

Site Management Plan

Naval Station Roosevelt Roads
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Ceiba, Puerto Rico



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LIST OF ACRONYMS AND ABBREVIATIONS

AOC	Area of Concern
BOS	Base Operating Support
CAP	Corrective Action Plan
CERCLA	Comprehensive Environmental Recovery, Compensation, and Liabilities Act
CLEAN	Comprehensive Long-Term Environmental Action Navy
CMI	Corrective Measures Implementation
CMS	Corrective Measures Study
CS	Confirmation Study
CTO	Contract Task Order
DDT	dichlorodiphenyltrichloroethane
DoN's	Department of the Navy's
DRMO	Defense Reutilization and Marketing Office
HHRA	Human Health Risk Assessment
IAS	Initial Assessment Study
ICM	Interim Corrective Measures
IR	Installation Restoration
IRP	Installation Restoration Program
LANTDIV	Naval Facilities Engineering Command, Atlantic Division
MCL	Maximum Contaminant Level
NAVSTA	Naval Station
NPDES	National Pollution Discharge Elimination Systems
NSRR	Naval Station Roosevelt Roads
OU	Operable Unit
PCAS	Post Construction Award Services
PCB	polychlorinated biphenyls
PID	Photoionization Detector
ppb	parts per billion
ppm	parts per million
PREQB	Puerto Rico Environmental Quality Board
PSH	Phase Separated Hydrocarbons

LIST OF ACRONYMS AND ABBREVIATIONS
(Continued)

RAB	Restoration Advisory Board
RAC	Remedial Action Contractor
RCRA	Resource Conservation and Recovery Act
RFA	RCRA Facility Assessment
RFI	RCRA Facility Investigation
RFP	Request for Proposal
RI	Remedial Investigation
RI/FS	Remedial Investigation/Feasibility Study
SMP	Site Management Plan
SWMU	Solid Waste Management Unit
TCE	trichloroethene
TWFF	Tow Way Fuel Farm
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VSI	Visual Site Inspection

1.0 INTRODUCTION TO SITE MANAGEMENT PLAN

This section contains an identification of the purpose and rationale for the Site Management Plan (SMP), a discussion of the overall strategy which the Navy employs at Naval Station Roosevelt Roads (NSRR), and a discussion of how the SMP is organized.

1.1 Purpose and Rationale

This SMP has been created to serve multiple needs and multiple users. The four purposes of the plan are:

1. To serve as an information repository for the general user (e.g. the public, new members of the program team) on the overall corrective action program.
2. To serve as a joint planning document, primarily through the use of the schedule which is a part of the SMP, for both the Navy and regulatory agencies.
3. To serve as a “snapshot” status document which, through its frequent update, can be reviewed to find the status of each individual unit and the overall corrective action program.
4. To serve as the Navy’s detailed planning and project management document for the allocation and planning of funding and technical resources.

Each purpose of the plan is discussed briefly in the paragraphs which follow.

The general descriptive material, which addresses each of the Solid Waste Management Units (SWMUs) and Areas of Concern (AOC), provides a good review of the entire corrective action program at NSRR. It is expected that this type of information will be particularly useful as a summary of the various elements which comprise the program. This information will also be useful to individuals wishing to be introduced to the program as it is ongoing at Roosevelt Roads.

The schedule, which is included in this SMP, is a valuable tool for planning purposes. It is expected that the schedule will allow both the Navy and the regulatory agencies to plan activities and levels of

effort required in advance of the time they need to be committed. This also provides all interested parties an opportunity to follow the logical sequence of the program as indicated by the schedule, as well as the forward planning to eventual final site disposition.

Project status is always an important aspect to any program. Having an up-to-date status document allows all interested parties to track program progress. The SMP is designed to be the document in which the overall program status will be kept current. This will allow both the Navy and regulators to utilize a single document in preparing their periodic reports to management, and will also afford the opportunity to track progress through review of the SMP updates.

Finally, the SMP is designed to serve as the Navy's overall management document. Historical expenditures along with budgeted needs will be included in the document. Anticipated shortfalls in budgets or other critical factors can be identified early and managed appropriately so as to ensure consistent program progress.

1.2 Global Strategy of the Corrective Action Program

The overall goal of the Resource Conservation and Recovery Act (RCRA) Corrective Action Program is to address all potential or actual environmental impacts at NSRR, which resulted from past or ongoing waste management activities. This goal will be met using superior technical standards while pursuing an aggressive schedule coupled with rigorous cost control.

The paragraph above essentially represents the "mission statement" for the program. There are five specific elements of how the program is approached that will result in achievement of the "mission". These are the following:

1. Work as a "Team": The Navy has proactively sought to create a "Team" to approach corrective action at NSRR. The "Team" is comprised of the Activity, Naval Facilities Engineering Command, Atlantic Division (LANTDIV), technical consultants, Puerto Rico Environmental Quality Board (PREQB) and United States Environmental Protection Agency (USEPA). Working together as a team fosters cooperation that leads to an understanding of each team members' goals and needs. This results in more targeted documents, a reduction of the overall time line, and the cost-effective use of funds.

2. Group SWMUs/AOCs together into Operable Units (OUs): Early on in the process, the Navy analyzed the permit and the waste management areas that were listed. It became obvious that there were similarities among many of the areas in terms of levels of investigations required, the potential contaminants of concern, area of occurrence, or similarity in use (e.g. tank farms). Units showing one or more of these similarities were grouped into OUs to be investigated and reported on together. This approach has proven to save money and time by reducing the number of reports requiring production and review.

3. Proactive Interim Corrective Measures (ICMs): The Navy has proactively performed ICMs where the problem at a site has been straightforward or an imminent potential for a new or continued release at a given unit was obvious. To date, the following ICMs have been completed, or have been placed offline at NSRR.

\$ Building 121 - Pesticide Storage. A RCRA closure was performed at this unit (SWMU 19) prior to issuance of the permit. While not truly an ICM since it was a formal closure, it did remove a SWMU from the need for further action without completion of the formal Corrective Measure Study (CMS) process. The EPA has approved the final closure report that was submitted in June 1994.

\$ Substation 90 (SWMU 10). Polychlorinated biphenyl (PCB) contamination was discovered in soil. Soils above the clean-up levels were excavated and disposed off-site. The EPA has approved the closeout report for this SWMU.

\$ Building 38 - Former Power Plant (SWMU 11/45). PCB contamination was discovered (during a Remedial Investigation/Feasibility Study [RI/FS] performed under the Comprehensive Environmental Response, Compensation, and Liability Act [CERCLA] as part of the original Installation Restoration Program [IRP]) in soil. Soils above the clean-up level were excavated and disposed off-site. The EPA has approved the closeout report for this project.

\$ Cooling water tunnels associated with Building 38 (SWMU 45). These tunnels were found to contain a PCB bearing sludge, which could be a continuing source of release to Puerca Bay. Based on this, the Navy had the tunnels cleaned and filled with low density concrete. This effectively removed the tunnels as a source of potential further release. Also, two 45,000 gallon concrete Underground Storage Tanks (USTs) at Building 38 were abandoned in place after cleaning and then filling with low density concrete.

\$ Tow Way Fuel Farm (TWFF). The presence of petroleum products in the subsurface prompted the Navy to perform an emergency ICM response, which is currently offline. The original ICM utilized a series of wells equipped with pumps to skim free product off the groundwater table. Currently, the ICM at the TWFF consists of the removal of phase separated hydrocarbons (PSH) through the use of a Grundfos submersible pump. The Grundfos pump is lowered down the monitor well to pump out existing PSH contamination. This activity is routinely conducted on a monthly basis. This ICM has been successful in removing free product.

4. Streamlined reporting: The Navy has always tried to streamline reporting wherever it has been technically appropriate. Report addendums have been issued in some cases to save the need for reissuance of the complete document. The best example of this has been in the work plans for various investigations. Each succeeding investigation work plan has referenced back to the original RCRA Facility Investigation (RFI) work plans dated September 1995, which were approved by the EPA. It is the intent to continue to employ this approach especially as it relates to streamlined CMSs for those units requiring the application of a corrective measure. This will particularly be the case where the selection of the appropriate technology is technically obvious.
5. Remedial technology selection: The Navy intends to pursue a course in remedial technology selection that emphasizes cost effectiveness and rapidity of cleanup. Options involving long-term operation and maintenance will be avoided unless

overriding technical considerations dictate their use. This approach will not only ensure that appropriate clean-ups are performed, where necessary, but also minimize the time required to complete the corrective action process.

1.3 Organization of the SMP

The SMP is divided into five sections as briefly described below.

- \$ Section 1.0, the Introduction, provides an explanation of the purpose and rationale for the SMP and also outlines the global strategy the Navy employs in the corrective action program.

- \$ The various SWMUs/AOCs at NSRR are described in Section 2.0. Along with the SWMU/AOC descriptions, this section contains contractual information regarding funding and upcoming projects, as well as a status update for each unit.

- \$ Remedial Action Contractor (RAC) projects are discussed, both in terms of scope and cost, in Section 3.0.

- \$ Section 4.0 contains the corrective action program schedule.

- \$ Section 5.0 contains the references utilized in the text.

2.0 NAVAL STATION ROOSEVELT ROADS

This section describes the Station's Installation Restoration (IR) program from its inception through its transformation into a RCRA Corrective Action Plan (CAP) including future activities. The purpose is to provide a background understanding of how the program developed and evolved so that past, current, and future activities can be placed in the proper context.

2.1 Technical Information

The following subsections provide both a facility description, as well as a programmatic history of NSRR. These subsections also present the sites and their corresponding OU designations after the inception of the RCRA Part B Permit in 1993.

2.1.1 Facility Description

NSRR occupies over 33,500 acres on the northern side of the east coast of Puerto Rico, along Vieques Passage with Vieques Island lying to the east about 10 miles from the harbor entrance. The northern entrance to NSRR is about 35 miles east along the coast road (Route 3) from San Juan. The closest large town is Fajardo (population approximately 37,000), which is about 10 miles north of NSRR on Route 3. Ceiba (population approximately 17,000) adjoins the west boundary of NSRR.

NSRR was commissioned in 1943 as a Naval Operations Base, and finally redesignated a Naval Station in 1957. The primary mission of NSRR today is provision of full support for Atlantic Fleet weapons training and development activities. NSRR has administrative and command responsibilities for some operations separated from the main base on Vieques Island.

2.1.2 Programmatic History

Environmental activities, having to do with past suspected releases of hazardous constituents, were conducted in accordance with CERCLA regulations until 1993 under the Department of the Navy's (DoN) Installation Restoration Program. The first step in this program was the Initial Assessment Study (IAS) which was performed in 1984. This study (consisting primarily of a records review) identified sites which showed the potential for releasing hazardous constituents. These sites were:

- Site 5 - Army Cremator Disposal Area
- Site 6 - Langley Drive Disposal Area
- Site 7 - Station Landfill
- Site 8 - Drone Washdown
- Site 9 - PCB Disposal, Dry Dock Area
- Site 10 - Building 25 Storage Area
- Site 11 - Building 145
- Site 12 - Tow Way Road Fuels Farm
- Site 13 - Tanks 210 to 217
- Site 14 - Ensenada Honda Shoreline and Mangroves
- Site 15 - Substation 2, Building 90
- Site 16 - Old Power Plant, Building 38
- Site 17 - Crash Crew Training Area, and
- Site 18 - Pest Control Shop

[Note: Sites 1, 2, 3, 4, 19, and 20 are on Vieques Island.]

Sixteen of these sites were recommended for further study based on the findings of the IAS. A Confirmation Study (CS) was conducted in 1988, which included investigations at 15 of the 16 sites identified in the IAS. The entire study was performed in a series of steps designed first to verify whether a release had occurred and, if one had, to assess the extent and severity. During Rounds 1 and 2 of the CS, 25 groundwater monitor wells were installed, with samples of groundwater, surface water, sediment, and soil collected for laboratory analysis. In addition, a Remedial Investigation (RI) was performed at Site 16.

The IRP continued under CERCLA until 1993 when the USEPA issued a draft RCRA “Part B” permit for the Defense Reutilization Marketing Office (DRMO) hazardous waste storage facility. Contained within the operating permit were provisions for corrective action at SWMUs throughout the Station. These SWMUs were identified during RCRA Facility Assessments (RFAs) conducted in 1988 and 1993. In the permit, each SWMU was discussed and the EPA determined its potential for release. Based on this determination, further actions were mandated which ranged from no action, to full RFIs. Final work plans for the RFIs were submitted and approved in 1995. Work has proceeded based on the work plans since their approval.

2.1.3 Solid Waste Management Units

A total of 52 SWMUs and four AOCs were identified in the original RFA of 1988, or the reinspection in 1993. The SWMUs and AOCs are summarized in Table 2-1, which contains information regarding SWMU name, former IRP designation (if appropriate), permit action required, OU, and current status. The locations of those SWMUs requiring investigations are shown on Figure 2-1.

The paragraphs which follow provide a brief description of each SWMU at which work was required in the permit. Included is a brief discussion of findings to date and present site status.

SWMU 1 - Former Army Cremator Disposal Site [Site 5]*

*Note: The "Site" designations refer to the Navy's tracking system for funding, etc. They generally correspond to the former IRP designations. They are not used for anything but internal Navy tracking.

Description

SWMU 1, a part of OU 3, consists of an abandoned, unlined waste-pile/landfill, on the edges of, and encroaching into, the mangrove swamps along the shoreline of the Ensenada Honda. This site was the primary disposal site of the Station's solid waste from the early 1940's to the early 1960's. During the U.S. Navy's IR Program Round 1 investigations (1986) and Round 2 (1987), surface water, sediment, and groundwater samples revealed the presence of metals (arsenic, chromium, thallium, and selenium), low-level pesticides, and low-level organics. An RFI encompassing soil, sediments, surface water, and groundwater was required in the permit.

Status

- \$ RFI work plans were approved in 1995.
- \$ The site was investigated in October/November 1996, and September/October 1997.
- \$ The Revised Draft RFI Report for OU 3/5 was submitted in April 1999, and approved by the EPA in September 1999.

- \$ The Revised Final II CMS Work Plan was submitted July 2000, and approved by the EPA in May 2001.
- \$ The CMS has been initiated.
- \$ The Draft Screening-Level Ecological Risk Assessment Problem Formulation (Step 1) and Exposure Estimate was submitted in August 2001.
- \$ The Draft Additional Data Collection Work Plan in Support of Ecological Risk Assessment was submitted in August 2001, and approved by the EPA in October 2001.

SWMU 2 - Langley Drive Disposal Area [Site 6]

Description

This site is an abandoned, unlined waste-pile/landfill, which is part of OU 3, on the edges of, and protruding into the mangroves along the shoreline of the Ensenada Honda Bay. This site was utilized from 1939 to 1959 for disposal of solid and possibly hazardous wastes/constituents. During IR Round 1 (1986) and Round 2 (1987) investigations, investigations of soil, surface water, and sediment samples revealed the presence of metals (lead and selenium). An RFI encompassing soil, surface water, sediments, and groundwater was required by the permit.

Status

- \$ RFI work plans were approved in 1995.
- \$ The site was investigated in October/November 1996.
- \$ The Revised Draft RFI Report for OU 3/5 was submitted in April 1999, and approved by the EPA in September 1999.

- \$ The Revised Final II CMS Work Plan was submitted July 2000, and approved by the EPA in May 2001.
- \$ The CMS has been initiated.
- \$ The Draft Screening-Level Ecological Risk Assessment Problem Formulation (Step 1) and Exposure Estimate was submitted in August 2001.
- \$ The Draft Additional Data Collection Work Plan in Support of Ecological Risk Assessment was submitted in August 2001, and approved by the EPA in October 2001.

SWMU 3 - Station Landfill [Site 7]

Description

SWMU 3, a part of OU 4, is currently an active landfill. It is unlined, and has been utilized since the early 1960's as a disposal site for solid wastes. It should be noted that a new cell has been installed and is currently in use. The method of disposal involves excavation of a trench to the water table, and then filling the trench with wastes, followed by covering with soil. During IR Round 1 (1986) investigation, eight groundwater monitoring wells were installed. Round 1 (1986) and Round 2 (1987) sampling of the groundwater found metals (arsenic, chromium, lead, and selenium) above Maximum Contaminant Level (MCL) levels. An RFI encompassing soil, surface water, sediments, and groundwater was required by the permit.

Status

- \$ RFI work plans were approved in 1995.
- \$ RFI investigations need to be done; however, schedule to be negotiated based on Navy funding.
- \$ Two wells installed and sampled to meet solid waste requirements.

\$ Remaining replacement wells installed December 2000.

\$ Work plan being developed.

SWMU 6 - Building 145 [Site 11]

Description

SWMU 6, a part of OU 1, consists of a partially subterranean, concrete bunker (Building 145) formerly used as a long-term storage area for containers of surplus and discarded paints, polishes, etc. The Navy's 1984 IAS indicated this building was used for more than 25 years for this purpose and, at the time of the IAS, contained a large quantity (sixty 55-gallon drums plus 100 five-gallon pails) of containers. The condition of the containers was mostly poor, with some resting in standing water, with tree roots penetrating through the top of the structure. According to the 1988 Visual Site Inspection (VSI), all contents formerly stored in this SWMU had been removed, the same finding resulted from the 1993 follow-up inspection. However, since there was never any sampling to confirm the absence of releases of hazardous constituents from this unit, and based on the condition of this unit as described in the 1984 IAS, a Phase I RFI for surface and subsurface soils was required in the permit.

Status

\$ RFI work plans were approved in 1995.

\$ SWMU 6 was investigated in March 1996 as a part of the OU 1, 6 and 7 First Phase RFIs. Because of the close proximity of AOC B, the two units were investigated together.

\$ A Draft RFI Report for OU 1, 6, and 7 was submitted in July 1996.

\$ EPA commented on this report in November 1996, stating that additional investigations were required at this SWMU.

- \$ Additional investigations were performed in September 1997.
- \$ A Draft RFI Report for Additional Investigations at OU 1, 6, and 7 was submitted in May 1998.
- \$ EPA commented on this report in September 1998, requesting that the risk assessment be revised.
- \$ The Navy responded to EPA's comments in November 1998, with a revised risk assessment.
- \$ EPA approved the Navy's response to comments in November 1999, completing the RFI stage.
- \$ A Draft CMS Work Plan was submitted in January 2000, and approved by the EPA in March 2000.
- \$ A Final CMS Final Report was submitted in June 2001 recommending no further action.
- \$ Awaiting EPA review.

SWMU 7 - Tow Way Fuel Farm [Site 12]

Description

The TWFF consists of the areas impacted by releases from numerous large, partially in-ground, concrete fuel storage tanks located at the TWFF. SWMU 7 is a part of OU 2. These tanks date from the 1940's. Over the years, documented spills, and leakage have occurred from these tanks. During IR Round 1 (1986) investigation, six groundwater monitor wells were installed. Round 1 (1986) and Round 2 (1987) sampling found benzene in the groundwater at levels of between 2,000 to 4,100 parts per billion (ppb), significantly above the MCL of 5 ppb for drinking water. The February 1992 Report "Underground Fuel Investigation Tow Way Fuel Farm" prepared by the firm of O'Brien and Gere,

indicated a free product layer over 14 feet thick at its center. The report also indicated the releases had a significant impact on groundwater, based on 18 wells in which the groundwater was sampled for five hazardous constituents. Lead concentrations exceeding the MCL of 50 ppb were measured in all 18 wells, with a maximum concentration of 3,580 ppb measured in one well. Benzene concentrations exceeding the MCL of 5 ppb were measured in 7 wells, with a maximum concentration of 34,383 ppb measured in one well. Ethylbenzene concentrations above health-based action levels were measured in four wells, and toluene and xylene concentrations above health-based action levels were each measured in one well.

