RESPONSE TO COMMENTS RECEIVED DURING THE DECEMBER 1, 2004 THROUGH JANUARY 31, 2005 PUBLIC COMMENT PERIOD ON THE JULY 2004 *DRAFT FINAL CLOSURE PLAN* OPEN BURN/OPEN DETONATION SITE AT FORMER ATLANTIC FLEET WEAPONS TRAINING FACILITY IN VIEQUES, PUERTO RICO

Two sets of comments were received during the public comment period on the *Draft Final Closure Plan Open Burn/Open Detonation Site*, which ran from December 1, 2004 through January 31, 2005. Notice of that public comment period was published on December 1, 2004, in English and Spanish, in two Puerto Rico newspapers. EPA's responses to those comments are given below. Based on EPA's evaluation of those comments, as discussed below, EPA will request the Navy to make several revisions to the *Draft Final Closure Plan*. However, implementation of the closure of the former open burning/open detonation (OB/OD) units will be delayed pending completion of clearance work being implemented by the Navy for the munitions and explosives of concern (MEC)[1] throughout all the former Navy lands in east Vieques.

A summary of the comments received and EPA's responses to those comments are as follows:

Comments submitted by Email on January 31, 2005 (in Spanish) and February 7, 2005 (in English) by Dr. Jorge L. Colón, Ph.D., Technical Consultant for the Committee for the Rescue and Development of Vieques, the Vieques Women Alliance, and the Community Group for the Decontamination of Vieques:

1. Comment: The wording used in the Public Advisory and the "Aviso Público" can confuse, since the *Draft Final Closure Plan* clearly specifies that after the geophysical inspection of the site to determine the location of bombs (needed to remove them before taking soil and groundwater samples) and after conducting the soil and groundwater investigations to determine the concentrations of contaminants and after the determination of clean up goals, the Navy will prepare an *Interim Closure Report* that will include a proposed Final Closure Plan. Therefore, the *Draft Final Closure Plan* that we are evaluating in this document should to be referred to as the "Interim Closure Plan". The community believes it will have two opportunities to make commentaries to Navy documents regarding the OB/OD units: now for the *Draft Final Closure Plan*, and later to the *Interim Closure Report*.

EPA Response: EPA agrees that the document's title *Draft Final Closure Plan* is confusing, since it does include details regarding the final closure mechanism. Rather, the document which underwent public review is a work plan to investigate the environmental media

[1] Formerly referred to as unexploded ordnance (UXO).

which might have been impacted by releases from the OB/OD units and to characterize any releases to those environmental media. However, the document also defines the general approach as to how the details regarding the final closure mechanism for the OB/OD units will be developed. Therefore, it is an interim document, not the Final Closure Plan. That is why the Public Notice used that term. EPA will request that the Navy revise the title of the document to read *Draft OB/OD Site Characterization Plan and Conceptual Closure Plan*. After characterizing any releases to the media from the OB/OD units, the Navy must then develop the Final Closure Plan, based on the information developed during this investigation regarding which environmental media have been impacted and the nature and extent of any releases from the OB/OD units. A separate Interim Closure Report will not be developed; rather the Final Closure Plan will include the information developed during implementation of the proposed investigation. That Final Closure Plan must be reviewed and approved by EPA, and will it undergo public review and comment prior to EPA's final approval. There will not be a separate public review of an "Interim Closure Report"on these investigation results at the OB/OD site; rather, that report will be part of the Final Closure Plan, which will undergo public review.

2. Comment: If the explosive ordnance disposal area at the LIA is larger than that indicated in the *Draft Final Closure Plan* and to the contrary is of the size indicated in the other maps indicated, this would make necessary to increase the soil and groundwater sampling area. We recommend that geophysical measurements be made on all the zone from the OD unit indicated in the *Draft Final Closure Plan* until de Anones Lagoon passing through the EOB Range, SWMU #3 and the unit referred to in the *Draft Final Closure Plan* as the OB unit.

