



Naval Facilities Engineering Command - Atlantic Vieques, Puerto Rico

Status Report for the Vieques Restoration Advisory Board

Through February 2009

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 was submitted for regulatory consideration in December 2008. Based on subsequent discussions between the regulatory agencies and the Navy, a work plan for conducting 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

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.

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 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. Based on subsequent discussions between the regulatory agencies and the Navy, a work plan for conducting the pilot study is currently being prepared.

- **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 currently underway and is anticipated to be completed in May 2009.

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 mid 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 16 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. The Draft Final SI/Expanded SI Work Plan was issued to the RAB in January 2009 and the SI/Expanded SI fieldwork began 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. No RAB comments were received. The Final No Action Decision Document was issued in January 2009.

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

MUNITIONS RESPONSE PROGRAM

- **Progress through February 2009**
 - 978 acres in the LIA , ECA and SIA have been surface cleared
 - All beaches (65 acres) have previously been surface cleared
 - Over 17,000 live munitions removed
 - Approximately 6,200 tons of munitions debris (MD) and range related debris (RRD) has been recovered and is being processed for eventual shipment to a recycler.
 - Over 2,600 tons of MD and RRD have been shipped off island to be recycled

WEST VIEQUES

- The final work plan for the removal of subsurface Munitions and Explosives of Concern (MEC) at selected roads and beaches was submitted 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. The Non-Time Critical Removal Action has begun in

the SIA. Nine hundred seventy eight acres have been surface cleared within the LIA, ECA, and SIA, significantly reducing explosive risk in these areas. During these removal efforts over 17,000 munitions items have been removed, including over 9,000 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.
- The final amendment to the Phase II Site Inspection work plan was submitted September 2008. This amendment includes inspection of additional areas at the former VNTR. As part of this work plan an aerial magnetometer survey was performed. The aerial survey was conducted November and December 2008.
- 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 final work plan to support the EE/CA was submitted January 2009.

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 January 28 2009 at the Ice House on Barrio Martineau.
- The next meeting is scheduled for April 30, 2009. More information will be available soon.
- Informational Flyers continue to be distributed on a monthly basis on Vieques
- 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.
- 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 February 2008)

Site	Document	Submitted By Navy To Regulators or RAB for Review	Regulator or RAB Comments Submitted To Navy
West Vieques			
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
	Pilot Study Memorandum	December 2008	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 Final Record of Decision signed by Navy, EPA, PREQB in September 2008	May 2008 Not Applicable	July 2008 Not Applicable
AOC I	Draft RI Report	November 2007	January 2008

Site	Document	Submitted By Navy To Regulators or RAB for Review	Regulator or RAB Comments Submitted To Navy
	Preliminary responses to comments Draft Final RI Report Final RI Report submitted in June 2008 Pilot Study Memorandum	March 2008 Submitted to RAB in April 2008 Not Applicable November 2008	Comments resolved in April 2008 No comments submitted Not Applicable 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 December 2008
SWMU 4	Draft RI Work Plan Preliminary responses to regulatory comments Draft Final Work Plan Final Work Plan submitted in January 2007	June 2004 April 2006 Submitted to RAB in November 2006 Not Applicable	January 2006 Discussed in May and September 2006 Not Applicable Not Applicable

Site	Document	Submitted By Navy To Regulators or RAB for Review	Regulator or RAB Comments Submitted To Navy
	Proposed additional sampling locations Preliminary responses to comments Final Work Plan addendum submitted in April 2008 HHRA Interim Deliverable	November 2007 February 2008 Not Applicable October 2008	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 December 2008
SWMU 7	Response to comments on Draft RI Report Final RI Report	November 2004 March 2008	Discussed in September 2006 Not Applicable