A full RFI was mandated by the permit encompassing soils and groundwater. Provisions were made for investigations of surface water and sediment contingent on the results of the initial RFI work.

Status

- \$ RFI work plans were approved in 1995.
- \$ The TWFF was investigated in April 1996.
- \$ A Revised Draft RFI Report was submitted in June 1997, and approved by the EPA in September 1997. It was concluded in this document that the site should be subjected to a CMS.
- \$ A CMS work plan was submitted in December 1997.
- \$ A CMS field investigation was performed in April 1998.
- \$ The Draft CMS Investigation Report for TWFF was submitted in June 1998.
- \$ EPA commented on this report, and gave contingent approval in October 1998.
- \$ The Navy submitted a response to EPA comment letter dated October 1998 in December 1998.

- \$ EPA commented in March 1999, concurring with the Navy's response to comments, as well as requested the Final version of the CMS Investigation Report.
- \$ The Navy submitted a response to EPA comments as well as the EPA approved Final CMS Investigation Report in April 1999.
- \$ The CleanOX[®] Pilot Study was performed in January 1999, and the Final CleanOX[®] Pilot Test Report was submitted in October 1999.
- \$ A work plan for TWFF investigations related to detections of trichloroethene (TCE) in groundwater was submitted April 1999, and approved by the EPA in May 1999.
- \$ The TWFF TCE investigation was performed in June 1999.
- \$ The Draft TCE Investigation Report was submitted in December 1999, and approved by the EPA in January 2000. The Final TCE Investigation Report was submitted in February 2000.
- \$ The Revised Draft CMS Task I Report was submitted in January 2000. The EPA commented on this in May 2000. A Revised Section 3.0 of the Task I CMS Report was submitted in January 2001. The EPA commented on the Revised Section 3.0 in May 2001.
- \$ The Pneumatic Fracture Pilot Test was performed during March, May, and July 2001.
- \$ The Draft Pilot Test to Evaluate Enhancement of Product Recovery Report for TWFF was submitted in October 2000.
- \$ The Draft Final Work Plan for Additional Data Collection was submitted in July 2001. The EPA commented on the Draft Final Work Plan in August 2001, giving contingent approval. The EPA also requested that the Navy submit a proposal for implementing an Ecological Risk Assessment.

\$ The Final Work Plan for Additional Data Collection and the Draft Work Plan for Ecological Risk Assessment was submitted in September 2001. The EPA commented on these two documents electronically in October 2001, requesting that the Navy submit an addendum to the September 26, 2001 submittals. The Navy submitted a response to EPA's electronic comments on October 29, 2001.

\$ The Task I CMS needs to be completed.

\$ Additional data collection fieldwork needs to take place.

\$ A CMS Final Report will need to be developed based on approval of the Task I CMS.

The free product recovery system is presently not in operation. However, this system was found to be inefficient, and therefore remains offline. Currently, free product is removed from each well with measurable quantities of PSH at the TWFF monthly, utilizing a grundfos submersible pump. Groundwater and product levels are reported in the TWFF Quarterly Progress Report that is Attached in the RCRA Final Permit Required Quarterly Progress Report.

SWMU 8 - Tow Way Fuel Farm Sludge Disposal Pits [Site 12]

Description

This unit consists of unlined earthen pits adjacent to the TWFF fuel tanks where sludges were buried and covered with soil when the fuel tanks were periodically cleaned. This SWMU is part of OU 2, where benzene, lead and other hazardous constituents have been detected in groundwater above action levels, and evidence of soil contamination has been described.

SWMU 8 was combined with SWMU 7 (with EPA approval) since the releases from each are inseparable.

Status

See description for SWMU 7.

SWMU 9 - Tanks 212-217 Sludge Disposal Pits [Site 13]

SWMU 9 consists of unlined earthen pits in which petroleum sludges were buried after tank cleanings. These burial pits are associated with fuel tanks 212 through 217, located along Forrestal Drive. Although the unit is a part of OU 2, it is now treated as a separate entity since SWMU 7/8 is so complicated. The tanks were installed in 1940, and were cleaned approximately every five years, until 1978, resulting in burial of sludges. During the IR Round 1 (1986) Investigation, 11 groundwater monitor wells were installed. Rounds 1 and 2 sampling found benzene and toluene in the groundwater at levels above relevant action levels. In addition, during Rounds 1 and 2, 6 sediment samples were collected in the mangrove swamps, downslope from the tanks. Organic constituents (benzene, chlorobenzene, methylene chloride, toluene, TCE) and lead were detected in these sediment samples, but below relevant action levels. No soil borings were made for visual, odor, or organic vapor Photoionization Detector (PID) observations. An RFI encompassing soils and groundwater was required in the permit. Based on the results, investigations were required for surface water and sediments.

Status

- \$ RFI work plans were approved by EPA in 1995.

- \$ Initial investigations were conducted in April 1996 at this unit during OU 2 work (included with SWMU 7/8). The results were included in the original OU 2 RFI Report submitted in September 1996.

- \$ EPA comments, dated March 1997, indicated the need for additional investigatory work at SWMU 9.

- \$ This work was completed in the fall (September/October) 1997, and the data was combined with the initial investigations in a Draft RFI Report for SWMU 9 dated March 1998.
- \$ EPA comments were received in June 1998. Some questions remained regarding previously suspect areas and a new area of contamination was found in what should have been a background location. This prompted the need for further investigations.
- \$ This work was completed in June 1999, with results reported in a Revised Draft RFI Report for SWMU 9 submitted March 2000.
- \$ EPA approved the Revised Draft RFI in May 2000 and requested that a CMS be conducted for this SWMU.
- \$ A Final CMS Work Plan was submitted in January 2001, and approved by the EPA in May 2001.
- \$ CMS investigations were completed in February 2001.
- \$ A Draft CMS Investigation Report was submitted in July 2001, and commented on by the EPA in October 2001. The EPA requested that the Navy submit an addendum to the July 2001 Navy submittal.

SWMU 10 - Substation 2 (Building 90) [Site 15]

Description

SWMU 10, a part of OU 1, consists of Substation 2 (Building 90), where electrical transformers were formerly repaired, resulting in PCB containing transformer oils being poured on the ground. A first phase groundwater RFI was mandated by EPA.

Status

- \$ This unit was previously subjected to a removal action constituting an ICM to address the release of PCBs to soil. Affected soils were excavated and disposed offsite. Clean up proceeded in accordance with EPA approved work plans, as well as reduced the PCBs to the approved residual levels. A project closeout report was submitted to EPA in May 1995.
- \$ While the soils were remediated, the EPA expressed concern that no information on a possible release to groundwater was available.
- \$ RFI work plans were approved by EPA in 1995.
- \$ Provisions for hydropunch wells to obtain groundwater samples were included in the approved RFI work plans.
- \$ Initial investigations took place in October 1995.
- \$ The hydropunch technology proved unsuccessful at this site. Results were presented in the July 1996 Draft RFI Report for OU 1, 6, and 7.
- \$ EPA commented on this report in November 1996, requesting additional investigations at this SWMU.
- \$ Additional investigations were performed at this SWMU in September 1997.
- \$ A Draft RFI Report for Additional Investigations at OU 1, 6, and 7 was submitted in May 1998.
- \$ The EPA did not concur or refute the recommendation in the above mentioned report.
- \$ EPA requested a CMS be developed in March 2000.

\$ A Draft CMS Final Report for SWMU 10 was submitted to the EPA on July 6, 2001.

\$ No further action proposed in the Part B permit renewal.

SWMU 11 - Old Power Plant (Building 38) [Site 16]

Description

SWMU 11, a part of OU 3, consists of areas inside the Old Power Plant (Building 38), which includes a former concrete pad where transformers and transformer fluids containing PCBs were stored. Both the 1988 VSI and the 1993 follow-up inspection reported extensive staining. There are also indications of transformer fluids being discarded by pouring into subsurface cooling-water tunnels associated with the Power Plant, which then empty into a nearby bay. Also associated with SWMU #11 is SWMU #45, which includes outside areas surrounding the Power Plant. In addition, there are two abandoned 50,000 gallon underground fuel storage tanks, located outside the Power Plant on the northwest side of the building, which are not discussed in the RFA, but are described in the Navy's 1984 IAS report. An RFI encompassing soils, surface water, sediments, and groundwater was required in the permit for SWMUs 11 and 45.

Status

\$ RFI work plans were approved by the EPA in 1995.

\$ Investigations were completed in 1996.

\$ A fire inside the building has likely negated much of the PCB wipe sampling results originally obtained. The results were therefore not reported in the Draft RFI Report for OU 3/5 submitted in March 1998.

\$ A Revised Draft RFI Report for OU 3/5 was submitted in April 1999, and EPA approved it in September 1999.

\$ Possible releases to the building interior may require recharacterization.

- \$ A work plan for recharacterization has been submitted to EPA on March 31, 1998, and is presently under review.

SWMU 12 - Fire Training Pit Oil/Water Separator

Description

SWMU 12, a part of OU 1, consists of the Oil/Water Separator serving the Fire Training Pit. During the 1988 VSI, oil stains were observed on the concrete and rails around this unit, and dead vegetation adjacent to it, indicated past overflows onto the adjacent soils. A First Phase RFI encompassing surface soil sampling was required in the permit.

Status

- \$ RFI work plans were approved by the EPA in 1995.
- \$ SWMU 12 was investigated in September and October 1995, as well as in March 1996.
- \$ Results from these field investigations were presented in the Draft RFI Report for OU 1, 6, and 7 submitted in July 1996.
- \$ EPA commented on this report in November 1996, requesting the Navy to respond to their comments.
- \$ The response to EPA comments was submitted in January 1997.
- \$ The RFI stage has been considered complete.
- \$ No further action proposed in the RCRA Part B permit renewal.

SWMU 13 - Old Pest Control Shop Area (Building 258) [Site 18]

Description

SWMU 13, a part of OU 1, consists of the now demolished, Old Pest Control Shop Area (Building 258), and the surrounding area, including the drainage ditch behind the former Building 258. Past practices and known spills indicate the release of pesticides into the soil and the adjacent drainage ditch, which discharges into the nearby bay (Ensenada Honda). During IR Round 1 investigations (1986) and Round 2 (1987), composited soil samples, sediment, surface water samples, and groundwater samples were gathered. Surface water samples taken from the drainage ditch leading from this site found pesticide concentrations exceeding proposed Subpart S Action Levels. Groundwater investigations, consisting of three wells sampled during Round 2 (1987), detected low level concentrations of pesticides (below proposed Subpart S Action levels) in one well. An RFI encompassing soils around the vicinity of the demolished building, and sediments in the adjoining drainage ditch was required in the permit. Provisions were made for additional groundwater investigations, contingent on the results of the soil and sediment investigations.

Status

- RFI work plans were approved by the EPA in 1995.
- Initial investigations were performed in October 1995.
- The results were reported in the Draft RFI Report for OU 1, 6, and 7 submitted in July 1996.
- The EPA commented on the draft report in November 1996, requesting additional investigations at this SWMU.
- Additional investigations were conducted in September 1997.
- The results were reported in the Draft RFI for Additional Investigations at OU 1, 6, and 7 submitted in May 1998.
- The EPA approved the Draft RFI Additional Investigations Report in September 1998, and requested a CMS work plan.

- The Navy submitted response to comments in November 1998 including a CMS outline for this SWMU.
- A Revised Final II CMS Final Report was submitted in August 2000, and EPA approved in September 2000.
- A 100% Final CMI Work Plan Design Package was submitted in January 2001, and EPA approved in May 2001.
- The EPA needs to place the CMI work plan out for public comment prior to implementing the corrective measure.

SWMU 14 - Fire Training Pit Area [Site 17]

Description

SWMU 14, a part of OU 1, consists of the Fire Training Pit area. The present day Fire Training Pit, which is concrete lined, was constructed in 1983. Prior to 1983, two unlined fire-fighting pits were used. According to the Navy's 1984 IAS, visibly contaminated soils were removed from these two unlined pits during construction of the new pit in 1983. The IAS study indicates that one sample of the excavated soil was analyzed for PCBs, but none were detected. There is no indication that other sampling has been performed to establish the absence of other hazardous constituents in the soils underlying the pre-1983 unlined fire training pits, or the impact, if any, of released hazardous constituents on the groundwater. An RFI encompassing subsurface soils, down to the water table, was required in the permit. Groundwater investigations were made contingent on the subsurface soil sampling results.

Status

- RFI work plans were approved by the EPA in 1995.
- Initial investigations were performed in March 1996.
- The results were presented in the Draft RFI Report for OU 1, 6, and 7 submitted in July 1996.

- The EPA commented on the Draft RFI report in November 1996, requesting the Navy to respond to their comments.
- The Navy submitted their response to EPA comments in January 1997.
- A Human Health Risk Assessment (HHRA) was submitted in February 2000.
- The EPA commented on the risk assessment in July 2000, requesting either a supplemental site characterization work plan, or a revised HHRA along with a streamlined CMS report.
- Response to EPA comments was submitted in August 2000.
- A Draft Interim Decision Document was submitted in November 2000, as a result of a conference call held in October 2000.
- The EPA approved this decision document in May 2001.
- Further action is deferred until this site is closed.

SWMU 23 - Oil Spill Oil/Water Separator Tanks [Site 21]

Description

SWMU 23, a part of OU 1, consists of three rectangular steel oil/water separator tanks underlain by a curbed, concrete pad. This SWMU is located approximately 100 feet inshore from the Fuel Pier, and is partially surrounded by asphalt pavement, but is adjacent to soil along one side. These tanks act as first stage, gravitational oil/water separators, where bilge and ballast water, and oil/fuel/water mixtures from spills are emptied from the SWOBs and “donuts” (SWMUs #21 and 22). During both the 1988 VSI and the 1993 follow-up inspection, the concrete pad and adjacent areas of asphalt pavement and soil outside the pad’s curb were observed to be heavily stained. A first phase RFI for the soils surrounding the unit was required in the permit, which also made a groundwater investigation contingent upon the soil sampling results.

Status

- RFI work plans were approved by the EPA in 1995.
- Investigations were performed in October 1995.
- The results were presented in the Draft RFI Report for OU 1, 6, and 7 submitted in July 1996.
- The EPA did not concur or refute the recommendations presented in the above mentioned report.
- The RFI stage has been considered complete.
- No further action proposed in the RCRA Part B permit renewal.

SWMU 24 - Oil Spill Oil/Water Separator and Adjoining Pad [Site 22]

Description

SWMU 24, a part of OU 1, consists of an in-ground, concrete oil/water separator, which serves as the second stage separator of oils/fuels from the wastewater stream resulting from bilge and ballast water and marine oil/fuel spills. This SWMU is surrounded by asphalt paving on three sides, with bare ground on one side. Staining of the asphalt was observed during the 1993 follow-up inspection. Also, during the 1993 follow-up inspection, a bermed pad, with heavy oil staining, was identified as associated with this SWMU. A RFI for soils was required for this SWMU in the permit.

Status

- RFI work plans were approved by the EPA in 1995.
- Investigations were performed in October 1995.

- The results were presented in the Draft RFI Report for OU 1, 6, and 7 submitted in July 1996.
- The EPA did not concur or refute the recommendations in the above mentioned report.
- The RFI stage has been considered complete.
- No further action proposed in the RCRA Part B permit renewal.

SWMU 25 - DRMO Storage Yard [Site 23]

Description

SWMU 25, a part of OU 1, consists of an open area within the DRMO storage yard. This area was formerly used to store ignitable hazardous wastes. During the 1988 VSI, several areas of oil staining were observed; the 1993 follow-up inspection did not observe visual evidence of releases. In the RCRA permit, the EPA requested confirmatory soil sampling due to evidence of releases observed in 1988. A RFI for surface soils was required.

Status

- RFI work plans were approved by the EPA in 1995.
- Investigations were performed in October 1995.
- The results were presented in the Draft RFI Report for OU 1, 6, and 7 submitted in July 1996.
- The EPA commented on the Draft RFI in November 1998, stating that further action at the DRMO yard has been deferred until permitted unit is closed.

SWMU 26 - Building 544 Area [Site 24]

Description

SWMU 26, a part of OU 1, consists of an open area behind former Building 544 where, during the 1988 VSI, approximately 25, badly rusted, 55-gallon drums of waste oil, or other substance, were observed to be lying (mostly on their sides) on bare soil. At that time, it was indicated that the containers were in very poor condition, and partially overgrown with vegetation. A tar-like substance was observed to be leaking onto the ground. Subsequently, in June 1992, the Navy indicated that the containers were removed, “and no visual evidence exists of any soil staining”. The 1993 follow-up inspection found no visual evidence of releases. However, as documented during the 1993 follow-up inspection, the area has the appearance of possible stressed vegetation, possible miscellaneous disposal activity, and mounds of excavated soil covered with plastic were observed. While this is the case, the 1993 inspection looked at areas not included in the SWMU. Since the 1993 reinspection, the area has been used for a construction lay down area by multiple contractors. The RCRA permit required a RFI for surface soils.

Status

- RFI work plans were approved by the EPA in 1995.
- The initial investigation was performed in October 1995.
- The results were submitted in the Draft RFI Report for OU 1, 6, and 7 submitted in July 1996.
- The EPA commented on the Draft RFI Report in November 1998, requesting further investigations.
- Additional investigations were conducted in September 1997.

- The results were presented in the Draft RFI Report for Additional Investigations at OU 1, 6, and 7 submitted in May 1998.
- The EPA commented on the Draft RFI Report for Additional Investigations at OU 1, 6, and 7 in September 1998, requesting the risk assessment be revised.
- A revised risk assessment was submitted on May 3, 1999.
- The EPA approved the no further action recommendation in October 1999, as well as stated that the RFI was complete.
- No further action proposed in the RCRA Part B permit renewal.

SWMU 30 - Former Incinerator Area [Site 25]

Description

SWMU 30, a part of OU 1, consists of a presently inactive incinerator, formerly used to burn contaminated fuels, waste oils and sludges. A previous incinerator at this same site was reportedly dismantled and removed in 1983, and the present incinerator installed at that time. The 1993 follow-up inspection found that a 500 gallon underground storage tank associated with this unit, was in the process of being removed. Sampling of the subsurface soils was performed by the Navy, and the results indicated total recoverable petroleum hydrocarbon levels in excess of 30,000 parts per million (ppm). Therefore a RFI for soils was required to fully characterize this release and define all constituents associated with it. Contingent on the results, groundwater investigations may be required.

Status

- RFI work plans were approved by the EPA in 1995.
- Initial investigations were performed in October 1995.

- The results were submitted in the Draft RFI Report for OU 1, 6, and 7 submitted in July 1996.
- The EPA commented on the Draft RFI Report in November 1997, requesting further investigations.
- Additional investigations were performed in June 1999.
- The results were presented in the Draft RFI Report for SWMU 30 submitted in December 1999.
- The EPA gave contingent approval of the no further action recommendation in January 2000. They requested response to their comments. Based on the Navy's response to comments, the RFI was complete.
- No further action proposed in RCRA Part B permit renewal.