EPA Response: The commentor cites several previous EPA and Navy documents as indicating that the explosives ordnance disposal area at the LIA is either larger or not located as shown in the July 2004 Draft Final Closure Plan, which underwent public review. However, the location and/or size as shown in those previous EPA and Navy documents cited by the commentor are schematic representations of the area in which the Navy was authorized to carry-out destruction of non-useable, explosives ordnance. Those schematic areas shown in those previous EPA and Navy documents are not based on actual survey or other data; rather, they were meant to represent the general area classified by EPA as solid waste management unit (SWMU) #3, not the exact locations of the detonation pits or actual open burning areas. In the July 2004 Draft Final Closure Plan, the Navy has attempted to identify, via historical aerial photographs, the locations of the actual detonation pits and open burning areas. With regard to the commentors request for additional geophysical surveys in the area between the identified open detonation (OD) unit and the Lagoon de Anones, EPA notes that magnetometer surveys will be conducted as part of the required munitions of explosive concern (MEC) clearance activities that the Navy will implemented prior to implementation of the OB/OD Closure Plan work. Until that MEC clearance is done, it will not be possible to implement the types of geophysical surveys (such as resistivity, or ground-penetrating radar), that might further investigate the extent of the areas where actual OD pits are located. However, additional geophysical survey tools, such as resistivity, or ground-penetrating radar, would not be useful in better defining past open burning areas at the LIA. Once the MEC clearance is completed and

the investigations required the Draft Final Closure Plan, EPA will evaluate the need for geophysical surveys, such as resistivity, or ground-penetrating radar, to further investigate the extent of the areas where actual OD pits are located.

3. Comment: The commentor states that the January 2000 Administrative Order between EPA and the Navy indicates that the Navy took samples both at SWMU #3 and at SWMU #9 ("Explosive Firing Range"), in the LIA in 1991, and that the analytical results showed that ten contaminants were detected (including lead, mercury and copper, as well as, benzene and chloroform), and that those results showed that three hazardous substances had been released to the soils of the OB/OD area.

EPA Response: The 1991 data cited in the January 2000 Administrative Order was not adequate data to definitively indicate a release had occurred, nor was it the type of anayitical data normally used to define a release. Rather it was data obtained through the toxicity characteristic leaching procedure (TCLP), normally utilized to define whether or not a solid waste is a characteristic hazardous waste, pursuant to 40 CFR § 261.24. That 1991 data did not indicate the soils of the OB/OD area were a characteristic hazardous waste. However, as discussed in the January 2000 Administrative Order, the 1991 data suggests that a release of certain hazardous constituents may have occurred. The soil and groundwater investigation work to be performed under the July 2004 Draft Final Closure Plan will definitively confirm whether or not a release has occurred, and if present, any releases will be fully characterized as to the hazardous constituents released and the extent of such releases.

4. Comment: The description in the document *Draft Final Closure Plan* of the history of the interim RCRA permit for the OB/OD units (on **pages 1-1, 2-7 and 2-8**) is incomplete and must be clarified.

EPA Response: A full history of the RCRA permit application and EPA's review of that application is not relevant to the Closure Plan. However, a brief summary is as follows:

- Pursuant to Interim Status Authorization given at 40 CFR Part 270 Subpart N, the Navy had conducted Open Burning/Open Detonation (OB/OD) destruction of unused deteriorated or obsolete munitions on the eastern end of the island. This was done in a specific area of the Live Impact Area (LIA), i.e., the bombing range.

- In November 1988, as requested by EPA, the Navy applied for a RCRA permit to allow continued implementation of OB/OD activity for unused munitions. EPA reviewed the Navy's permit application between 1988 and 1993, and requested several rounds of revisions to the permit application. However, in 1993, EPA suspended its review of the Navy's RCRA permit application, pending finalization of the *Military Munitions Rule*, which became effective in August 1997.

- Under the *Military Munitions Rule*, given at 40 C.F.R. Part 266 Subpart M, such OB/OD activity requires a RCRA permit if **unused** munitions are involved. Such **unused** munitions

typically exhibit the hazardous waste characteristic of reactivity, and, pursuant to 40 C.F.R. § 261.23, may be classified as the hazardous waste D003.