Site	Document	Submitted By Navy To Regulators or RAB for Review	Regulator or RAB Comments Submitted To Navy
	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	August 2005 Submitted to RAB/Public in December 2005 November 2005 April 2007 August 2007 January 2008 July 2008 October 2008	October 2005 Not Applicable March 2006 June 2007 January 2008 Regulatory agency approval in February 2008 August 2008 December 2008
AOC J	Draft RI Report Preliminary responses to regulatory comments Final RI Report 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	April 2004 May 2006 May 2007 August 2005 Submitted to RAB/Public in December 2005 November 2005 April 2007 August 2007 January 2008	January 2006 Discussed in December 2006 Not Applicable October 2005 Not Applicable March 2006 June 2007 January 2008 Regulatory agency approval in

Site	Document	Submitted By Navy To Regulators or RAB for Review	Regulator or RAB Comments Submitted To Navy
	Waste Characterization HHRA Interim Deliverables	July 2008	February 2008 August 2008
	Waste Characterization HHRA and ERA	October 2008	December 2008
NFA Sites	PREQB Response to Public Comments on No Further Action Report	Not Applicable	Not Applicable
	Final NFA Report	October 2006	PREQB issued a Resolution and Notification concurring with NFA in February 2007
Eastern Vieques			
SIA	Draft Work Plan for Removal of Surface MEC Draft Final Work Plan for Removal of Surface MEC Final Work Plan for Removal of Surface MEC	July 14, 2008 November 27, 2008 January 2009	
SIA	Draft EE/CA for Surface MEC Draft Final EE/CA for Surface MEC Draft Final EE/CA for Surface MEC Removal Final EE/CA for Surface MEC Removal	June 24, 2008 August 2008 September 2008 October 22, 2008	
LIA, SIA, EMA	Draft ERA/Phase II SI Work Plan Amendment Final ERA/Phase II SI Work Plan Amendment	July 14, 2008 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 Draft Final EE/CA for subsurface removal of MEC at roads and beaches Final EE/CA for subsurface removal of MEC at roads and beaches Draft Work Plan for subsurface removal of MEC of roads and	May 2007 To RAB October 3 2007 February 6, 2008 February 6, 2008	July, 2007

Site	Document	Submitted By Navy To Regulators or RAB for Review	Regulator or RAB Comments Submitted To Navy
	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	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 Final PA/SI Report submitted in June 2008	May 2005 November 2007 March 2008 Submitted to RAB in April 2008 Not Applicable	Not Applicable January 2008 Comments resolved in April 2008 No comments received Not Applicable

Site	Document	Submitted By Navy To Regulators or RAB for Review	Regulator or RAB Comments Submitted To Navy
	Draft SI/Expanded SI Work Plan (7 sites) Draft No Action Decision Document (4 sites) Draft Final No Action Decision Document (4 sites) Final No Action Decision Document (4 sites) Draft Final SI/Expanded SI Work Plan (7 sites) Final SI/Expanded SI Work Plan (7 sites)	July 2008 August 2008 Submitted to RAB December 2008 January 2009 Submitted to RAB January 2009 February 2009	August 2008 (PREQB) October 2008 (EPA) October 2008 No comments received Not Applicable No comments received Not Applicable
PI/PAOC Sites	Final PA/SI Work Plan (8 sites) Draft PA/SI Report (8 sites) Preliminary responses to comments Draft Final PA/SI Report (8 sites) Final PA/SI Report (8 sites) Draft SI/Expanded SI Work Plan (16 sites) Draft No Action Decision Document (6 sites) Draft Final No Action Decision Document (6 sites) Final No Action Decision Document (6 sites) Draft Final SI/Expanded SI Work Plan (16 sites) Final SI/Expanded SI Work Plan (16 sites)	January 2006 November 2007 March 2008 Submitted to RAB in April 2008 June 2008 July 2008 August 2008 Submitted to RAB December 2008 January 2009 Submitted to RAB January 2009 February 2009	Not Applicable January 2008 Comments resolved in April 2008 No comments received Not Applicable August 2008 (PREQB) October 2008 (EPA) October 2008 No comments received Not Applicable No comments received Not Applicable
Baseline Groundwater	Draft Final Groundwater Baseline Investigation Report	May 2005	Not Applicable