SWMU 31 - Waste Oil Collection Area (Building 31 and 2022) [Site 26]

Description

SWMU 31, a part of OU 1, is located in the Public Works Department storage yard, near the Transportation Shop (Building 31) and Building 2022. This SWMU consists of an outdoor, curbed, concrete pad used for temporary storage of containers of waste oil. There is also a 500 gallon tank for collection of waste oils. The recent 1993 follow-up inspection found extensive oil staining surrounding this storage pad. In addition, this SWMU is associated with Building 31, where the Navy's 1984 IAS reported past practices which included storing containers of unidentified wastes outside the building and where solvent odors were reported. Presently, the entire area surrounding this SWMU is paved with asphalt. A RFI for surface soils surrounding the asphalt pavement was required. In addition, the EPA requested that subsurface soils be investigated beneath the asphalt. Since the time of the 1993 reinspection and prior to the investigations were performed, the area has been reconstructed in a slightly different location. The former area not used in the new construction was paved over.

Status

- RFI work plans were approved by the EPA in 1995.
- Initial investigations were performed in October 1995.
- The results were presented in the Draft RFI Report for OU 1, 6, and 7 submitted in July 1996.
- The EPA commented on the Draft RFI Report in November 1996, requesting the risk assessment be revised.
- The Draft RFI Report Addendum for OU 1, 6, and 7, as well as the Final RFI Work Plans Addendum 2, were submitted in January and February 1997, respectively.
- The EPA commented on the above mentioned documents in April 1997.
- The Final RFI Work Plans Addendum 2 Revised were submitted in June 1997.
- The EPA approved the Addendum 2 Revised Work Plans in July 1997.
- Additional investigations were performed in September 1997.
- The results were presented in the Draft RFI Report for Additional Investigations at OU 1, 6, and 7 submitted in May 1998.
- The EPA commented on the Draft RFI Report for Additional Investigations at OU 1, 6, and 7 in September 1998, requesting CMS work plans.
- Response to comments including a CMS outline was submitted in November 1998.

- A Final CMS Final Report was submitted in April 2000, and EPA approved in May 2000.
- A Final CMI Work Plan Design Package was submitted in January 2001, and EPA approved in May 2001.
- The EPA needs to place the CMI work plan out for public comment prior to implementing the corrective measure.

SWMU 32 - PWD Storage Yard/Battery Collection Area Description [Site 27]

Description

SWMU 32, a part of OU 1, is located in the Public Works Department storage yard, near the Transportation Shop (Building 31). It was described in the 1988 RFA as an outdoor area where discarded batteries were stored. However, during the 1993 follow-up inspection, in addition to pallets of discarded batteries, numerous (estimated at 100-110) 55-gallon drums of contaminated jet fuel and soil were observed to be stored on wooden pallets resting on bare ground. Along with these drums an area of stained soil was visible. In addition, the 1993 follow-up inspection, found associated with this SWMU a small, partially open, uncurbed, storage building (“paint locker”), containing approximately 200 various sized cans. The entire area is debris strewn, with an appearance of possible stressed vegetation. A first phase RFI for surface soils was required in the permit. It should be noted that the area has now been cleaned up and is used for the storage of spare parts and for equipment parking.

Status

- RFI work plans were approved by the EPA in 1995.
- Initial investigations were performed in October 1995.

- The results were presented in the Draft RFI Report for OU 1, 6, and 7 submitted in July 1996.
- The EPA commented on the Draft RFI Report in November 1996, requesting the risk assessment be revised.
- The Draft RFI Report Addendum for OU 1, 6, and 7, as well as the Final RFI Work Plans Addendum 2, were submitted in January and February 1997, respectively.
- The EPA commented on the above mentioned documents in April 1997.
- The Final RFI Work Plans Addendum 2 Revised were submitted in June 1997.
- The EPA approved the Addendum 2 Revised Work Plans in July 1997.
- Additional investigations were performed in September 1997.
- The results were presented in the Draft RFI Report for Additional Investigations at OU 1, 6, and 7 submitted in May 1998.
- The EPA commented on the Draft RFI Report for Additional Investigations at OU 1, 6, and 7 in September 1998, requesting CMS work plans.
- Response to comments including a CMS outline was submitted in November 1998.
- A Final CMS Final Report was submitted in April 2000, and EPA approved in May 2000.
- A Final CMI Work Plan Design Package was submitted in January 2001, and EPA approved in May 2001.

- The EPA needs to place the CMI work plan out for public comment prior to implementing the corrective measure.

SWMU 37 - Waste Oil Storage Area (Building 200) [Site 28]

Description

SWMU 37, a part of OU 1, consists of a covered, open-sided, concrete pad, which is curbed (not curbed during 1988 VSI). The pad is located behind Hangar 200, and serves as a container storage area for waste gasoline, oils, and other wastes. During the 1988 VSI, oil stains were observed on the concrete pad. During the 1993 follow-up inspection, an area of stressed vegetation with soil yielding elevated organic vapor readings, was observed adjacent to the backside of the pad. Based on the findings of the inspections, the EPA required a first phase RFI for surface soils.

Status

- RFI work plans were approved by the EPA in 1995.
- Investigations were performed in October 1995.
- The results were presented in the Draft RFI Report for OU 1, 6, and 7 submitted in July 1996.
- The EPA commented on the Draft RFI Report in November 1996, requesting the Navy to respond to their comments.
- A Draft RFI Report Addendum for OU 1, 6, and 7 was submitted in January 1997.
- The EPA did not concur or refute the recommendation for SWMU 37 provided in the Draft RFI Report Addendum.

- The RFI stage has been considered complete.
- No further action proposed in the RCRA Part B permit renewal.

SWMU 39 - Former Battery Drain Area (Building 3158) [Site 29]

Description

SWMU 39, a part of OU 1, consists of a small building (Building 3158) with an attached, open sided, roofed pad, where it was noted during the 1988 VSI, discarded batteries had their fluids drained into a tank, and were stored here. The tank had a curbed, concrete pad underlying it, which was observed to be cracked and stained. The 1993 follow-up inspection found this building was no longer used for drainage and storage of discarded batteries, but now contained assorted small cans of miscellaneous hydraulic fluids, etc. In addition, the roofed pad was gone including the concrete pad itself. No evidence of releases was observed during the 1993 follow-up inspection. However, the open-air, battery drain tank's curb was observed to be cracked and stained during the 1988 VSI, allowing releases onto adjacent soil. A first phase RFI was required in the permit for surface soils surrounding the building.

Status

- RFI work plans were approved by the EPA in 1995.
- Investigations were performed in October 1995.
- The results were presented in the Draft RFI Report for OU 1, 6, and 7 submitted in July 1996.
- The EPA did not concur or refute the recommendation for SWMU 39 provided in the Draft RFI Report.
- The RFI stage has been considered complete.

- No further action proposed in the RCRA Part B permit renewal.

SWMU 45 - PCB Spill Area/Old Power Plant [Site 16]

Description

SWMU 45, a part of OU 3, consists of an area outside of Building 38, the old Power Plant (SWMU 11), where transformer oils containing PCBs, were routinely discarded directly onto the ground during transformer maintenance. As discussed previously in SWMU 11, there are also two abandoned 50,000 gallon underground fuel storage tanks associated with SWMU 45/SWMU 11. Therefore, a RFI encompassing soils, surface water, sediments, and groundwater was required in the permit for SWMU 45, in association with SWMU 11.

Status

Two ICMs have been completed at this site which addressed the PCB releases and the tanks and cooling tunnels. The first ICM was a soil removal action, which addressed PCB contamination in the area around the building where transformers had been maintained. This effort was successfully concluded by meeting established clean-up levels in soil. A project closeout report was submitted to the EPA in May 1995, which was subsequently approved.

The second ICM addressed the underground storage tanks and cooling water tunnels associated with Building 38. The tanks were cleaned and abandoned in place by filling with low density concrete. Originally, the cooling water tunnels were to be cleaned to remove the sludges inside and limit the potential for a continuing release. Inflow of groundwater to the tunnels through construction joints and elsewhere limited the ability to clean the tunnel interior. The final solution was to fill the tunnels with low density concrete. This change was approved by the EPA. A project close out report was submitted in June 1997, and is presently under review by the EPA.

One important finding came out of the ICM at the tunnels. During excavation to see if the groundwater inflow point could be determined, evidence of oil was seen outside the tunnels.

- RFI work plans were approved by the EPA in 1995.
- The ICM, which included the removal of sludge and liquids, as well as the cleaning, backfilling, and filling the USTs and tunnels with concrete, was completed.
- The site was investigated in November 1996, and September/October 1997.
- The Revised Draft RFI Report for OU 3/5 was submitted in April 1999, and EPA approved in September 1999.
- CMS for Puerca Bay sediments is planned.
- A Revised Final II CMS Work Plan was submitted in July 2000, and EPA approved in May 2001.
- A CMS has been initiated.
- The Draft Screening-Level Ecological Risk Assessment Problem Formulation (Step 1) and Exposure Estimate was submitted in August 2001.
- The Draft Additional Data Collection Work Plan in Support of Ecological Risk Assessment was submitted in August 2001, and approved by the EPA in October 2001.

SWMU 46 - Pole Storage Yard Covered Pad [Site 30]

Description

SWMU 46, a unit of OU 1, consists of a large, roofed, open-sided, uncurbed, concrete pad utilized in the past by the Public Works Department as a storage area for transformers, miscellaneous electrical equipment, and drums of PCB-contaminated material. Also, there are reports that, in the past, similar materials may have been stored in adjoining areas directly on the ground. Evidence of past oil spills has been reported.

The unit now serves as the primary under 90 day storage area for hazardous wastes generated by the Base Operating Support (BOS) contractor during the performance of normal maintenance activities. There are now two pads, utilized for the same purpose, located at the site of similar construction. On the southern portion of the site is an area which was labeled on some old drawings as “contaminated soil pile” No other information was available concerning what may have caused this labeling. Also, there is no evidence of a soil pile presently visible. Based on the known site use, the EPA required a first phase RFI to be performed in the vicinity of the pad and the associated areas.

Status

- RFI work plans were approved by the EPA in 1995.
- Initial investigations were performed in October 1995.
- The results were presented in the Draft RFI Report for OU 1, 6, and 7 submitted in July 1996.
- The EPA commented on the Draft RFI Report in November 1996, requesting further investigations at this SWMU.
- Additional investigations were conducted in September 1997.
- The results were presented in the Draft RFI Report for Additional Investigations at OU 1, 6, and 7 submitted in May 1998.
- The EPA approved the Draft RFI Report for Additional Investigations at OU 1, 6, and 7 in September 1998, and requested CMS work plans.
- Response to comments, including a CMS outline for SWMU 46 which was combined with AOC C in the CMS stage, was submitted in November 1998.
- A Revised Final II CMS Final Report was submitted in August 2000, and EPA approved in September 2000.

- A 100% Final CMI Work Plan Design Package was submitted in January 2001, and EPA approved in May 2001.
- The EPA needs to place the CMI work plan out for public comment prior to implementing the corrective measure.

SWMU 51 - New AIMD Storage Pad (Building 379) [Site 31]

Description

SWMU 51, a part of OU 1, consists of a curbed concrete storage pad located outside Building 379. This storage pad is roofed and enclosed with a cyclone fence. It was first identified during the 1993 follow-up inspection, and is presently utilized by the AIMD facilities in place of SWMU 33. Also present at this SWMU is a 200 gallon tank which touches the storage pad, but is outside the curbed area. The entire pad area is surrounded by asphalt pavement. During the 1993 follow-up inspection, large oil stains were observed emanating from two drain valves in the curb surrounding this pad, and from the 200 gallon tank located outside the pad curb. As any releases from this SWMU would likely be carried by stormwater runoff, a RFI for soils at the downslope edge of the asphalt pavement surrounding the SWMU was required in the RCRA permit.

Status

- RFI work plans were approved by the EPA in 1995.
- Investigations were performed in October 1995.
- The results were presented in the Draft RFI Report for OU 1, 6, and 7 submitted in July 1996.
- The EPA commented on the Draft RFI Report in November 1996.

- The EPA did not concur or refute the recommendation for SWMU 51 presented in the draft RFI report.
- The RFI stage has been considered complete.
- No further action proposed in the RCRA Part B permit renewal.

SWMU 53 – Malaria Control Building (Building 64)

Description

SWMU 53 consists of a building that is presently unoccupied and lies on approximately 1/8 acre. The building structure itself is 21 feet by 18 feet in dimension, and occupies about ten percent of the total SWMU 53 acreage. This SWMU is located on a gentle slope (approximately 5-7% grade) from northeast (upgradient) to the southwest (down gradient) approximately 200 feet away from Forrestal Drive. The building was utilized to store pesticides, such as malathion, aldrin, and dichlorodiphenyltrichloroethane (DDT). It is not known if stocks of pesticides were maintained in the building for the entire duration. Although no direct evidence exists, it is assumed that mixing and other preparation for pesticide use was also performed at the building. No wastes are known to have been disposed at the unit. There are no known releases related to this unit. No other use of the site was identified. SWMU 53 is located across Forrestal Drive from SWMU 13. The information gathered from the visual site inspection by Baker and environmental staff at NSRR, revealed that there are no known wastes dumped at this facility, nor is there any evidence of source contamination (Baker, 2000). Baker observed signs of possible past leakage of chemicals on the storage shelves inside the building, as well as identified migration pathways along the floor leading to the outside. With this in mind, along with the activities known to have taken place at this SWMU, a site characterization was performed to determine whether a release of hazardous waste including hazardous constituents has occurred, is likely to have occurred, or is likely to occur.

Status

- A Draft Sampling and Analysis Plan was submitted in August 2000, and EPA approved in August 2000.
- Investigations were performed in December 2000.
- The results were presented in the Final Sampling and Analysis Report submitted in August 2001. The SWMU has been recommended for an RFI.
- Draft RFI Work Plan submitted to the EPA for review on August 27, 2001.
- Awaiting EPA review.

SWMU 54 – Former NEX Repair/Maintenance Shop (Building 1914)

Description

SWMU 54 consists of a Building 1914 built in 1979, which is currently unoccupied and lies on approximately 1 acre of land in the Bundy Area of NSRR. The building structure and pavement covers approximately 40 percent of the total SWMU 54 acreage. This SWMU contains a slight slope to the west, and a small hill to the east approximate 100 feet in elevation. A small hill lies in the southern part of this SWMU, which is approximately 50 feet in elevation. The building structure itself consists of a small concrete block building with a center office area and open bays on either side. The building was used to perform maintenance on vehicles including oil changes, lubrications, etc. No wastes are known to have been disposed at the unit. There are no known releases related to the unit. SWMU 54 is located across Bairoko Street from SWMU 26 and Building 1686 (Former Base Laundromat).

The information gathered from the visual site inspection performed by CH2MHILL and environmental staff at NSRR revealed that there were several areas of oil stained soil around the NEX Building 1914 (CH2MHILL, February 2000). For that reason, it was recommended that a sampling program be performed to characterize the areas around several structures in the SWMU 54 area. CH2MHILL also observed two open excavation locations south of the building, which contained algae stained water.

With this in mind, along with the activities (oil changes, lubrications, etc.) known to have taken place at this SWMU, a site characterization was performed to determine whether a release of hazardous waste including hazardous constituents has occurred, is likely to have occurred, or is likely to occur.

Status

- A Draft Sampling and Analysis Plan was submitted in August 2000, and EPA approved in August 2000.
- Investigations were performed in December 2000.
- The results were presented in the Final Sampling and Analysis Report submitted in August 2001. The SWMU has been recommended for an RFI.
- Draft RFI Work Plan submitted to the EPA for review on August 27, 2001.
- Awaiting EPA review.

AOC B - Building 25 Area [Site 10]

Description

AOC B, a part of OU 6, consists of the site of the now demolished Building 25. According to the Navy, the demolished building formerly contained hazardous waste materials. The 1993 follow-up inspection found (17) 55 gallon drums of lubricating oils and diesel stored outdoors and unsheltered, resting directly on a bricked surface that was the former floor of Building 25. The area was surrounded by a sandbag dike. Extensive oil stains were observed on both the brick floor and the surrounding soils. Eight groundwater wells were installed throughout IR Site 10 and sampled both during Round 1 (1986) and Round 2 (1987) investigations. Hazardous constituents (arsenic, chromium, lead, and selenium) were detected in the groundwater at levels exceeding Subpart S action levels/MCLs. A RFI for soils, both surrounding the old Building 25 area and the soils underlying the remaining brick floor surface, was required in the permit. Also, a RFI for groundwater was required to fully characterize possible releases of hazardous constituents.

Status

- RFI work plans were approved by the EPA in 1995.
- Initial investigations were performed in October 1996.
- The results were presented in the Draft RFI Report for OU 1, 6, and 7 submitted in July 1996.
- The EPA commented on the Draft RFI Report in November 1996, requesting further investigations.
- Additional investigations were performed in September 1997.
- The results were presented in the Draft RFI Report for Additional Investigations at OU 1, 6, and 7 submitted in May 1998.
- The EPA commented on the Draft RFI Report for Additional Investigations at OU 1, 6, and 7 in September 1998, requesting the risk assessment be revised.
- Response to comments, including a revised risk assessment for AOC B, was submitted in November 1998.
- The EPA commented in November 1999, on the Navy's November 1998 response to comment letter dated September 1998. The EPA stated that the RFI was complete.
- A Draft CMS Work Plan was submitted in January 2000, and approved by the EPA in March 2000.
- A Final CMS Final Report was submitted in June 2001 recommending no further action.
- Awaiting EPA review.

AOC C - Transformer Storage Pads [Site32]

Description

AOC C, a part of OU 1, is located near Building 2042 and consists of three outdoor, uncovered, concrete pads used primarily for storage of discarded transformers; however, other discarded electrical materials, including batteries were observed. During the 1993 inspection, three transformers were observed well outside of the concrete pads sitting directly on bare soil. During the 1988 VSI, and 1993 follow-up inspection, oil staining inside the concrete pads and evidence of releases to soil were observed. A first phase RFI was mandated for this area in the RCRA permit.

Status

- RFI work plans were approved by the EPA in 1995.
- Initial investigations were performed in October 1995.
- The results were presented in the Draft RFI Report for OU 1, 6, and 7 submitted in July 1996.
- The EPA commented on the Draft RFI Report in November 1996, requesting further investigations at this SWMU.

Before this work could be done, much of the surface soil was scraped and stockpiled on site. This was performed by the BOS contractor when he mistakenly interpreted instructions to “clean up” the area before hurricane season to include soil and vegetation removal. This work negated the original sampling efforts since the soils sampled were largely removed.

In due course, after extensive negotiations with the EPA and testing of the piles, the Navy was allowed to haul the stockpiled soil to the Station landfill. This was done only when each load passed field screening tests for PCBs.