- In August 1998, as part of its review of the RCRA permit application, EPA requested additional information from the Navy on possible impacts of releases from the OB/OD units. Between August 1998 and August 2000, EPA continued its review of the RCRA permit application and requested several rounds of revisions to the permit application, and supporting information regarding possible impacts of releases from the OB/OD units.

- In September 2000, the Navy determined that it no longer needed the RCRA OB\OD areas for destruction of unused deteriorated or obsolete munitions, except on an emergency basis. Accordingly, on September 27, 2000, the Navy informed EPA that they wish to withdraw their RCRA Permit Application and also requested approval for delay of closure (clean-up) for the RCRA OB/OD areas, as required under 40 C.F.R. Part 265, until the LIA bombing range is closed.

- The delay of closure approval was never finalized. From September 2000 through April 2003, EPA requested and reviewed several rounds of Navy proposals regarding monitoring possible impacts of releases from the OB/OD units pending completion of closure.

- In April 2003, with the transfer of the lands to the U.S. Fish and Wildlife Service pending, EPA requested commencement of closure of the OB/OD units, pursuant to 40 CFR Part 265 Subparts G and P. From April 2003 through July 2004 EPA requested and reviewed several rounds of Navy proposals regarding closure of the OB/OD units.

- In December 2004, EPA public noticed the availability for public review and comment the July 2004 *Draft Final Closure Plan*. As discussed in the Response to Comment #1 above, that plan is a work plan to investigate the environmental media which might have been impacted and to characterize any releases to those media from the OB/OD units. It also defines a general approach as to how the exact closure mechanism for the OB/OD units will be developed. As such, EPA determined that it was an interim document, not the Final Closure Plan.

5. Comment: The Vieques community understand that the Navy and the EPA must make the efforts and put all the needed resources to make sure that it is possible to interview all former AFWTF civilian workers from Vieques (and from the Fajardo-Ceiba-Roosevelt Roads area) that can have information about the location of the OB/OD site at the LIA and additional activities such as the burial of military munitions and other contaminants.

EPA Response: EPA conducted extensive interviews with Vieques community members in October 2003; however, those interviews were not focused on past operations at the OB/OD units. The Navy, has conducted extensive interviews with Vieques community members in 2002, though it is EPA's understanding that those focused on the Navy's past activities in west Vieques. In addition, it is EPA's understanding that the Navy, in conjunction with the development of the February 2001 "Final Description of Current Conditions Report" and the

June 2003 "Final Site Specific Work Plan Phase I RCRA Facility Investigation", had conducted interviews with former long-term Navy civilian employees, regarding past Navy operations in east Vieques. Nevertheless, EPA will evaluate the need for a more comprehensive program of interviews, similar to the program conducted at the former Hunter's Point Navy Yard in San Francisco, California, which was cited by both commentors as a example of acceptable interview program.

6. Comment:

a) We are surprised by the year by year difference in Total Annual Net Explosive Weight (NEW) for waste munitions treated at the OB/OD facility reflected in **Table 2-1, Page 2-12 of Section 2.4** of the *Draft Final Closure Plan*. According to this table, In 1996 the total NEW was 755 lbs., in 1997 it was 62,890.2 lbs., and it went back down to 87 lbs. in 1998.

b) Usually, between 5 and 10% of dropped bombs do not explode and must be treated at the OB/OD site (for some classes of bombs, such as the cluster bombs of the MK-20 type of which more that 4.689 were dropped in Vieques, according to the *Preliminary Rage Assessment Report*, have a failure rate of 5 to 30 percent). The NEW number in **Table 2-1** are highly suspicious that are so distinct from the numbers expected based on the quantity and weight of explosives dropped by the Navy in Vieques.

c) According to the document *"Department of the Navy, Environmental Impact Statement, Continued Use of the AFWTF Inner Range (Vieques),* 1979" open detonation was limited to 10,000 lbs. NEW per year, or 3,000 lbs. NEW per event (as referred to in the *Preliminary Range Assessment Report, page 2-28)*. If so, the 62,890.2 lbs. NEW treated in 1997 and the 15,812 lbs. treated in 1999 given in Table 2-1, page 2-12 of the *Draft Final Closure Plan* would have been in violation of the Environmental Impact Statement.

