 2008	

Site	Document	Submitted By Navy To Regulators or RAB for Review	Regulator or RAB Comments Submitted To Navy
	beaches  Draft Work Plan for subsurface removal of MEC of roads and beaches Draft Final Work Plan for subsurface removal of MEC of roads and beaches Final Work Plan for subsurface removal of MEC of roads and beaches	February 6, 2008  August 2008  October 22, 2008	
East Vieques Munitions Sites	Final MEC Master Work Plan	Final Submission – November 2006	
Various Munitions Response Sites and Beaches on East Vieques	Final Expanded Range Assessment/Phase II Site Inspection Work Plan	Final submission – December 2006. Editorial comments addressed and submitted – January 2007	
Background Soil	Revised Draft Final Background Soil Inorganics Investigation Work Plan  Final Background Soil Inorganics Investigation Work Plan  Draft Background Soil Inorganics Investigation Report  Preliminary responses to comments  Draft Final Background Soil Inorganics Report  Final Background Soil Inorganics Report submitted in October 2007	Public Comments Submitted to EPA in June 2005  Not Applicable  January 2007  May 2007  Submitted to RAB August 2007  Not Applicable	November 2005  Not Applicable  April 2007  Comments resolved July 2007  No written RAB comments submitted; verbal comments addressed via conference call  Not Applicable
Original 12 Consent Order Sites	Data Summary Report  Draft PA/SI Report  Preliminary responses to comments  Draft Final PA/SI Report	May 2005  November 2007  March 2008  Submitted to RAB in April 2008	Not Applicable  January 2008  Comments resolved in April 2008  No comments received

Site	Document	Submitted By Navy To Regulators or RAB for Review	Regulator or RAB Comments Submitted To Navy
	Final PA/SI Report submitted in June 2008  Draft SI/Expanded SI Work Plan for 7 sites  Draft No Action Decision Document for 4 sites  Draft Final No Action Decision Document for 4 sites	Not Applicable  July 2008  August 2008  Submitted to RAB December 2008	Not Applicable  August 2008 (PREQB) October 2008 (EPA)  October 2008
PI/PAOC Sites	Final PA/SI Work Plan for 8 sites submitted in January 2006  Draft PA/SI Report for 8 sites  Preliminary responses to comments  Draft Final PA/SI Report for 8 sites  Final PA/SI Report for 8 sites submitted in June 2008  Draft SI/Expanded SI Work Plan for 15 sites  Draft No Action Decision Document for 6 sites  Draft Final No Action Decision Document for 6 sites	Not Applicable  November 2007  March 2008  Submitted to RAB in April 2008  Not Applicable  July 2008  August 2008  Submitted to RAB December 2008	Not Applicable  January 2008  Comments resolved in April 2008  No comments received  Not Applicable  August 2008 (PREQB) October 2008 (EPA)  October 2008
Baseline Groundwater	Draft Final Groundwater Baseline Investigation Report	May 2005	Not Applicable