- \$ Recharacterization of the site soils was deemed necessary. Since releases of PCBs were established, sampling is not only required for surface soil but also for subsurface soils.
- \$ Additional investigations were performed in September/October 1997.
- \$ The results were presented in the Draft RFI Report for Additional Investigations at OU 1, 6, and 7 submitted May 1998.
- \$ The EPA approved the Draft RFI Report for Additional Investigations at OU 1, 6, and 7 in September 1998, and requested CMS work plans.
- \$ Response to comments, including a CMS outline, was submitted in November 1998.
- \$ A Revised Final II CMS Final Report was submitted in August 2000, and approved by the EPA in September 2000.
- \$ A 100% Final CMI Work Plan Design package was submitted in January 2001, and EPA approved in May 2001.
- \$ The EPA needs to place the CMI work plan out for public comment prior to implementing the corrective measure.

AOC D - Sediments [Site 33]

Description

AOC D, a part of OU 7, consists of the marine sediments potentially impacted by the Station's outfalls, the Station's three large (one operating and two closed) littoral landfills, recurring major oil spills, the possible submarine discharge of contaminated groundwater from the Tow Way Fuel Farm area, and past waste disposal practices, which included routine disposal of hazardous wastes and/or constituents into stormwater drains. Three National Pollution Discharge Elimination Systems (NPDES) permitted wastewater outfalls, and an undetermined number of stormwater outfalls are

present at NSRR. A First Phase RFI for sediments underlying the surface waters adjacent to Naval Station (NAVSTA) Roosevelt Roads was required in the permit, with an emphasis on Ensenada Honda and other areas impacted by known or suspected releases.

Status

- RFI work plans were approved by the EPA in 1995.
- Initial investigations were performed in October 1995.
- The results were presented in the Draft RFI Report for OU 1, 6, and 7 submitted in July 1996.
- The EPA commented on the Draft RFI Report in November 1996, requesting additional investigations at this SWMU.
- Additional investigations were performed in September 1997.
- The results were presented in the Draft RFI Report for Additional Investigations at OU 1, 6, and 7 submitted in May 1998.
- The EPA commented on the Draft RFI Report for Additional Investigations at OU 1, 6, and 7 in September 1998, requesting the risk assessment be revised.
- Response to comments, including the revised risk assessment, was submitted in November 1998.
- The EPA approved the revised risk assessment included in the November 1998 response to EPA comments.
- No further action proposed in the RCRA Part B permit renewal.

2.2 Contract Information

This section of the SMP for NSRR describes the contractual vehicles in use at the Station to perform the Comprehensive Long-Term Environmental Action Navy (CLEAN)-type work under the RCRA program. Included is information regarding the scope of work for each Contract Task Order (CTO), the budget for each CTO, and any changes which have been made to the scope, schedule and/or budget.

2.2.1 CTO Summary

Each of the CTOs which have been or are being used to perform IR work at Roosevelt Roads, are discussed in this section. Since some of the CTOs are complicated, a description of the various tasks, which are included in the scope of work, is included.

CLEAN I (Baker)

The following paragraphs discuss the history of the CTOs that were utilized under the Navy CLEAN I contract. Included in the discussion were the primary work efforts of each CTO, as well as whether the CTOs are currently active.

CTO-0007 RI/FS Roosevelt Roads (pre-RCRA CTO)

This was the original CTO issued under CLEAN for IR work at Roosevelt Roads. It was the intent of this CTO to address various sites included under IR Program within the traditional CERCLA approach. Immediately after the CTO was issued, it became known that the Station would be subject to RCRA regulations (because of the DRMO permit). The focus of work under the CTO was shifted to investigations designed to provide information on various sites that could be used during permit negotiations to keep sites out of corrective action.

As the program matured at NSRR, it became obvious that two items were needed including a site management plan, and a means by which Baker could provide general technical assistance to LANTDIV and the Activity regarding RCRA related matters. This need prompted the modification of CTO-0007 (MOD 04) by the addition of funds to perform the necessary services.

The primary work efforts under this CTO resulted in the following reports/documents:

- Final Supplemental Investigation, Installation Restoration Program Activities (Baker, April 1994).
- Draft Site Management Plan (this was never finalized since the RFI work plans essentially became the site management tool especially pertaining to schedule).
- Additional reports of a more minor nature were periodically issued.

In addition to the reports, extensive RCRA assistance was provided which included permit negotiation and interpretation, trips to the Station to accompany EPA personnel on inspections, and aiding Activity staff in permit compliance.

The CTO was closed in 1997.

CTO-0173 RI/FS, Unit IR 16, Roosevelt Roads (pre-RCRA CTO)

Originally this CTO was for the preparation of work plans and performance of an RI/FS at IR Site 16 (Building 38). Initial site investigations performed to determine the scope of the RI/FS indicated that there was little hope of providing sufficient information to avoid the site being included in the permit and, therefore, the plans were not developed nor were extensive investigations performed. The scope of the CTO was modified to include preparation of RFI work plans for Site 16. Because Site 16 was included in the overall RFI work plans, the finalization of the full work plans was performed under this CTO. [Note: the work plans were originally started under CTO-0223, but the extensive revisions and number of iterations needed caused funds in this CTO to be exhausted. It was deemed easier to use CTO-0173 to complete the plans than to modify CTO-0223. CTO-0223 was eventually closed with \$3,359 remaining.]

CTO-0173 was interim closed on November 18, 1997.

CTO-0223 RFI/CMS Work Plans, NSRR

CTO-0223 was established for the development of RCRA Facility investigation work plans. The plans were written based on the draft permit. Finalization of the permit, (which changed numerous items), the multiple iterations required to satisfy the regulatory agencies, and the need for a Corrective Measures Evaluation Study caused the funds in this CTO to be expended without completing the scope of work. Rather than modify CTO-0223, the tasks remaining were completed under CTO-0173.

The two primary work products resulting from this CTO were:

- Final RCRA Facility Investigation, Naval Station Roosevelt Roads, Puerto Rico (Baker, September 1995).
- Draft Final pre-Investigation Corrective Measures Screening Report, Naval Station Roosevelt Roads, Puerto Rico (Baker, April 1994). [Note: This document was never finalized but was accepted by the EPA.]

CTO-0223 was final closed on September 28, 1999.

CTO-0277 IR Sites - RFI, Puerto Rico

This CTO was the primary “doer” at Roosevelt Roads in terms of the RCRA Corrective Action Program. A majority of the investigations at the facility performed until around 2000 have been done under CTO-0277. Investigations were performed on an Operable Unit basis (see Table 2-1 for SWMUs included in the various OUs), which allowed multiple sites requiring similar levels of effort, having similar constituents of potential concern, or which are located near to one another, to be investigated at the same time.

There were originally four primary tasks included in CTO-0277. The tasks and their present status are described below:

- OU 1, 6 and 7 - This task included performance of the first phase RFI at the SWMUs within these OUs. Initial investigations were performed in October 1995, and a Draft RFI Report was submitted in July 1996. The report was reviewed by the regulatory agencies and comments were provided in November 1996. An addendum to the RFI Report was prepared January 1997, and Final RFI Work Plans Addendum 2 was prepared in February 1997. These two documents were both reviewed and commented upon in April 1997. A revised addendum was submitted in June 1997, as was a revised version of the work plans to perform additional investigations at a small sub-set of the SWMUs. The work plans were approved in July 1997, and the investigatory work was performed in September/October 1997. A report was submitted in May 1998, with comments received in September 1998. Responses were submitted in November 1998, and comments were received in November 1999. The RFI stage was considered complete for SWMU 6, AOC B, 26, and 30, with CMS work plans requested for SWMUs 13, 31, 32, 46, and AOC C.
- OU 2 - A full RFI was required at this OU. The initial investigation was completed in April 1996 and a Draft RFI Report for OU 2 was submitted in September 1996. This document was reviewed and commented on in March 1997. The EPA requested that revisions be made based on the complexity of SWMUs 7/8. Based on the requested revisions, SWMU 9 was separated from SWMUs 7/8 to limit confusion between these areas and allow the specific problems at the TWFF be addressed separately. A Revised Draft RFI Report for SWMU 7/8 was submitted in June 1997, and subsequently reviewed and approved by the EPA in September 1997. SWMU 7/8 has subsequently proceeded through the Corrective Measures Study Investigation stage with the submission of a Corrective Measures Study Investigation work plan in December 1997, and the corresponding investigatory work performed in April 1998. The EPA approved the SWMU 7/8 Final CMS Investigations Report that was submitted in April 1999. Additional RFI investigatory work was performed at SWMU 9 in September/October 1997, and again in June 1999. Due to funding restraints, the remainder of the RFI stage for SWMU 9 was performed under CTO 099 of the CLEAN II contract. A Revised Draft RFI Report for SWMU 9 was submitted in March 2000, and subsequently reviewed and approved by the EPA in

May 2000. Currently, the RFI stage for all three SWMUs (7/8, and 9) within OU 2 have been approved, and all three SWMUs are in the corrective measures stage.

- OU 3/5 - A full RFI was required for the SWMUs included in this operable unit. Investigations were performed in October/November 1996, and September/October 1997. A RFI report was submitted in April 1999, and EPA approved in September 1999. Currently, all four SWMUs (1, 2, 11, and 45) within OU3/5 are in the corrective measures stage.
- OU 4 - A full RFI was required at the Station landfill which comprises this OU. This work was originally included in CTO-0277, but was subsequently moved to CTO-0099 (CLEAN II) for funding reasons. A work plan is currently being developed for SWMU 3.

All these tasks required the full support of project management and subcontractors.

The corrective action program at the Activity has evolved over time. Numerous new tasks have been identified due to changes in the program or to problems which have arisen. The tasks, all of which were added to CTO-0277 without additional funding, include the following:

- AOC C - This task is related to the removal of soils at AOC C. During preparation for hurricane season in 1995, the BOS contractor misinterpreted instructions to clean up the site. Instead of removing loose debris, the entire area was scraped with a bulldozer and the top layer of soil was stockpiled at the site. Since first phase investigations indicated that releases of PCBs were present in the soils, it was considered likely that PCBs could be in the stockpiled soil. The EPA was informed of the situation and an approach was negotiated which included:
 - Characterization of the soil pile to determine concentrations of PCBs.
 - Upon finding relatively low levels, approval was received to dispose of the soil in the Station landfill used as daily cover.

- Field supervision of soil pile removal including field confirmatory sampling.
- Preparation of various sampling and summary reports.

This “extra” work has been completed with this AOC currently in the CMI stage.

- Tow Way Fuel Farm - The TWFF was mostly under the LANTDIV UST program when CTO-0277 was authorized. Since that time, both the product release sites and the free product plume have been brought under the RCRA corrective action program. This has caused the addition of numerous, minor to major, additional tasks which include:
 - Quarterly reporting on the progress and effectiveness of the free product recovery system which constitutes the ICM at the site. Each report contains groundwater models depicting groundwater flow and gradient, as well as product thickness.
 - Extensive revisions to the RFI report for the area by adding and interpreting all the work from previous investigations (not performed under CLEAN). This was not included in the original scope of work for this CTO.
 - Obtaining and managing an operations and maintenance subcontractor at the site to obtain measurements not included in the RAC scope of services.
 - Designing and installing upgrades to the system by adding new recovery wells, etc.
 - Performing periodic site inspections on an as needed basis.

- New Commissary - During construction of the new commissary on base, some waste roofing tar and steel pieces were found in the area designated for the new parking lot that were apparently buried in an old drainage course. Because this site is across the street from SWMU 2, there was concern that the landfilling performed in the Langley Drive Disposal Site extended into the new commissary area. A visual examination of the area was made and it was determined that a geophysical survey was necessary. A subcontractor was obtained that performed conductivity surveys over the entire parking lot site. A small number of anomalies were seen that generally appeared to coincide with the trace of the former drainageway. These sites were either ruled out because the source of the anomaly was known (in one particular case it was because there was a manhole at that point), or was subjected to test pitting. The test pits yielded some steel plates (which would explain the anomalies), but did not uncover evidence of routine, systematic or deliberate waste disposal activities. It is likely that the steel found was related to the crusher, which was formerly in the quarry above the new commissary site. There were no further actions taken.
- Additional Investigations - In response to EPA reviews of various reports, additional site characterization work was found to be necessary at certain SWMUs. Included in areas were SWMUs 1, 6, 9, 10, 13, 26, 45, 46, and AOCs B, C, and D. The work included soil sampling, drilling, well installation, groundwater sampling, laboratory analysis, data validation, data evaluation and reporting. None of these items were provided in the original scope of work.

The work at NSRR has been generally divided into tasks. These tasks, including all labor, travel, other direct costs and subcontractors, are:

- \$ Task 1 - Project Management (includes senior review)
- \$ Task 2 - Aerial Photography, Mapping, and Surveying
- \$ Task 3 - Operable Units 1, 6 and 7 Investigations and Reporting
- \$ Task 4 - Operable Unit 2 Investigations and Reporting
- \$ Task 5 - Operable Unit 3/5 Investigations and Reporting

- \$ Task 6 - Operable Unit 4 Investigations and Reporting
- \$ Task 7 - Additional Investigations
- \$ Task 8 - Tow Way Fuel Farm ICM
- \$ Task 9 - New Commissary and AOC C Actions
- \$ Task 10 - Undesignated and Award Fee Funds

This list is provided as information here since it forms the basis for budget and cost discussions in subsequent sections. This CTO is still open and active only for providing long-term groundwater monitoring at the base landfill.

CTO-0296 RAC Design Package Site 16/SWMU 45, Roosevelt Roads

This CTO provided funding for the design of the ICM at SWMUs 11/45. The design included clean out and abandonment in place of two 50,000 gallon tanks and the clean out of the cooling water tunnels associated with the Old Power Plant. Because of field conditions encountered during the performance of the ICM, the design had to be significantly altered. This was primarily due to unforeseen groundwater inflow problems in the tanks and tunnels.

Post Construction Award Services (PCAS) were provided on this project. These included direct construction oversight during critical periods, redesign and review of redesign by others, and site visits by the Project Engineer. Funds for the PCAS efforts were taken from those available in other tasks that were completed under budget.

The CTO was interim closed January 27, 1997.

CTO-0316 Restoration Advisory Board/Community Relations

This CTO was established to provide technical and support services for Restoration Advisory Board (RAB) activities. Included in this CTO has been preparation and presentation of program status summaries at RAB meetings, production and publishing of fact sheets (including translation services), provision of graphics support services for RAB meeting materials, and preparation and distribution of RAB meeting minutes.

CTO-0316 was final closed September 6, 2001.

CTO-0357 SI Report Site, Clean-up Requirements for MCON-P504

CTO-0357 was an Activity funded CTO to perform field investigations at a site immediately adjacent to the base landfill. During the course of foundation investigations in the area, landfilled garbage was encountered. It was known that, at certain points in the landfills' history (pre RCRA), what was now classed as hazardous waste was disposed in some areas. A concern was raised regarding the possible risk to workers resulting from exposure to the material when working in the intended facility.

A brief work plan was developed and the field investigations were performed. The results of the work were provided in brief report and the conclusions were discussed at a meeting in Puerto Rico.

CTO-0357 was final closed August 9, 2001. It was completed well under budget, which allowed money to be returned to the Activity.

CTO-0361 Quarterly RCRA Permit Report

CTO-0361 was established to address the RCRA permit requirement for the provision of quarterly reports detailing the progress of RCRA Corrective Action activities at NSRR. The initial two quarterly reports were prepared under 277 as expediency. CTO-0361 initially provided funding for four (one year) reports. This changed by modification and additional funding for two years worth of reports was provided.

CTO-0361 was final closed September 6, 2001.

CLEAN II (CH2M Hill - Prime; Baker - Subcontractor)

The following paragraphs discuss the history of the CTOs that are utilized under the Navy CLEAN II contract. Included in the discussion of each CTO are the primary work efforts of each CTO, as well as whether the CTOs are currently active.

CTO-030 Site Management Plan Upgrade 97/98 Miscellaneous Support

This CTO has two primary purposes:

- Provide funds for the development of this SMP.
- Provide funds for provisions of miscellaneous assistance pertaining to RCRA and RCRA program management (essentially replaces “MOD 04” of CTO-007).

On June 9, 1999, Modification 02 was established for the Site Management Plan upgrades for 1999 and 2000 along with the development of a web site and miscellaneous RCRA assistance.

On December 18, 2000, Modification 03 was established for the Site Management Plan upgrades for 2001 and 2002.

The CTO is ongoing and active.

CTO-033 RAC Design Package for Interim Corrective Measure AOC C

This CTO was established to provide for the design of an ICM at AOC C (Transformer Storage Pad). The site was recharacterized during the September/October 1997 investigations. This work is included in the CTO-033 scope as Site Recharacterization Activities. Based on the results of the new investigations, a CMS was required. The plan was to use a streamlined CMS approach to describe the remedies, as well as confirm that the remedies are protective of human health and the environment. SWMU 46 has been combined with AOC C for corrective measure purposes. A Revised Final II CMS Final Report was submitted in August 2000, and EPA approved in September 2000. A 100% Final CMI Work Plan Design package was submitted in January 2001, and EPA approved in May 2001.

The CMI will be placed out for public comment. A removal action for the soils is anticipated. Two modifications (July 28, 1999 and May 23, 2000) to the original scope of work have been implemented. Modification 01 deals with the corrective measure studies performed at SWMUs 1, 2, 9, and 45. Modification 02 deals with the screening level ecological risk assessment performed at SWMUs 1, 2, 45, and 9.

CTO-034 RAC Design Package for Interim Corrective Measure Design SWMU 13

CTO-034 provides funding for the design of an ICM at SWMU 13 (Old Pest Control Shop and Area, Bldg. 258). It is known that the sediments in the drainage ditch, which receives runoff from the site, contained levels of pesticides which pose a slight risk to human health (if a complete exposure pathway is present). The site was subjected to additional characterization as part of the September/October 1997 investigations. Based on the results, corrective measures were required. A Revised Final II CMS Final Report was submitted in August 2000, and EPA approved in September 2000. A 100% Final CMI Work Plan Design package was submitted in January 2001, and EPA approved in May 2001. The CMI will be placed out for public comment. A removal action for the sediments in the drainage ditch is anticipated.

Two modifications (April 14, 2000 and December 26, 2000) to the original scope of work have been implemented. Modification 01 deals with the CMS design for the TWFF, but was negated by the May 19, 2000 concurrence letter for the pilot study completion at the TWFF. Modification 02 deals with the corrective measures field investigation at the TWFF.

CTO-099 RCRA Field Investigations and Additional Site Characterization Investigations at SWMUs 3, 9, and 30

This CTO scope was issued by LANTDIV in December 1998 and was designed to provide funds for the additional investigations at SWMUs 3, 9 and 30. In due course, a cost estimate was submitted and final costs were negotiated in April 1999. The entire CTO was estimated to represent an effort of approximately \$576,000. The RFI for SWMU 9 and 30 are complete. The RFI for SWMU 3 has yet to be performed.

In July 2000, Modification 01 was established for the Sampling and Analysis Plan for SWMUs 53 and 54, including work plans, fieldwork, and corresponding reporting. This work has been completed.

In August 2001, Modification 02 was established to conduct an RFI for SWMUs 53 and 54. The RFI Work Plans are currently under review by the EPA.

2.2.2 Contractual Financial Status

Table 2-2 details the CTO cost summary, as well as the contractual status of each CTO for NSRR under both CLEAN contracts. Included in the table is information related to:

- CTO identification
- Modifications (and their basis)
- Award fee values
- Costs
- Applicable comments detailing specific items.

Where appropriate, Baker and CH2M Hill budgets are included. It should be noted that the table addresses all NSRR projects (including non-IR program) for completeness.