EPA Response:

a) Since, except for years 1996 and 1998, the source of the information is not given in the *Draft Final Closure Plan*, EPA will request that the Navy document the source of that information, and explain the reasons for such variability in the NEW reflected in Table 2-1 as treated per year. While information regarding the volume of NEW treated in the past is useful as background information, EPA does not consider it to be absolutely necessary to determining: a) the nature and extent of any releases from the OB/OD units; and b) the exact mechanism for final closure.

b) same as response a) above.

c) EPA will request that the Navy document the source of the 1997 and 1999 NEW information, and explain the reasons for showing 62,890.2 lbs NEW as treated in 1997 and the 15,812 lbs. treated in 1999. If those NEW figures did include **used** munitions collected as part of range clearance "sweeps" during the time period that the LIA was an active range area, the

Navy should clarify that. Pursuant to the *Military Munitions Rule* discussed previously, **used** munitions collected and destroyed by OD as part of range clearance "sweeps" during the time period that the LIA was an active range area, would not have been classified as solid and/or hazardous waste. Therefore, destruction by OD of those **used** munitions as part of range clearance "sweeps" during the time period that the LIA was an active range area was not a RCRA regulated activity, and a past violation for such activity may not necessarily be indicated.

7. Comment: The flood map for the East part of Vieques reflects that in heavy rain events the whole zone floods, connecting all that area with the sea. Is not only that runoff from the OB/OD units reach the Anones Lagoon, but that they all become connected between themselves, the lagoon and the sea when heavy flooding occurs.

EPA Response: If past flooding were to have submerged the OB and/or OD areas, potential contamination could have been transported away from those areas via overland flow. The surface soil sampling program proposed in the *Draft Final Closure Plan* will assist in determine whether overland flow might have carried contaminants away from the OB/OD units. In addition, EPA as part of the comprehensive site-wide investigations and final remedy selection for the entire "facility" to be addressed under Superfund (CERCLA), EPA will evaluate the need for surface water and sediment sampling in water bodies near to the OB/OD units. However, because the closure requirements are applicable to releases directly from the OB/OD units, this more comprehensive evaluation will not be done as part of the OB/OD closure requirements.

8. Comment: The commentor request that an EM-61 type magnetometer be used for locating MEC/unexploded ordnance (UXO).

EPA Response: The UXO clearance proposed in the *Draft Final Closure Plan* is only for gaining site access to perform the investigative sampling work, and does not represent the final MEC/UXO clearance for the OB/OD areas.

9. Comment: The community expects that a comprehensive groundwater study will be performed on all the groundwater zone in Vieques.

EPA Response: The groundwater investigations proposed in the *Draft Final Closure Plan* are intended to determine whether or not hazardous constituents have been releases from the OB/OD units into the groundwater. EPA will evaluate the need for a comprehensive groundwater study on all the groundwater zone in Vieques as part of the final remedy selection for the entire "facility" to be addressed under Superfund (CERCLA). However, because the closure requirements are applicable to releases directly from the OB/OD units, this more comprehensive evaluation will not be done as part of the OB/OD closure. It should be noted that the groundwater data which will be obtained from these OB/OD closure investigations will be the first groundwater data obtained in the Live Impact Area (LIA). As such, it will be the first time that anayitical data regarding the groundwater quality in the LIA area will become available.

10. Comment: Only four (4) groundwater monitoring wells will be installed in the periphery of OD unit. We believe that this number must be increased to at least six by adding one on the southeast periphery of the OD unit and another at the northwest periphery of the OD unit. In addition, we believe that additional monitoring wells should also be installed somewhat separated from the OD unit to be able to study the condition of the groundwater somewhat separated from the OD unit, which might reflect migration of contamination over time.