Recent information regarding each CTO's current status pertaining to cost to complete, costs to date and technical/budget percents are contained within the monthly progress reports provided to LANTDIV. These should be referred to for up-to-date information regarding CTO financial performance.

Table 2-2 also presents the total funding, funds remaining, and status for each CTO. Also shown are the totals spent to date and funds remaining for the entire program.

2.2.3 Unfunded Tasks

This section describes the unfunded tasks which are still outstanding. Included are executed letters of concurrence and future tasks.

Letters of Concurrence/Modification to Existing Contracts

Table 2-3 summarizes the concurrence letters which have been approved for the various CTOs and are still active. Letters of concurrence are employed when the scope, cost, and/or schedule are changed from that which was established at the beginning of the CTO. They are used to avoid the need to go through the full contract process that is entailed in a contract modification.

Concurrence letters have been generally used to allow the use of existing funds within a CTO, originally specified for a future task, such as:

- \$ Emergencies (e.g. AOC C soil piles removal, well replacement at the Base Landfill).
- \$ Preparing reports that were not originally planned (e.g. Tow Way Fuel Farm Quarterly Reports).
- \$ Expanding reports by the addition and analysis of additional data (e.g. OU 2 RFI report, OU 3/5 RFI report).
- \$ Performing additional sampling and analysis (e.g. additional investigations at SWMUs 9, 10, 26, 31/32, 46, AOC B, AOC C, and AOC D).
- \$ Miscellaneous unscoped work (e.g. attendance at meetings, technical subconsultant contracting).

The use of these letters has allowed the Navy to be responsive to changing requirements, changing site conditions, and problems which have arisen during the course of the corrective action program.

The future tasks from which the funds are obtained to complete the items in concurrence letters are re-funded in three ways.

- When a given CTO has had its funds nearly exhausted and scope items remain, a contract modification will be issued (this usually addresses multiple concurrence letters).
- Savings resulting from reduced scope in other tasks or efficiencies realized, remove the need for additional funding.
- The scope items which are now unfunded are moved to another (usually new CTOs) and included within the new scope of work.

Future Unfunded Tasks

The following tasks have been identified but are unfunded:

1. Tow Way Fuel Farm

The present ICM is currently off-line at the TWFF. However, this SWMU will continue to require support in the form of obtaining measurements (through a subcontractor), reporting on a quarterly basis, and additional one time tasks like well installation, pilot study preparation, and pipeline work oversight. To date, these tasks have been performed using funds within CTO-0277 and CTO-033.

Funds are required for an additional ecological screening level risk assessment which will need to be completed at the TWFF. Funds are also required to further delineate the soils at the TWFF, as well as to survey the necessary locations in the upcoming fieldwork. Funds are also required to perform the CMS Final Report for the TWFF.

The CMI remediation at the TWFF will also require additional funding.

2. SWMU 9 Additional Characterization and Design and Removal Activities

Funds are required for the additional site characterization and design and removal to be performed at SWMU 9.

3. SWMUs 1, 2, and 45 Additional Investigations

Funding is required for the additional investigations which are required at SWMUs 1, 2, and 45 to address the current data gaps for the ecological risk assessment.

4. CMI Remediation for 31/32

Funds are required for the CMI actions at SWMU 31/32.

5. SWMUs 13, 46, AOC C CMI Remediation

Funds are required for the CMI remediation at SWMUs 13, 46/AOC C.

2.3 Document Status

Table 2-4 contains the chronological order of the documents from the RCRA program at NSRR since its inception. Each major deliverable or task has been identified and the pertinent correspondence regarding the major issues is indicated. This is a summary table which addresses all historical activities in the program. As new reports and related correspondence are received, the table will be updated. For new items, any schedule mandates for response will be included.

3.0 REMEDIAL ACTION CONTRACTOR PROJECTS

This section of the SMP provides details regarding the various interim corrective measures and corrective measures at NSRR.

3.1 Interim Corrective Measures

The following subsections describe the ICMs that have been completed or currently ongoing, as well as the current financial situation.

3.1.1 Completed ICMs

ICMs have been completed for the following:

- SWMU 19 - Building 121, Pesticide Storage
- SWMU 11/45 - Soils outside of Building 38
- SWMU 10 - Substation 90, and
- SWMU 11/45 - Cooling Water Tunnels and USTs

Each of these is described briefly below.

SWMU 19 - Building 121, Pesticide Storage

This unit was closed under RCRA. While not a “true” ICM, the closure results did indicate the need for future work as this SWMU. Closure was performed in accordance with an EPA approved work plan. Confirmation sampling was done in the areas decontaminated and clean-up goals were achieved. A closure report was produced which, in due course, was approved by the EPA.

SWMU 11/45 - Soils Outside of Building 38

The soils in the front of Building 38 were found to be contaminated with PCBs during a RI (CERCLA) performed prior to RCRA permit receipt. Based on this finding, an ICM was proposed

for the site. The design, which was approved by the EPA, entailed the removal of contaminated soils with shipment off-island for disposal.

The work was performed and clean-up goals were achieved. The results of the ICM are provided in the Final Closeout Report for Sites 15 and 16 prepared by Metcalf & Eddy, Inc. (May 1995). This closeout report was approved by the EPA.

SWMU 10 - Substation 90

Soils contaminated with PCBs were discovered at Substation 90. Since the contamination was the same as that found at Building 38, it was decided to combine ICMs to save costs associated with multiple contractor mobilizations and gain an “economy of scale” in items such as waste shipment. The work plans followed and the closeout report was also combined with Building 38.

SWMU 11/45 - Cooling Water Tunnels and USTs

The cooling water tunnels and USTs associated with Building 38 contained PCB containing sludges which posed a risk for continuing releases. A design for an ICM was prepared by Baker under CTO-0296, and the work was performed by OHM Corporation. Originally, the design called for cleaning out the tanks and tunnels and abandoning in place. Water inflow to the tunnels prevented adequate cleaning. The design was changed, with the approval of EPA, to fill the USTs and tunnels with low density concrete. This action was taken, and the project closeout report was submitted and approved in due course by EPA.

3.1.2 Ongoing ICMs

The only on-going ICM is the free product recovery system at the TWFF. The original ICM is currently offline as discussed previously. Although monthly removal of phase separated hydrocarbons is occurring in conjunction with the monthly gauging activities.

3.1.3 ICM Cost

Table 3-1 provides the cost status for the ICMs at NSRR.

3.2 Corrective Measures

The following subsections describe the project status, as well as the cost status of the corrective measures that have been completed, or currently ongoing at NSRR.

3.2.1 Project Status

There are currently seven SWMUs and one AOC with initiated corrective measures, and four SWMUs and one AOC with completed corrective measures at NSRR.

The SWMUs with initiated corrective measures include the following:

- SWMU 1
- SWMU 2
- SWMU 45
- SWMU 6
- SWMU 7/8
- SWMU 9
- SWMU 10
- AOC B

The SWMUs with completed corrective measures include the following:

- SWMU 13
- SWMU 31
- SWMU 32
- SWMU 46
- AOC C

Once these are completed, the sites can move into the design and CMI stage. As the sites progress through the process, this section of the SMP will document and track the steps taken.

A 100% Final CMI Work Plan Design Package for SWMUs 13, 46/AOC C was submitted in January 2001 and EPA approved in May 2001. The CMI work plan for SWMUs 13, 46/AOC C will be placed out for public comment. The Final CMI Work Plan Design Package for SWMUs 31/32 was submitted in January 2001 and EPA approved in May 2001. The CMI work plan for SWMU 31/32 will be placed out for public comment.

3.2.2 Cost Status

Table 3-2 tracks the cost status of corrective measures performed at NSRR.

3.3 Corrective Measures Implementation

The following subsections describe the project status, as well as the cost status of the Corrective Measures Implementation that has been completed, or currently ongoing at NSRR.

3.3.1 Project Status

There are currently four SWMUs and one AOC for which proposed remediation will be implemented following the public comment period.

The SWMUs for which the proposed corrective measures implementation work plan has been approved include the following:

- SWMU 13
- SWMU 31
- SWMU 32
- SWMU 46
- AOC C

The SWMUs for which the corrective measures implementation work plan has yet to be developed or determined include the following:

- SWMU 7/8
- SWMU 9

The corrective measures implementation work plans for SWMUs 7/8 and 9 will be developed as proposed in their respective CMS reports which are currently being developed.

3.4 Future Projects

Table 3-4 summarizes the current and future RAC projects for NSRR.

4.0 CORRECTIVE ACTION PROGRAM SCHEDULE

The present program schedule is shown on Figure 4-1. The schedule will be updated during each revision of the SMP.

5.0 REFERENCES

Baker Environmental, Inc. (Baker) (1994). Final Supplemental Investigation, Installation Restoration Program Activities, Naval Station Roosevelt Roads, Puerto Rico. April 1994.

Baker. (1994). Draft Final Pre-Investigation Corrective Measures Screening Report, Naval Station Roosevelt Roads, Puerto Rico. April 1994.

Baker. (1995). Final RCRA Facility Investigation Work Plans, Naval Station Roosevelt Roads, Puerto Rico. September 1995.

Baker. (2000). Phase I Environmental Assessment at Malaria Control Building, Building 64, Naval Station Roosevelt Roads, Puerto Rico. March 2000.

CH2MHill. (2000). Phase I Environmental Assessment at Building 1914 NEX, Naval Station Roosevelt Roads, Puerto Rico. February 2000.

Metcalf & Eddy, Inc. (1995). Final Closeout Report for Interim Remedial Action of PCB Contaminated Soils, Sites 15 and 16, Naval Station Roosevelt Roads, Puerto Rico. May 1995.

TABLE 2-1

**SWMU/AOC IDENTIFICATION AND STATUS
SITE MANAGEMENT PLAN
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO**

SWMU	SWMU Name	Former IRP Designation	RFI Required	Operable Unit	Status*	Comments
1	Former Army Cremator Disposal Site	Site 5	Full	3	7	CMS initiated.
2	Langley Drive Disposal Area	Site 6	Full	3	7	CMS Initiated.
3	Base Landfill	Site 7	Full	4	2	Replacement wells installed December 2000. Work plan being developed.
4	Drone Fuel Oil/Water Separator	Site 8	None	--	1	
5	Dumpsters	--	None	--	1	
6	Building 145	Site 11	First Phase	1	8	Final CMS Final Report was submitted June 2001.
7	Tow Way Fuel Farm	Site 12	Full	2	5, 7, 11B	The original free product recovery system remains off-line. The Task I CMS needs to be completed. Additional data collection fieldwork needs to be performed along with a CMS Final Report following approval of Task I CMS.
8	Tow Way Road Sludge Burial Pits	Site 12	Full	2	5, 7, 11B	Combined with SWMU 7 into one unit.
9	Tank 212-217 Sludge Burial Pits	Site 13	Full	2	7	CMS investigations initiated.
10	Substation 2/Building 90	Site 15	Contingent	1	4, 7	CMS underway. No further action recommended in RCRA Part B permit renewal.
11	Old Power Plant/Building 38	Site 16	Full	3	2	The Building 38 interior may require recharacterization. A recharacterization work plan was submitted to EPA in March 1998. Awaiting EPA review.
12	Fire Training Pit Oil/Water Separator	--	First Phase	1	4	No further action proposed in RCRA Part B permit renewal.
13	Old Pest Control Shop/Building 258	Site 18	First Phase	1	8, 10	100% Final CMI Work Plan Design Package submitted January 2001, and EPA approved May 2001. Place CMI work plan out for public comment.
14	Fire Training Pit Area	Site 17	First Phase	1	12	Further action is deferred until site is closed.
15	Base Hospital Incinerator	--	None	--	1	
16	Waste Explosives Storage Building 1666	--	None	--	1	

TABLE 2-1

**SWMU/AOC IDENTIFICATION AND STATUS
SITE MANAGEMENT PLAN
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO**

SWMU	SWMU Name	Former IRP Designation	RFI Required	Operable Unit	Status*	Comments
17	Building 1973 Non-Flammable Hazardous Waste Storage	--	None	--	1	
18	Building 2009 - Ignitable Hazardous Waste Storage	--	None	--	1	
19	Building 121 - Pesticide Storage	Site 21	None	--	1	RCRA closure submitted in June 1994 and approved by USEPA.
20	Tank Truck near Building 860	--	None	--	1	
21	Mobile Floating Tanks	--	None	--	1	
22	Mobile Barges/SWOBS	--	None	--	1	
23	Oil Spill Separator Tanks	Site 21	First Phase	1	4	No further action proposed in the RCRA Part B permit renewal.
24	Oil Spill Oil/Water Separator and Adjoining Pad	Site 22	First Phase	1	4	No further action proposed in the RCRA Part B permit renewal.
25	DRMO Storage Yard	Site 23	First Phase	1	12	Any further investigations at unit will be done in conjunction with closure activities under the RCRA operating permit.
26	Building 544 Area	Site 24	First Phase	1	4	No further action proposed in the RCRA Part B permit renewal.
27	Domestic Sewage Treatment Plant (Capehart Area)	--	None	--	1	
28	Domestic Sewage Treatment Plant (Bundy Area)	--	None	--	1	
29	Wastewater Treatment Plant (Industrial Area)	--	None	--	1	
30	Former Incinerator Area	Site 25	First Phase	1	4	No further action proposed in Part B permit renewal.
31	Waste Oil Collection Area/Building 31 and 2022	Site 26	First Phase	1	8, 10	Final CMI Work Plan Design Package submitted January 2001, and EPA approved in May 2001. CMI work plan to be placed for public comment.

TABLE 2-1

**SWMU/AOC IDENTIFICATION AND STATUS
SITE MANAGEMENT PLAN
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO**

SWMU	SWMU Name	Former IRP Designation	RFI Required	Operable Unit	Status*	Comments
32	PWD Storage Yard/Battery Collection Area	Site 27	First Phase	1	8, 10	Final CMI Work Plan Design Package submitted January 2001, and EPA approved in May 2001. CMI work plan to be placed for public comment.
33	Under 90 Day Storage/Building 379	--	None	--	1	
34	Under 90 Day Storage Airfield	--	None	--	1	
35	Oil/Water Separator Building 396	--	None	--	1	
36	Oil/Water Separator Berthing Pier	--	None	--	1	
37	Waste Oil Storage Area/Building 200	Site 28	First Phase	1	4	No further action proposed in the RCRA Part B permit renewal.
38	Below Ground Sanitary Storm Sewers	Site 29	None	--	1	
39	Building 3158/Former Battery Drain Area	--	First Phase	1	4	No further action proposed in the RCRA Part B permit renewal.
40	Alpha Company Mobile Oil Tank	--	None	--	1	
41	Building 3152 Wash Pad	--	None	--	1	
42	Water Purification Plant Lagoons	--	None	--	1	
43	Drone Wash Down Drainage Ditch	Site 8	None	--	1	
44	Aerial Target Drainage Ditch System	Site 8	None	--	1	
45	PCB Spill Area/Old Power Plant	Site 16	Full	3	7, 11C	A CMS for the sediments in Puerca Bay is planned. A Revised Final II CMS Work Plan was submitted in July 2000, and EPA approved in May 2001. The CMS is initiated.
46	Pole Storage Yard Covered Pad	Site 30	First Phase	1	8, 10	100% Final CMI Work Plan Design Package was submitted in January 2001, and EPA approved in May 2001. Place CMI work plan out for public comment.
47	Satellite Disposal Areas	--	None	--	1	
48	Container Storage Rack/Building 3102	--	None	--	1	
49	500 Gallon Waste Oil Tank/Building 3188	--	None	--	1	
50	Drum Storage Area/Building 3166	--	None	--	1	
51	New AIMD Storage Pad/Building 379	Site 31	First Phase	--	4	No further action proposed in the RCRA Part B permit renewal.

TABLE 2-1

**SWMU/AOC IDENTIFICATION AND STATUS
SITE MANAGEMENT PLAN
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO**

SWMU	SWMU Name	Former IRP Designation	RFI Required	Operable Unit	Status*	Comments
52	Storage Pad near Building 3158	--	None	--	1	
AOC A	Torpedo Shop	--	None	--	1	
AOC B	Building 25 Area	Site 10	Full	6	8	Final CMS Final Report was submitted in June 2001.
AOC C	Transformer Storage Pads	Site 32	First Phase	1	8, 10	100% Final CMI Work Plan Design Package submitted in January 2001, and EPA approved in May 2001. Place CMI work plan out for public comment.
AOC D	Sediments	Site 33	First Phase	7	4	No further action proposed in RCRA part B permit renewal.

Notes: *1 No work required
 2 Investigations pending
 3 Under Investigation
 4 Removal from Permit pending
 5 Additional Investigations required
 6 Corrective Measures Study pending
 7 Corrective Measures Study underway
 8 Corrective Measures Study completed
 9 Remedial Design

10 Remediation Implementation
 11 Interim Corrective Measure
 A Planned
 B Underway
 C Completed
 12 Further action deferred
 -- Not applicable

TABLE 2-2

**CTO COST SUMMARY AND CONTRACT VALUES
SITE MANAGEMENT PLAN
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO**

CTO	Title	Total Funding (\$)	Cost To Date (\$)	Modification	Funds Remaining (\$)	Award Fee Value (\$)	Status	Comments
CLEAN I								
007	RI/FS Roosevelt Roads	829,103	829,008		95		Closed	
015	Miscellaneous Investigations	9,414	9,414		0		Closed	
025	Sewer Inflow Infiltration	382,855	382,854		1		Closed	
028	Wastewater Treatment Plants	647,813	647,813		0		Closed	
039	UST Management Plan	125,515	125,515		0		Closed	
105	Inflow Infiltration	1,458,875	1,457,278		1,597		Closed	
173	RI/FS, Unit IR 16, Roosevelt Roads	95,802	95,470		332		Closed	
223	RFI/CMS Work Plans, NSRR	153,819	148,855		4,964		Closed	
277	IR Sites-RFI, Puerto Rico	3,277,591	3,198,488		79,103	189,863	Ongoing	
296	RAC Design Package, Site 16/SWMU 45, Roosevelt Roads	125,591	116,714		9,877		Closed	
316	Restoration Advisory Board/Community Relations	88,645	87,920		725	7,399	Closed	
357	SI Report, Site Clean-up Requirements for MCON-P504	105,883	75,720		30,163		Closed	
361	Quarterly RCRA Permit Report	84,995	84,979		16	6,616	Closed	

TABLE 2-2

**CTO COST SUMMARY AND CONTRACT VALUES
SITE MANAGEMENT PLAN
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO**

CTO	Title	Total Funding (\$)	Cost To Date (\$)	Modification	Funds Remaining (\$)	Award Fee Value (\$)	Status	Comments
CLEAN II								
30	Site Management Plan Upgrade 97/98, Miscellaneous Support	1,055,733	805,793	01, 02, 03	249,940	98,895	Ongoing	(1)
33	RAC Design Package for Interim Corrective Measure – AOC C	697,178	614,519	01, 02	82,659	75,439	Ongoing	(2)
34	RAC Design Package for Interim Corrective Measure – SWMU 13	752,162	458,432	01, 02	293,730	76,400	Ongoing	(3)
99	RCRA Field Investigations and Additional Site Characterization Investigations (SWMUs 3, 9, 30)	1,055,859	645,257	01, 02	410,602	90,643	Ongoing	(4)
	Totals	10,946,833	9,784,029		1,163,804			

- Notes:**
- (1) Modification 01 for CTO 30 was for Site Management Plan updates for 1999 and 2000 while Modification 03 was for 2001 and 2002.
 - (2) Modifications 01 and 02 for CTO 33, dealt with a master CMS for SWMUs 1, 2, 9, 30, and 45, as well as a screening level ERA for SWMUs 1, 2, 45, and 9, respectively.
 - (3) Modification 02 for CTO 34, dealt with a corrective measure field investigation for the TWFF. Modification 01 (CMS design for TWFF) was negated by the PF Pilot Study.
 - (4) Modification 01 for CTO 99, dealt with sampling and analysis field work and reporting for SWMUs 53 and 54 and Modification 02 dealt with the RFI for SWMUs 53 and 54.

TABLE 2-3

**CONCURRENCE LETTERS
SITE MANAGEMENT PLAN
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO**

CTO	Subject	Type ⁽¹⁾	Date Sent	Navy Sign Date	Approximate Funding (\$)	Work Status
277	Meeting attendance in Puerto Rico	S, C	3/29/96	--	4,400	Trip completed April 1996.
277	Well installation at Base Landfill	S, C	3/29/96	4/3/96	10,500	Installation of well completed.
277	AOC C Emergency Response (soil piles)	S, C	6/7/96	6/11/96	24,200	Soil piles tested and removed.
277	New Commissary parking lot investigations	S, C	7/10/96	7/11/96	23,700	Investigations completed.
277	Aerial photography increased cost	C, T	7/25/96	7/25/96	17,100	Aerial photography and mapping completed.
277	Sludge sampling at Building 38 (pits)	S, C	11/8/96	11/14/96	--	Sampling completed using on-site analysis.
277	Increased scope of reporting at OU 2	S, C	3/31/97	4/7/97	--	Report submitted and approved by EPA.
277	Use of subconsultant - Blasland, Bouck & Lee	C	5/2/97	5/7/97	15,000	Necessary subconsulting obtained.
277	Provision of short-term monitoring services at Tow Way Fuel Farm	S, C	6/30/97	7/8/97	7,200	Monitoring and reporting by subcontractor completed.
277	Additional investigations at SWMUs 9, 10, 26, 31, 32, 46 and AOC B	S, C, T	8/7/97	8/11/97	200,000	Investigations completed; reporting completed.
277	Tow Way Interim Corrective Measure reporting	S, C	10/7/97	10/15/97	56,000	Three reports completed.
277	Corrective Measures Study for the Tow Way	S, C	10/7/97	10/15/97	12,000	Workplan submitted to EPA.
277	Installation of additional wells at the Tow Way	S, C	10/7/97	10/15/97	102,000	Additional wells installed, report submitted January 1998.
277	Validation of Landfill Sampling Data	S, C	6/3/98	6/8/98	2,000	Validation of samples taken by others.
277	Reporting for OU 3/5 RFI	S, C	2/8/99	2/23/99	50,000	EPA comments greatly expanded reporting task over that originally anticipated by the addition of other sampling databases.
138806.PM.PO	Joint Interest Group meeting facilitation (CLEAN II PMO letter)	--	6/20/97	6/23/97	7,200	Meeting held; facilitated by Management Edge.
33	Additional sampling at AOC C (pre-design)	S, C, T	8/8/97	8/19/97	11,000	Sampling completed and report submitted. EPA approved.
33	CMS for SWMU 13, 31/32, and 46/AOC C	S, C, T	4/19/99	5/17/97	34,000	CMS reports submitted and approved. CMI work plans submitted and approved.
33	CMS for SWMUs 10, and 6/AOC B	S, C, T	5/17/01	5/24/01	57,000	Draft CMS for SWMU 10 submitted. SWMU 6/AOC B CMS completed.
33	Additional Data Collection Ecological Work Plan for SWMUs 1, 2, and 45	S, C, T	7/30/01		28,000	Draft Work Plans submitted. EPA approved.
34	Additional sampling at SWMU 13 (pre-design)	S, C, T	8/8/97	8/19/97	--	Sampling completed and report submitted. EPA approved.
34	PF Pilot Study at TWFF	S, C, T	5/19/00	6/27/00	290,000	Pilot Study completed and report submitted.
34	Work Plan for Ecological Risk Assessment at TWFF	S, C, T	8/16/01	9/26/01	21,000	Draft Work Plans submitted.
34	Increase in Field Work for CMS Investigation at TWFF	S, C, T	9/21/01	9/26/01	120,000	Work to begin after EPA approval of work plan.
31	Investigations at SWMU 7 and 31/32	S, C, T	6/10/99	6/25/99		Sampling completed and report submitted.

Notes: ⁽¹⁾ S = Scope

⁽¹⁾ C = Cost

⁽¹⁾ T = Schedule

-- Non Requested

TABLE 2-4

**DOCUMENT STATUS/TRACKING
SITE MANAGEMENT PLAN
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO**

PRE-RCRA DOCUMENTS	Date Submitted
Initial Assessment Study of Naval Station Roosevelt Roads, Puerto Rico	9/84
Evaluation of Data from First Round of Verification Sample Collection and Analysis, Confirmation Study to Determine Possible Dispersion and Migration of Specific Chemicals, U.S. Naval Station Roosevelt Roads, Puerto Rico and U.S. Naval Ammunition Facility, Vieques	5/86
Confirmation Study to Determine Possible Dispersion and Migration of Specific Chemicals, U.S. Naval Station Roosevelt Roads, Puerto Rico and U.S. Naval Station Ammunition Facility, Vieques	4/88
Phase II RCRA Facility Assessment of the U.S. Naval Station Roosevelt Roads Facility, Roosevelt Roads, Puerto Rico	11/88
Draft Report, Volume III, Supplemental Investigation, Installation Restoration Program Activities, Naval Station Roosevelt Roads, Ceiba, Puerto Rico	6/11/93
Draft Geophysical Survey, The Army Cremator Disposal Area (Site 5), Naval Station Roosevelt Roads, Puerto Rico	7/26/93
RCRA Facility Assessment Reinspection of the U.S. Naval Station Roosevelt Roads Facility, Roosevelt Roads, Puerto Rico	1993
Draft Pre-Investigation Corrective Measures Screening Report, Naval Station Roosevelt Roads, Puerto Rico	12/17/93
Draft Final Pre-Investigation Corrective Measures Screening Report, Naval Station Roosevelt Roads, Puerto Rico	4/29/94
Draft Additional Information Analytical Results Provided As an Addendum to Supplemental Investigation, Installation Restoration Program Activities, Naval Station Roosevelt Roads, Ceiba, Puerto Rico	6/24/94
RCRA DOCUMENTS	Date Submitted
RCRA Permit	
Draft RCRA/HSWA of 1984 Permit for U.S. Naval Station Roosevelt Roads, Ceiba, Puerto Rico	1984
NSRR Comments	1/27/94
Final RCRA/HSWA Permit for U.S. Naval Station Roosevelt Roads, Ceiba, Puerto Rico	10/20/94

TABLE 2-4

DOCUMENT STATUS/TRACKING
 SITE MANAGEMENT PLAN
 NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

OU	SWMU	STAGE	ACTIVITY	DATE SUBMITTED	REQUESTED ACTION	
All	All	RFI	Draft RFI Management Plans	3/95		
			EPA comments	6/12/95		
			Final RFI Management Plans	9/95		
			EPA comments	9/29/95	Approved Final RFI Management Plans except for Appendix D.	
			EPA comments	10/15/95		
1	6	RFI	Draft RFI Report for OU 1, 6, and 7	7/96		
			EPA comments	11/8/96	Further investigation required.	
			Draft RFI Report Addendum for OU 1, 6, and 7	1/20/97		
			EPA comments	4/25/97		
			Navy response to comments	6/12/97		
			EPA comments	8/7/97		
			Draft RFI Report Revised Addendum for OU 1, 6, and 7	8/29/97		
			Draft RFI Report for Additional Investigations at OU 1, 6, and 7	5/6/98		
			EPA comments	9/15/98	Revise Risk Assessment.	
			Navy response to comments	11/24/98		
			EPA comments	11/5/99	RFI complete. EPA requested a CMS be developed.	
			CMS	Draft CMS Work Plan	1/7/00	
				EPA comments	3/15/00	Approved CMS Work Plan.
				Navy response to comments	5/30/00	
	Draft CMS Final Report	5/30/00				
	EPA comments	7/5/00				
	Navy response to comments	8/22/00				
	10	ICM	Draft Final CMS Final Report	11/30/00		
			EPA comments	5/4/01	Submit Final CMS Final Report.	
			Navy response to comments	6/21/01		
Final CMS Final Report			6/21/01			
			Work Plan for the Interim Remedial Action Soils	5/15/93		
			Installation Restoration Program Interim Remedial Action Decision Document for the Surface Soils Operable Unit Substation No. 2 (Site 15), Building 90	11/93		

TABLE 2-4

**DOCUMENT STATUS/TRACKING
SITE MANAGEMENT PLAN
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO**

OU	SWMU	STAGE	ACTIVITY	DATE SUBMITTED	REQUESTED ACTION
1 (Cont.)	10 (Cont.)	ICM (Cont.)	Final Closeout Report for Interim Remedial Action of PCB Contaminated Soils Sites 15 & 16	5/95	
		RFI	Draft Relative Risk Ranking System Data Collection Sampling and Analysis Report	11/17/95	
			Draft RFI Report for OU 1, 6, and 7	7/96	
			EPA comments	11/8/96	Further investigation required.
			Draft RFI Report Addendum for OU 1, 6, and 7	1/20/97	
			Final RFI Work Plans Addendum 2	2/28/97	
			EPA comments	4/25/97	
			Navy response to comments	6/12/97	
			Final RFI Work Plans Addendum 2 Revised	6/13/97	
			EPA comments	7/15/97	
			Draft RFI Report for Additional Investigations at OU 1, 6, and 7	5/6/98	
		EPA comments	9/15/98	EPA did not concur or refute the recommendation.	
	EPA comments	3/7/00	EPA requested a CMS to be developed.		
	NFA	RCRA Part B Permit Renewal Application	5/8/00	No further action recommended in renewal application.	
	CMS	Draft CMS Final Report	7/6/01		
	12	RFI	Draft RFI Report for OU 1, 6, and 7	7/96	
			EPA comments	11/8/96	Revise 1996 RFI to address specific comments.
			Draft RFI Report Addendum for OU 1, 6, and 7	1/20/97	
		Draft RFI Report Revised Addendum for OU 1, 6, and 7	8/29/97		
	NFA	RCRA Part B Permit Renewal Application	5/8/00	No further action recommended in renewal application.	
	13	RFI	Draft Relative Risk Ranking System Data Collection Sampling and Analysis Report	11/17/95	
			Draft RFI Report for OU 1, 6, and 7	7/96	
			EPA comments	11/8/96	Further investigation required.
Draft RFI Report Addendum for OU 1, 6, and 7			1/20/97		
Final RFI Work Plans Addendum 2			2/28/97		
EPA comments			4/25/97		
Navy response to comments	6/12/97				

TABLE 2-4

DOCUMENT STATUS/TRACKING
 SITE MANAGEMENT PLAN
 NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

OU	SWMU	STAGE	ACTIVITY	DATE SUBMITTED	REQUESTED ACTION
1 (Cont.)	13 (Cont.)	RFI (Cont.)	Final RFI Work Plans Addendum 2 Revised	6/13/97	
			EPA comments	7/15/97	
			Draft RFI Report for Additional Investigations at OU 1, 6, and 7	5/6/98	
			EPA comments	9/15/98	Submit CMS Work Plans.
			Navy response to comments	11/24/98	
		CMS	EPA comments	2/12/99	Approved Streamlined CMS Outline.
			Draft CMS Final Report	5/3/99	
			EPA comments	7/27/99	
			Final CMS Final Report	9/30/99	
			Navy response to comments	10/8/99	
			EPA comments	12/10/99	
			Navy response to comments	1/13/00	
			Revised Final CMS Final Report	1/26/00	
			EPA comments	3/15/00	
			Navy response to comments	5/30/00	
			Revised Final II CMS Final Report	8/4/00	
			EPA comments	9/15/00	EPA approved Revised Final II CMS Final Report.
			Navy response to comments	11/3/00	
		EPA comments	12/5/00		
		Navy response to comments	1/26/01		
		CMI	Draft CMI Work Plan Design Package	7/10/00	
			EPA comments	9/15/00	
			Navy response to comments	11/3/00	
			Final CMI Work Plan Design Package	11/3/00	
EPA comments	12/5/00				
100% Final CMI Work Plan Design Package	1/25/01				
Navy response to comments	1/26/01				
EPA comments	5/4/01	EPA approved 100% Final CMI Work Plan Design Package. EPA needs to place CMI work plan out for public comment.			

TABLE 2-4

**DOCUMENT STATUS/TRACKING
SITE MANAGEMENT PLAN
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO**

OU	SWMU	STAGE	ACTIVITY	DATE SUBMITTED	REQUESTED ACTION	
1 (Cont.)	14	RFI	Draft RFI Report for OU 1, 6, and 7	7/96		
			EPA comments	11/8/96	Revise 1996 RFI to address specific comments.	
			Draft RFI Report Addendum for OU 1, 6, and 7	1/20/97		
			Navy response to an internal review	1/28/00		
			Draft Human Health Risk Assessment Report	2/4/00		
			EPA comments	7/5/00		
			Navy response to comments	8/22/00		
			Draft Interim Decision Document	11/22/00		
				EPA comments	5/4/01	EPA approved report. Further action deferred till site is closed.
	23	RFI	Draft Relative Risk Ranking System Data Collection Sampling and Analysis Report	11/17/95		
			Draft RFI Report for OU 1, 6, and 7	7/96		
		NFA	RCRA Part B Permit Renewal Application	5/8/00	No further action recommended in renewal application.	
	24	RFI	Draft Relative Risk Ranking System Data Collection Sampling and Analysis Report	11/17/95		
			Draft RFI Report for OU 1, 6, and 7	7/96		
		NFA	RCRA Part B Permit Renewal Application	5/8/00	No further action recommended in renewal application.	
	25	RFI	Draft Relative Risk Ranking System Data Collection Sampling and Analysis Report	11/17/95		
			Draft RFI Report for OU 1, 6, and 7	7/96		
			EPA comments	11/8/96	Further action at the DRMO yard has been deferred until permitted unit is closed.	
			Draft RFI Report Addendum for OU 1, 6, and 7	1/20/97		
	26	RFI	Draft Relative Risk Ranking System Data Collection Sampling and Analysis Report	11/17/95		
			Draft RFI Report for OU 1, 6, and 7	7/96		
			EPA comments	11/8/96	Further investigation required.	
			Draft RFI Report Addendum for OU 1, 6, and 7	1/20/97		
			Final RFI Work Plans Addendum 2	2/28/97		
				EPA comments	4/25/97	

TABLE 2-4

**DOCUMENT STATUS/TRACKING
SITE MANAGEMENT PLAN
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO**

OU	SWMU	STAGE	ACTIVITY	DATE SUBMITTED	REQUESTED ACTION
1 (Cont.)	26 (Cont.)	RFI (Cont.)	Final RFI Work Plans Addendum 2 Revised	6/12/97	
			EPA comments	7/15/97	
			Draft RFI Report for Additional Investigations at OU 1, 6, and 7	5/6/98	
			EPA comments	9/15/98	Revise Risk Assessment.
			Navy response to comments	11/24/98	
			EPA comments	2/12/99	
			Navy response to comments (Revise Risk Assessment)	5/3/99	
		EPA comments	10/27/99	Approved the No Further Action recommendation. RFI complete.	
	NFA	RCRA Part B Permit Renewal Application	5/8/00	No further action recommended in renewal application.	
	30	RFI	Draft Relative Risk Ranking System Data Collection Sampling and Analysis Report	11/17/95	
			Draft RFI Report for OU 1, 6, and 7	7/96	
			EPA comments	11/8/96	No action requested.
			EPA comments	11/14/97	
			Navy response to comments	12/24/97	
			EPA comments	2/11/98	Approved the Work Plan for Additional Data Characterization.
			Navy response to comments	5/6/98	
			Draft RFI Report for SWMU 30	12/10/99	
			EPA comments	1/20/00	Approved the No Further Action recommendation. RFI complete.
		Navy response to comments	2/15/00		
	Final Phase II RFI for SWMU 30	2/15/00			
	NFA	RCRA Part B Permit Renewal Application	5/8/00	No further action recommended in renewal application.	
	31	RFI	Draft Relative Risk Ranking System Data Collection Sampling and Analysis Report	11/17/95	
			Draft RFI Report for OU 1, 6, and 7	7/96	
			EPA comments	11/8/96	Revise Risk Assessment.
			Draft RFI Report Addendum for OU 1, 6, and 7	1/20/97	
			Final RFI Work Plans Addendum 2	2/28/97	

TABLE 2-4

**DOCUMENT STATUS/TRACKING
SITE MANAGEMENT PLAN
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO**

OU	SWMU	STAGE	ACTIVITY	DATE SUBMITTED	REQUESTED ACTION
1 (Cont.)	31 (Cont.)	RFI (Cont.)	EPA comments	4/25/97	
			Final RFI Work Plans Addendum 2 Revised	6/12/97	
			EPA comments	7/15/97	
			Draft RFI for Additional Investigations at OU 1, 6, and 7	5/6/98	
			EPA comments	9/15/98	Submit CMS Work Plans.
			Navy response to comments	11/24/98	
		CMS	EPA comments	2/12/99	Approved Streamlined CMS Outline.
			Navy response to comments	5/3/99	
			Draft Work Plan for Additional Dioxin Sampling	5/28/99	
			EPA comments	6/30/99	Approved the Work Plan for Additional Dioxin Sampling.
			Draft CMS Final Report	1/28/00	
			EPA comments	3/15/00	
			Final CMS Final Report	4/17/00	
		CMI	EPA comments	5/4/00	
			Navy response to comments	5/30/00	
	Draft CMI Work Plan Design Package		8/14/00		
	EPA comments		12/5/00		
	Final CMI Work Plan Design Package		1/25/01		
	32	RFI	Navy response to comments	1/26/01	
			EPA comments	5/4/01	Approved Final CMI Work Plan Design Package. EPA needs to place CMI work plan out for public comment.
			Draft Relative Risk Ranking System Data Collection Sampling and Analysis Report	11/17/95	
			Draft RFI Report for OU 1, 6, and 7	7/96	
			EPA comments	11/8/96	Revise Risk Assessment.
Draft RFI Report Addendum for OU 1, 6, and 7			1/20/97		
Final RFI Work Plans Addendum 2			2/28/97		
Final RFI Work Plans Addendum 2 Revised	6/12/97				
EPA comments	7/15/97				
Draft RFI for Additional Investigations at OU 1, 6, and 7	5/6/98				