EPA Response: EPA agrees that two additional groundwater wells should be installed and sampled around the perimeter of the OD area. Therefore, EPA will request that the Navy revise the *Draft Final Closure Plan* to include one (1) additional well on the southeast periphery of the OD unit and another one (1) additional well slightly west and north of the northwest flank of the OD unit (refer to Figure 3-1 of the *Draft Final Closure Plan*). However, because the closure requirements are applicable to releases directly from the OB/OD units, EPA does not believe that other additional groundwater wells should be installed at this time in locations somewhat separated from the OD unit. If releases of hazardous constituents are detected above relevant screening levels in the groundwater in wells directly around the OD or OB units, then follow-up investigations may be required to determine the condition of the groundwater somewhat separated from those units.

11. Comment:

a) The number of samples (both soil and groundwater samples) must increase in order to make a representative analysis of the site.

b) The soil samples must not only be of the surface soil (0-6 inches) and subsurface soil (2 and 8 feet), but samples should also be taken between 6 and 24 inches, to study the soil condition a that depth, where certain ecological receptors such as burrowing crabs exists.

c) white phosphorous and tin should be added as constituents to be analyzed.

EPA Response:

a) The *Draft Final Closure Plan* calls for a total of 42 soil samples (refer to Table 3-2) and 7 groundwater samples (from 4 wells at the OD unit and 3 wells at the OB unit). In addition, as discussed in our response to Comment 10 above, EPA recommends that 2 additional groundwater wells be installed and sampled at the OD unit; therefore, a total of 9 groundwater samples may be collected and analyzed. EPA considers that number of groundwater samples and the 42 soil samples to be adequate to determine whether or not releases have occurred. If releases are found based on those samples, then additional sampling may be required.

b) EPA agrees that surface soil samples taken from surface to 6 inches are not sufficient to fully evaluate potential impacts to ecological receptors, including the land crab.

Therefore, EPA will request that the Navy revise the *Draft Final Closure Plan* to collect and analyze soil samples from the surface to 24 inches below the ground surface. This is in addition to the subsurface soil samples already proposed from 2 feet to 8 feet.

c) Soil and groundwater samples will be analyzed for tin. It is one of the anilities under SW-846 method 6010B which will be one of the analytical methods used for groundwater and for soils (refer to Tables 3-1 and 3-2 of the *Draft Final Closure Plan*). However, samples are not currently slated to be analyzed for White phosphorous. Because EPA understands that white phosphorous was a key component in flares used in military training at Vieques, EPA will request the Navy to revise the *Draft Final Closure Plan* to include white phosphorous in the analytical program for soils and groundwater.

Comments received via Email on January 23, 2005 from a private citizen:

12. Comment: EPA did not renew the 1988 permit. Wasn't the Navy doing OB/OD in violation?

EPA Response: A RCRA permit was never issued by EPA. In November 1988, as requested by EPA, the Navy applied for a RCRA permit to allow continued implementation of OB/OD activity for unused munitions. However, that permit request was never approved (i.e., a permit was not issued) nor was it ever denied. Between 1988 and September 2000, when the Navy withdrew its permit application, in order to develop permit requirements fully protective of human health and the environment, EPA had reviewed and requested several rounds of modifications to the Navy's permit application. As discussed in the response to Comment #4, both before November 1988, and thereafter, until September 2000, the Navy conducted its Open Burning/Open Detonation (OB/OD) destruction of unused deteriorated or obsolete munitions under RCRA Interim Status Authorization, pursuant to regulations given at 40 CFR Part 270 Subpart N. Therefore, the Navy was not doing OB/OD in violation of RCRA. Also, as discussed in our response to Comment 6 above, **used** munitions collected as part of range clearance "sweeps" during the time period that the LIA was an active range area were not classified as solid and/or hazardous waste, and their destruction by OD was not a RCRA regulated activity.

13. Comment: More than one detonation per day occurred.

EPA Response: As discussed in response to Comment 6, pursuant to the *Military Munitions Rule*, detonation of **used** munitions collected as part of range clearance "sweeps", during the time period that the LIA was an active range is not regulated under RCRA. Therefore, more than one detonation per day did not necessarily mean that a past violation had occurred.

14. Comment: It is crucial to interview all the Vieques civilian employees as to the location of the OB/OD areas.

EPA Response: See the response to Comment 5, above.