TABLE 2-4

**DOCUMENT STATUS/TRACKING
SITE MANAGEMENT PLAN
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO**

OU	SWMU	STAGE	ACTIVITY	DATE SUBMITTED	REQUESTED ACTION
1 (Cont.)	32 (Cont.)	RFI (Cont.)	EPA comments	9/15/98	Submit CMS Work Plans.
			Navy response to comments	11/24/98	
		CMS	EPA comments	2/12/99	Approved Streamlined CMS Outline.
			Navy response to comments	5/3/99	
			Draft Work Plan for Additional Dioxin Sampling	5/28/99	Approved the Work Plan for Additional Dioxin Sampling.
			EPA comments	6/30/99	
			Draft CMS Final Report	1/28/00	
			EPA comments	3/15/00	
			Final CMS Final Report	4/17/00	
			EPA comments	5/4/00	
		Navy response to comments	5/30/00		
		CMI	Draft CMI Work Plan Design Package	8/14/00	Approved Final CMI Work Plan Design Package. EPA needs to place CMI work plan out for public comment.
			EPA comments	12/5/00	
			Final CMI Work Plan Design Package	1/25/01	
	Navy response to comments		1/26/01		
	EPA comments		5/4/01		
	37	RFI	Draft Relative Risk Ranking System Data Collection Sampling and Analysis Report	11/17/95	Revise 1996 RFI to address specific comments.
			Draft RFI Report for OU 1, 6, and 7	7/96	
			EPA comments	11/8/96	
			Draft RFI Report Addendum for OU 1, 6, and 7	1/20/97	
		NFA	RCRA Part B Permit Renewal Application	5/8/00	No further action recommended in renewal application.
	39	RFI	Draft Relative Risk Ranking System Data Collection Sampling and Analysis Report	11/17/95	No further action recommended in renewal application.
			Draft RFI Report for OU 1, 6, and 7	7/96	
		NFA	RCRA Part B Permit Renewal Application	5/8/00	No further action recommended in renewal application.
	46	RFI	Draft Relative Risk Ranking System Data Collection Sampling and Analysis Report	11/17/95	No further action recommended in renewal application.
			Draft RFI Report for OU 1, 6, and 7	7/96	

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**DOCUMENT STATUS/TRACKING
SITE MANAGEMENT PLAN
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO**

OU	SWMU	STAGE	ACTIVITY	DATE SUBMITTED	REQUESTED ACTION
1 (Cont.)	46 (Cont.)	RFI (Cont.)	EPA comments	11/8/96	Further investigation required.
			Draft RFI Report Addendum for OU 1, 6, and 7	1/20/97	
			Final RFI Work Plans Addendum 2	2/28/97	
			EPA comments	4/25/97	
			Navy response to comments	6/12/97	
			Final RFI Work Plans Addendum 2 Revised	6/13/97	
			EPA comments	7/15/97	
			Draft RFI Report for Additional Investigations at OU 1, 6, and 7	5/6/98	
			EPA comments	9/15/98	Submit CMS Work Plans.
		Navy response to comments	11/24/98		
		CMS	EPA comments	2/12/99	Approved Streamlined CMS Outline.
			Draft CMS Final Report	5/3/99	
			EPA comments	7/27/99	
			Final CMS Final Report	9/30/99	
			Navy response to comments	10/8/99	
			EPA comments	12/10/99	
			Navy response to comments	1/13/00	
			Revised Final CMS Final Report	1/26/00	
			EPA comments	3/15/00	
			Navy response to comments	5/30/00	
			Revised Final II CMS Final Report	8/4/00	
			EPA comments	9/15/00	EPA approved Revised Final II CMS Final Report.
			Navy response to comments	11/3/00	
			EPA comments	12/5/00	
			Navy response to comments	1/26/01	
		CMI	Draft CMI Work Plan Design Package	7/10/00	
			EPA comments	9/15/00	
			Navy response to comments	11/3/00	

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DOCUMENT STATUS/TRACKING
 SITE MANAGEMENT PLAN
 NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

OU	SWMU	STAGE	ACTIVITY	DATE SUBMITTED	REQUESTED ACTION
1 (Cont.)	46 (Cont.)	CMI (Cont.)	Final CMI Work Plan Design Package	11/3/00	
			EPA comments	12/5/00	
			100% Final CMI Work Plan Design Package	1/25/01	
			Navy response to comments	1/26/01	
			EPA comments	5/4/01	EPA approved 100% Final CMI Work Plan Design Package. EPA needs to place CMI work plan out for public comment.
	51	RFI	Draft Relative Risk Ranking System Data Collection Sampling and Analysis Report	11/17/95	
			Draft RFI Report for OU 1, 6, and 7	7/96	
		NFA	RCRA Part B Permit Renewal Application	5/8/00	No further action recommended in renewal application.
	AOC C	RFI	Draft Relative Risk Ranking System Data Collection Sampling and Analysis Report	11/17/95	
			Draft RFI Report for OU 1, 6, and 7	7/96	
			EPA comments	11/8/96	Further investigation required.
			Draft RFI Report Addendum for OU 1, 6, and 7	1/20/97	
			Final RFI Work Plans Addendum 2	2/28/97	
			Navy response to comments	6/12/97	
			Final RFI Work Plans Addendum 2 Revised	6/13/97	
			EPA comments	7/15/97	
			Draft RFI Report for Additional Investigations at OU 1, 6, and 7	5/6/98	
			EPA comments	9/15/98	Submit CMS Work Plans.
		Navy response to comments	11/24/98		
		CMS	EPA comments	2/12/99	Approved Streamlined CMS Outline.
Draft CMS Final Report			5/3/99		
EPA comments			7/27/99		
Final CMS Final Report			9/30/99		
Navy response to comments	10/8/99				
EPA comments	12/10/99				

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**DOCUMENT STATUS/TRACKING
SITE MANAGEMENT PLAN
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO**

OU	SWMU	STAGE	ACTIVITY	DATE SUBMITTED	REQUESTED ACTION
1 (Cont.)	AOC C (Cont.)	CMS (Cont.)	Navy response to comments	1/13/00	
			Revised Final CMS Final Report	1/26/00	
			EPA comments	3/15/00	
			Navy response to comments	5/30/00	
			Revised Final II CMS Final Report	8/4/00	
			EPA comments	9/15/00	EPA approved Revised Final II CMS Final Report.
			Navy response to comments	11/3/00	
			EPA comments	12/11/00	
		Navy response to comments	1/26/01		
		CMI	Draft CMI Work Plan Design Package	7/10/00	
			EPA comments	9/15/00	
			Navy response to comments	11/3/00	
			Final CMI Work Plan Design Package	11/3/00	
			EPA comments	12/5/00	
100% Final CMI Work Plan Design Package	1/25/01				
Navy response to comments	1/26/01				
EPA comments	5/4/01	EPA approved 100% Final CMI Work Plan Design Package. EPA needs to place CMI work plan out for public comment.			
6	AOC B	RFI	Draft RFI Report for OU 1, 6, and 7	7/96	
			EPA comments	11/8/96	Further investigation required.
			Draft RFI Report Addendum for OU 1, 6, and 7	1/20/97	
			EPA comments	4/25/97	
			Navy response to comments	6/12/97	
			EPA comments	8/7/97	
			Draft RFI Report Revised Addendum for OU 1, 6, and 7	8/29/97	
			Draft RFI Report for Additional Investigations at OU 1, 6, and 7	5/6/98	
			EPA comments	9/15/98	Revise Risk Assessment.
Navy response to comments	11/24/98				

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DOCUMENT STATUS/TRACKING
 SITE MANAGEMENT PLAN
 NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

OU	SWMU	STAGE	ACTIVITY	DATE SUBMITTED	REQUESTED ACTION
6 (Cont.)	AOC B (Cont.)	RFI (Cont.)	EPA comments	11/5/99	RFI complete. EPA requested a CMS be developed.
		CMS	Draft CMS Work Plan	1/7/00	
			EPA comments	3/15/00	Approved CMS Work Plan.
			Navy response to comments	5/30/00	
			Draft CMS Final Report	5/30/00	
			EPA comments	7/5/00	
			Navy response to comments	8/22/00	
			Draft Final CMS Final Report	11/30/00	
			EPA comments	5/4/01	Submit Final CMS Final Report.
Navy response to comments	6/21/01				
Final CMS Final Report	6/21/01				
7	AOC D	RFI	Draft Relative Risk Ranking System Data Collection Sampling and Analysis Report	11/17/95	
			Draft RFI Report for OU 1, 6, and 7	7/96	
			EPA comments	11/8/96	Further investigation required.
			Draft RFI Report Addendum for OU 1, 6, and 7	1/20/97	
			EPA comments	4/25/97	
			Navy response to comments	6/12/97	
			Draft RFI Report for Additional Investigations at OU 1, 6, and 7	5/6/98	
			EPA comments	9/15/98	Revise Risk Assessment.
			Navy response to comments	11/24/98	
		EPA comments	2/12/99		
Navy response to comments	5/3/99				
NFA	RCRA Part B Permit Renewal Application	5/8/00	No further action recommended in renewal application.		
2	7/8	ICM	July 1995, August 1995, and September 1995 Free Product Recovery Reports	12/28/95	
			January 1996 Free Product Recovery Report	2/14/96	
			EPA comments	2/28/96	
			February 1996 Free Product Recovery Report	3/12/96	
			EPA comments	4/5/96	

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**DOCUMENT STATUS/TRACKING
SITE MANAGEMENT PLAN
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO**

OU	SWMU	STAGE	ACTIVITY	DATE SUBMITTED	REQUESTED ACTION
2 (Cont.)	7/8 (Cont.)	ICM (Cont.)	Navy response to comments	5/1/96	
			Free Product Recovery System Specification Document	5/10/96	
			Free Product Recovery System Work Plan	5/10/96	
			EPA comments	6/20/96	
			Navy response to comments	8/8/96	
			EPA comments	9/13/96	
			Navy response to comments	9/27/96	
			EPA comments	12/13/96	
			Navy response to comments	12/23/96	
			Report on Additional Well Installation at TWFF	3/6/98	
		EPA comments	5/11/98		
		RFI	RFI Work Plans Addendum 1 for TWFF	10/4/95	
			Draft Relative Risk Ranking System Data Collection Sampling and Analysis Report	11/17/95	
			EPA comments	12/6/95	
			Revised Work Plan Addendum 1	1/3/96	
			EPA comments	1/19/96	
			Revised Addendum 1, TWFF - SWMU 7	2/2/96	
			Draft RFI Report for OU 1, 6, and 7	7/96	
			Draft RFI Report for OU 2	9/96	
			EPA comments	3/4/97	
			Revised Draft RFI Report for OU 2 (SWMU 7/8)	6/97	
		EPA comments	9/9/97	Approved Revised Draft RFI Report for OU 2 (SWMU 7/8). A CMS is required.	
		CMSI	Draft CMS Work Plan for TWFF	12/12/97	
			EPA comments	2/11/98	
			Navy response to comments	5/6/98	
			Draft CMS Investigations Report for TWFF	6/30/98	
			EPA comments	10/2/98	Approved Draft CMS Investigations Report for TWFF.

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 SITE MANAGEMENT PLAN
 NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

OU	SWMU	STAGE	ACTIVITY	DATE SUBMITTED	REQUESTED ACTION
2 (Cont.)	7/8 (Cont.)	CMSI (Cont.)	Navy response to comments	12/16/98	
			EPA comments	3/8/99	
			Navy response to comments	4/21/99	
			Final CMS Investigations Report for TWFF	4/21/99	
		CMS	Draft CMS Task I Report	11/30/98	
			EPA comments	3/8/99	
			Revised Section 3.0 of the Draft CMS Task I Report	4/21/99	
			EPA comments	6/30/99	
			Navy response to comments	1/13/00	
			Revised Draft CMS Task I Report	1/21/00	
			EPA comments	5/4/00	
			Navy response to comments	6/29/00	
			EPA comments	10/10/00	
			Navy response to comments	11/8/00	
			Revised Section 3.0 of the Revised Draft CMS Task I Report	1/31/01	
			Draft Additional Data Collection Work Plan	1/31/01	
			EPA comments	5/4/01	Complete Task I CMS.
			Draft Final Additional Data Collection Work Plan	7/6/01	
			EPA comments	8/8/01	
			Final Additional Data Collection Work Plan	9/27/01	
			Draft Work Plan for Ecological Risk Assessment	9/27/01	
			EPA comments electronically	10/12/01	
		Navy response to comments	10/29/01		
		CleanOX® Pilot Test	Final CleanOX® Pilot Test Report	10/99	
		TCE Investigation	Work Plan for TWFF Investigations Related to Detections of TCE	4/21/99	Approved Work Plan for TWFF Investigations Related to Detections of TCE.
			EPA comments	5/12/99	
			Draft TCE Investigation Report	12/10/99	
EPA comments	1/20/00				
	Final TCE Investigation Report	2/15/00			

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**DOCUMENT STATUS/TRACKING
SITE MANAGEMENT PLAN
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO**

OU	SWMU	STAGE	ACTIVITY	DATE SUBMITTED	REQUESTED ACTION
2 (Cont.)	7/8 (Cont.)	Pilot Test	Pilot Scale Remediation Work Plan Insitu Chemical Oxidation For the TWFF	6/15/98	
			Hydraulic Characteristics Evaluation T.O. #9 Free Product Recovery System	8/31/99	
			Draft Work Plan Pilot Test to Evaluate Enhancement of Product Recovery	10/26/99	
			Phase I Work Plan Pilot Test to Evaluate Enhancement of Product Recovery	1/13/00	
			Phase II Work Plan Pilot Test to Evaluate Enhancement of Product Recovery	1/20/00	
			EPA comments	3/3/00	
			Draft Report of Findings Quantification of Product Release Pier 1	3/10/00	
			Report of Findings Quantification of Product Release Pier 1	3/16/00	
			Navy response to comments	5/19/00	
			Draft Pilot Test to Evaluate Enhancement of Product Recovery Report for TWFF SWMU 7/8	10/31/00	
		Navy response to 3/3/00 EPA comments	1/24/01		
		Conceptual Groundwater Model	Conceptual Groundwater Model for TWFF	2/28/01	
			EPA comments	3/19/01	EPA requested during a conference call that the conceptual groundwater model be resubmitted to address EPA comments.
			Resubmission of the Conceptual Groundwater Model for the TWFF	4/27/01	
		Meeting Minutes	EPA comments	5/23/01	
			TWFF Pilot Study Pilot Scale Remediation Work Plan Insitu Chemical Oxidation	9/17/98	
			TWFF Corrective Measures Meeting Minutes	1/19/01	
			Groundwater Model Teleconference Meeting Minutes	3/30/01	
			TWFF Meeting Minutes	4/18/01	
Final TWFF Conceptual Groundwater Model Conference Call Meeting Minutes	6/25/01				

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 SITE MANAGEMENT PLAN
 NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

OU	SWMU	STAGE	ACTIVITY	DATE SUBMITTED	REQUESTED ACTION
2 (Cont.)	9	RFI	Draft RFI Report for OU 2	9/96	
			EPA comments	3/4/97	
			Addendum 3 Work Plan for SWMU 9	5/15/97	
			EPA comments	7/15/97	
			Draft RFI Report for SWMU 9	3/6/98	
			EPA comments	6/15/98	
			Draft RFI Work Plans, Additional Investigations at SWMU 9	9/4/98	
			EPA comments	10/2/98	Approved Draft RFI Work Plans, Additional Investigations at SWMU 9.
			Revised Draft RFI Report for SWMU 9	3/10/00	
		EPA comments	5/4/00	Approved Revised Draft RFI for SWMU 9. A CMS is required.	
		Navy response to comments	7/13/00		
		CMS	Draft CMS Work Plan for SWMU 9	7/14/00	
			EPA comments	9/15/00	
			Navy response to comments	11/12/00	
			Draft Final CMS Work Plan	11/15/00	
			EPA comments	12/5/00	
			Final CMS Work Plan for SWMU 9	1/15/01	
			EPA comments	5/4/01	Approved Final CMS Work Plan for SWMU 9. CMS investigations initiated.
Draft CMS Investigation Report for SWMU 9	7/2/01				
EPA comments	10/4/01				
3/5	1	RFI	Draft Relative Risk Ranking System Data Collection Sampling and Analysis Report	11/17/95	
			Draft RFI Report for OU 1, 6, and 7	7/96	
			Draft RFI Report for OU 3/5	3/20/98	
			EQB comments	5/28/98	
			EPA comments	11/24/98	CMS was requested.
			Navy response to comments	2/19/99	

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**DOCUMENT STATUS/TRACKING
SITE MANAGEMENT PLAN
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO**

OU	SWMU	STAGE	ACTIVITY	DATE SUBMITTED	REQUESTED ACTION
3/5 (Cont.)	1 (Cont.)	RFI (Cont.)	EPA comments	3/8/99	
			Revised Draft RFI Report for OU 3/5	4/1/99	
			EPA comments	9/28/99	Approved the Revised Draft RFI Report for OU 3/5.
		CMS	Draft CMS Work Plans for SWMUs 1, 2, and 45	4/1/99	
			EPA comments	8/11/99	
			Navy response to comments	9/17/99	
			Final CMS Work Plans	10/29/99	
			EPA comments	1/20/00	
			Navy response to comments	2/23/00	
			Revised Final CMS Work Plan	3/10/00	
			EPA comments	5/4/00	
			Navy response to comments	7/13/00	
			Revised Final II CMS Work Plan	7/14/00	
			EPA comments	9/15/00	
	Navy response to comments	10/19/00			
	EPA comments	5/4/01	Approved the Revised Final II CMS Work Plan. CMS initiated.		
	Draft Screening-Level Ecological Risk Assessment Problem Formulation (Step 1) and Exposure Estimate SWMUs 1 and 2	8/10/01			
	Draft Additional Data Collection Work Plan in Support of Ecological Risk Assessment at SWMUs 1 and 2	8/10/01			
	EPA comments	10/4/01	Approved the Draft Additional Data Collection Work Plan in Support of Ecological Risk Assessment.		
	2	RFI	Draft Relative Risk Ranking System Data Collection Sampling and Analysis Report	11/17/95	
Draft RFI Report for OU 1, 6, and 7			7/96		
EPA comments			11/8/96		
Draft RFI Report Addendum for OU 1, 6, and 7			1/20/97		
EPA comments			4/25/97		
Navy response to comments			6/12/97		
Draft RFI Report for OU 3/5			3/20/98		
EQB comments	5/28/98				

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DOCUMENT STATUS/TRACKING
 SITE MANAGEMENT PLAN
 NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

OU	SWMU	STAGE	ACTIVITY	DATE SUBMITTED	REQUESTED ACTION
3/5 (Cont.)	2 (Cont.)	RFI (Cont.)	EPA comments	11/24/98	CMS was requested.
			Navy response to comments	2/19/99	
			EPA comments	3/8/99	
			Revised Draft RFI Report for OU 3/5	4/1/99	
			EPA comments	9/28/99	Approved the Revised Draft RFI Report for OU 3/5.
		CMS	Draft CMS Work Plans	4/1/99	
			EPA comments	8/11/99	
			Navy response to comments	9/17/99	
			Final CMS Work Plans	10/29/99	
			EPA comments	1/20/00	
			Navy response to comments	2/23/00	
			Revised Final CMS Work Plan	3/10/00	
			EPA comments	5/4/00	
			Navy response to comments	7/13/00	
	Revised Final II CMS Work Plan		7/14/00		
	EPA comments		9/15/00		
	Navy response to comments		10/19/00		
	EPA comments		5/4/01	Approved the Revised Final II CMS Work Plan. CMS initiated.	
	Draft Screening-Level Ecological Risk Assessment Problem Formulation (Step 1) and Exposure Estimate SWMUs 1 and 2		8/10/01		
	Draft Additional Data Collection Work Plan in Support of Ecological Risk Assessment at SWMUs 1 and 2		8/10/01		
EPA comments	10/4/01	Approved the Draft Additional Data Collection Work Plan in Support of Ecological Risk Assessment.			
11	RFI	Draft Relative Risk Ranking System Data Collection Sampling and Analysis Report	11/17/95		
		Draft RFI Report for OU 1, 6, and 7	7/96		
		EPA comments	11/8/96		
		Draft RFI Report Addendum for OU 1, 6, and 7	1/20/97		
		Final RFI Work Plans Addendum 2	2/28/97		
EPA comments	4/25/97				

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**DOCUMENT STATUS/TRACKING
SITE MANAGEMENT PLAN
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO**

OU	SWMU	STAGE	ACTIVITY	DATE SUBMITTED	REQUESTED ACTION
3/5 (Cont.)	11 (Cont.)	RFI (Cont.)	Navy response to comments	6/12/97	
			Final RFI Work Plans Addendum 2 Revised	6/13/97	
			EPA comments	7/15/97	
			Draft RFI Report for OU 3/5	3/20/98	
			SWMU 11 - Building 38 Old Power Plant Sampling Results and Recharacterization Work Plan	3/31/98	
			EQB comments	5/28/98	
			EPA comments	11/24/98	CMS was requested.
			Navy response to comments	2/19/99	
			EPA comments	3/8/99	
	Revised Draft RFI Report for OU 3/5	4/1/99			
	EPA comments	9/28/99	Approved the Revised Draft RFI Report for OU 3/5.		
	45	ICM	Remedial Action Alternatives Analysis For the Old Power Plant, Building 38, Site 16 Confirmation Study to Determine Possible Dispersion and Migration of Specific Chemicals	5/88	
			Draft Implementation Plan/Fee Proposal Remedial Action Contract Design Package Site 16/SWMU 45 Interim Corrective Measure	12/6/94	
			Final Implementation Plan/Fee Proposal Remedial Action Contract Design Package Site 16/SWMU 45 Interim Corrective Measure	1/11/95	
			Draft Work Plan for Site 16, SWMU 45	2/7/95	
			EPA comments	2/15/95	
			Preparation of RAC Design Package for Site 16/SWMU 45 Interim Corrective Measure	2/21/95	
			Final Work Plan for Site 16, SWMU 45	2/21/95	
			Navy response to comments	2/21/95	
Draft Final Engineering Report for Site 16/SWMU 45			4/12/95		
Final Engineering Report for Site 16/SWMU 45			5/24/95		
Final Closeout Report for Interim Remedial Action of PCB Contaminated Soils Sites 15 & 16	5/95				
60% RAC Design Package for SWMU 45/Site16	8/11/95				
Interim Corrective Measure at SWMU 45	8/11/95				
EPA comments	9/15/95				

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**DOCUMENT STATUS/TRACKING
SITE MANAGEMENT PLAN
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO**

OU	SWMU	STAGE	ACTIVITY	DATE SUBMITTED	REQUESTED ACTION
3/5 (Cont.)	45 (Cont.)	ICM (Cont.)	100% Design for SWMU 45	10/17/95	
			Navy response to comments	10/17/95	
			Revised Final RAC Design for SWMU 45	12/11/95	
			SWMU 45 Work Plan for Tank and Cooling Tunnels	4/12/96	
			EPA comments	4/30/96	
			Revised Sampling, Analysis, and Quality Assurance Plan for Tank Closure, SWMU 45	4/30/96	
			Final Work Plan for Tank Closure(s) at SWMU 45	5/15/96	
			EPA comments	3/31/97	
			Navy response to comments	5/5/97	
		Final Closeout Report for Cooling Water Tunnels and Underground Storage Tanks at SWMU 45	6/17/97		
		RFI	Draft RFI Report for OU 1, 6, and 7	7/96	
			EPA comments	11/8/96	
			Draft RFI Report Addendum for OU 1, 6, and 7	1/20/97	
			Final RFI Work Plans Addendum 2	2/28/97	
			EPA comments	4/25/97	
			Navy response to comments	6/12/97	
			Final RFI Work Plans Addendum 2 Revised	6/13/97	
			EPA comments	7/15/97	
			Draft RFI Report for OU 3/5	3/20/98	
			EQB comments	5/28/98	
			EPA comments	11/24/98	CMS was requested.
			Navy response to comments	2/19/99	
			EPA comments	3/8/99	
			Revised Draft RFI Report for OU 3/5	4/1/99	
			EPA comments	9/28/99	Approved the Revised Draft RFI Report for OU 3/5.
		CMS	Draft CMS Work Plans for SWMUs 1, 2, and 45	4/1/99	
			EPA comments	8/11/99	
			Navy response to comments	9/17/99	
			Final CMS Work Plans	10/29/99	

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**DOCUMENT STATUS/TRACKING
SITE MANAGEMENT PLAN
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO**

OU	SWMU	STAGE	ACTIVITY	DATE SUBMITTED	REQUESTED ACTION
3/5 (Cont.)	45 (Cont.)	CMS (Cont.)	EPA comments	1/20/00	
			Navy response to comments	2/23/00	
			Revised Final CMS Work Plan	3/10/00	
			EPA comments	5/4/00	
			Navy response to comments	7/13/00	
			Revised Final II CMS Work Plans	7/14/00	
			EPA comments	9/15/00	
			Navy response to comments	10/19/00	
			EPA comments	5/4/01	Approved the Revised Final II CMS Work Plan for SWMU 45. CMS initiated.
			Draft Screening-Level Ecological Risk Assessment Problem Formulation (Step 1) and Exposure Estimate SWMU 45	8/10/01	
			Draft Additional Data Collection Work Plan in Support of Ecological Risk Assessment at SWMU 45	8/10/01	
	EPA comments	10/4/01	Approved the Draft Additional Data Collection Work Plan in Support of Ecological Risk Assessment.		
4	3	RFI	Draft Relative Risk Ranking System Data Collection Sampling and Analysis Report	11/17/95	
	53 and 54	New SWMUs	Draft Sampling and Analysis Plan for SWMUs 53 and 54	8/4/00	Approved the Draft Sampling and Analysis Plan for SWMUs 53 and 54.
			EPA comments	10/10/00	
			Draft Sampling and Analysis Report for SWMUs 53 and 54	4/11/01	
			EPA comments	7/5/01	
		Final Sampling and Analysis Report for SWMUs 53 and 54	8/27/01		
	RFI	Draft RFI Work Plan for SWMUs 53 and 54	8/27/01		

TABLE 2-4

**DOCUMENT STATUS/TRACKING
SITE MANAGEMENT PLAN
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO**

TWFF QUARTERLY REPORTS	DATE SUBMITTED	COMMENTS
Tow Way Fuel Farm Quarterly Summary Report No. 1, Naval Station Roosevelt Roads, Ceiba, Puerto Rico	6/3/97	Report summarized O&M reports and reanalyzed groundwater flow and free product occurrence.
Tow Way Fuel Farm Quarterly Summary Report No. 2, Naval Station Roosevelt Roads, Ceiba, Puerto Rico	8/29/97	Recommended the installation of additional monitoring/recovery wells at the Tow Way.
Tow Way Fuel Farm Quarterly Summary Report No. 3, Naval Station Roosevelt Roads, Ceiba, Puerto Rico	12/10/97	EPA comments submitted 2/11/98.
Tow Way Fuel Farm Quarterly Summary Report No. 4, Naval Station Roosevelt Roads, Ceiba, Puerto Rico	3/6/98	EPA comments submitted 5/11/98.
Tow Way Fuel Farm Quarterly Summary Report No. 5, Naval Station Roosevelt Roads, Ceiba, Puerto Rico	6/5/98	
Tow Way Fuel Farm Quarterly Summary Report No. 6, Naval Station Roosevelt Roads, Ceiba, Puerto Rico	9/4/98	
Tow Way Fuel Farm Quarterly Summary Report No. 7, Naval Station Roosevelt Roads, Ceiba, Puerto Rico	12/4/98	
Tow Way Fuel Farm Quarterly Summary Report No. 8, Naval Station Roosevelt Roads, Ceiba, Puerto Rico	2/26/99	
Tow Way Fuel Farm Quarterly Summary Report No. 9, Naval Station Roosevelt Roads, Ceiba, Puerto Rico	5/28/99	
Tow Way Fuel Farm Quarterly Summary Report No. 10, Naval Station Roosevelt Roads, Ceiba, Puerto Rico	8/31/99	
Tow Way Fuel Farm Quarterly Summary Report No. 11, Naval Station Roosevelt Roads, Ceiba, Puerto Rico	11/30/99	
Tow Way Fuel Farm Quarterly Summary Report No. 12, Naval Station Roosevelt Roads, Ceiba, Puerto Rico	2/29/00	
Tow Way Fuel Farm Quarterly Summary Report No. 13, Naval Station Roosevelt Roads, Ceiba, Puerto Rico	5/31/00	

TABLE 2-4

**DOCUMENT STATUS/TRACKING
SITE MANAGEMENT PLAN
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO**

RCRA QUARTERLY PROGRESS REPORTS	DATE SUBMITTED	COMMENTS
RCRA Final Permit Required Quarterly Progress Report, Period 11/29/94 - 4/30/95, Naval Station Roosevelt Roads, Ceiba, Puerto Rico	5/30/95	
RCRA Final Permit Required Quarterly Progress Report, Period 5/1/95 - 7/31/95, Naval Station Roosevelt Roads, Ceiba, Puerto Rico	8/25/95	EPA comments submitted 7/27/95.
RCRA Final Permit Required Quarterly Progress Report, Period 8/1/95 - 10/31/95, Naval Station Roosevelt Roads, Ceiba, Puerto Rico	10/31/95	EPA comments submitted 2/28/96.
RCRA Final Permit Required Quarterly Progress Report, Period 11/1/95 - 1/31/96, Naval Station Roosevelt Roads, Ceiba, Puerto Rico	2/28/96	
RCRA Final Permit Required Quarterly Progress Report, Period 2/1/96 - 4/30/96, Naval Station Roosevelt Roads, Ceiba, Puerto Rico	5/30/96	EPA comments submitted 6/20/96.
RCRA Final Permit Required Quarterly Progress Report, Period 5/1/96 - 7/31/96, Naval Station Roosevelt Roads, Ceiba, Puerto Rico	8/30/96	
RCRA Final Permit Required Quarterly Progress Report, Period 8/1/96 - 10/31/96, Naval Station Roosevelt Roads, Ceiba, Puerto Rico	11/27/96	
RCRA Final Permit Required Quarterly Progress Report, Period 11/1/96 - 1/31/97, Naval Station Roosevelt Roads, Ceiba, Puerto Rico	2/28/97	EPA comments submitted 3/7/97. Navy response to comments 4/8/97.
RCRA Final Permit Required Quarterly Progress Report, Period 2/1/97 - 4/30/97, Naval Station Roosevelt Roads, Ceiba, Puerto Rico	5/30/97	
RCRA Final Permit Required Quarterly Progress Report, Period 5/1/97 - 7/31/97, Naval Station Roosevelt Roads, Ceiba, Puerto Rico	9/11/97	
RCRA Final Permit Required Quarterly Progress Report, Period 8/1/97 - 10/31/97, Naval Station Roosevelt Roads, Ceiba, Puerto Rico	12/3/97	EPA comments submitted 2/11/96.
RCRA Final Permit Required Quarterly Progress Report, Period 11/1/97 - 1/31/98, Naval Station Roosevelt Roads, Ceiba, Puerto Rico	3/6/98	
RCRA Final Permit Required Quarterly Progress Report, Period 2/1/98 - 4/30/98, Naval Station Roosevelt Roads, Ceiba, Puerto Rico	6/5/98	
RCRA Final Permit Required Quarterly Progress Report, Period 5/1/98 - 7/31/98, Naval Station Roosevelt Roads, Ceiba, Puerto Rico	9/4/98	
RCRA Final Permit Required Quarterly Progress Report, Period 8/1/98 - 10/31/98, Naval Station Roosevelt Roads, Ceiba, Puerto Rico	12/4/98	

TABLE 2-4

**DOCUMENT STATUS/TRACKING
SITE MANAGEMENT PLAN
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO**

RCRA QUARTERLY PROGRESS REPORTS (Cont.)	DATE SUBMITTED	COMMENTS
RCRA Final Permit Required Quarterly Progress Report, Period 11/1/98 - 1/30/99, Naval Station Roosevelt Roads, Ceiba, Puerto Rico	2/26/99	
RCRA Final Permit Required Quarterly Progress Report, Period 2/1/99 - 4/30/99, Naval Station Roosevelt Roads, Ceiba, Puerto Rico	5/28/99	
RCRA Final Permit Required Quarterly Progress Report, Period 5/1/99 - 7/31/99, Naval Station Roosevelt Roads, Ceiba, Puerto Rico	8/31/99	
RCRA Final Permit Required Quarterly Progress Report, Period 8/1/99 - 10/31/99, Naval Station Roosevelt Roads, Ceiba, Puerto Rico	11/30/99	
RCRA Final Permit Required Quarterly Progress Report, Period 11/1/99 - 1/31/00, Naval Station Roosevelt Roads, Ceiba, Puerto Rico	2/29/00	
RCRA Final Permit Required Quarterly Progress Report, Period 2/1/00 - 4/30/00, Naval Station Roosevelt Roads, Ceiba, Puerto Rico	5/31/00	

RCRA QUARTERLY PROGRESS REPORTS WITH THE TWFF QUARTERLY SUMMARY REPORT AS AN ATTACHMENT	DATE SUBMITTED	COMMENTS
RCRA Final Permit Required Quarterly Progress Report, Period 5/1/00 - 7/31/00, Tow Way Fuel Farm Summary Progress Report No. 14, Naval Station Roosevelt Roads, Ceiba, Puerto Rico	8/31/00	
RCRA Final Permit Required Quarterly Progress Report, Period 8/1/00 - 10/31/00, Tow Way Fuel Farm Summary Progress Report No. 15, Naval Station Roosevelt Roads, Ceiba, Puerto Rico	11/30/00	
RCRA Final Permit Required Quarterly Progress Report, Period 11/1/00 - 1/31/01, Tow Way Fuel Farm Summary Progress Report No. 16, Naval Station Roosevelt Roads, Ceiba, Puerto Rico	2/28/01	
RCRA Final Permit Required Quarterly Progress Report, Period 2/1/00 - 4/30/01, Tow Way Fuel Farm Summary Progress Report No. 17, Naval Station Roosevelt Roads, Ceiba, Puerto Rico	5/31/01	
RCRA Final Permit Required Quarterly Progress Report, Period 5/1/01 - 7/31/01, Tow Way Fuel Farm Summary Progress Report No. 18, Naval Station Roosevelt Roads, Ceiba, Puerto Rico	8/31/01	

GUIDANCE DOCUMENTS	DATE SUBMITTED	COMMENTS
Navy Policy for Conducting Ecological Risk Assessment	4/5/99	

TABLE 2-4

**DOCUMENT STATUS/TRACKING
SITE MANAGEMENT PLAN
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO**

JOINT INTEREST GROUP MEETING MINUTES	DATE SUBMITTED	COMMENTS
Joint Interest Group Meeting held on June 23 - 24, 1998 in Puerto Rico	8/4/98	
Joint Interest Group Meeting held on March 9 - 10, 1999 in Puerto Rico	4/14/99	
Joint Interest Group Meeting held on December 1 - 2, 1999 in Puerto Rico	12/1/99	
Joint Interest Group Meeting held on May 11 - 12, 2000 in Puerto Rico	8/9/00	

JOINT INTEREST GROUP CONFERENCE CALL MEETING MINUTES	DATE SUBMITTED	COMMENTS
Joint Interest Group Conference Call held on August 4, 1998	8/11/98	
Joint Interest Group Conference Call held on September 8, 1998	9/24/98	
Joint Interest Group Conference Call held on October 7, 1998	10/12/98	
Joint Interest Group Conference Call held on November 4, 1998	11/13/98	
Joint Interest Group Conference Call held on December 8, 1998	12/29/98	
Joint Interest Group Conference Call held on January 7, 1999	1/12/99	
Joint Interest Group Conference Call held on April 13, 1999	4/14/99	
Joint Interest Group Conference Call held on February 2, 1999	4/14/99	
Joint Interest Group Conference Call held on May 12, 1999	5/13/99	
Joint Interest Group Conference Call held on July 6, 1999	7/9/99	
Joint Interest Group Conference Call held on October 5, 1999	10/18/99	
Joint Interest Group Conference Call held on January 11, 2000	1/28/00	
Joint Interest Group Conference Call held on February 1, 2000	2/25/00	
Joint Interest Group Conference Call held on March 7, 2000	3/17/00	
Joint Interest Group Conference Call held on September 19, 2000	9/28/00	
Joint Interest Group Conference Call held on October 16, 2000	10/25/00	
Joint Interest Group Conference Call held on November 8, 2000	11/20/00	
Joint Interest Group Conference Call held on March 19, 2001	4/18/01	

SITE MANAGEMENT PLAN	DATE SUBMITTED	COMMENTS
Site Management Plan, Naval Station Roosevelt Roads, Ceiba, Puerto Rico	3/1/99	
Site Management Plan, Naval Station Roosevelt Roads, Ceiba, Puerto Rico	10/2/01	

TABLE 3-1

**INTERIM CORRECTIVE MEASURES COST STATUS
SITE MANGEMENT PLAN
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO**

SWMU	Description of ICM	Funded Amount (\$)	Expended Amount (\$)	Status	Comments
19	RCRA Closure of a Pesticide Storage Building			Complete	RCRA closure approved by EPA.
11/45	PCB Contaminated Soils Removal - Building 38			Complete	Project close-out report approved by EPA.
10	PCB Contaminated Soils Removal - Substation 90			Complete	Project close-out report approved by EPA.
11/45	Cooling Water Tunnels and USTs Closure			Complete	Project close-out report approved by EPA.
7/8	Two Way Fuel Farm Free Project Recovery System	774,504	770,000	Ongoing	
	Totals	774,504	770,000		

TABLE 3-2

**CORRECTIVE MEASURES COST STATUS
SITE MANAGEMENT PLAN
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO**

SWMU	Corrective Measure	Funded Amount (\$)	Expended Amount (\$)	Status	Comments
1	Yet to be determined	380,000		Initiated	EPA approved CMS work plan.
2	Yet to be determined	380,000		Initiated	EPA approved CMS work plan.
6	No further action required	57,000		Completed	Submitted Final CMS Final Report.
7/8	Yet to be determined			Initiated	Finalizing Task I CMS.
9	Yet to be determined	380,000		Initiated	Submitted Draft CMS Investigation Report.
10	No further action required	57,000		Initiated	Draft CMS Final Report submitted. No further action recommended in RCRA Part B permit renewal.
13	Excavation and off-site disposal/treatment	34,000		Completed	EPA approved Revised Final II CMS Final Report.
31/32	Asphalt cap over non-paved area	34,000		Completed	EPA approved Final CMS Final Report.
45	Yet to be determined	380,000		Initiated	EPA approved Revised Final II CMS work plan.
46	Excavation and off-site disposal	34,000		Completed	EPA approved Revised Final II CMS Final Report.
AOC B	No further action required	57,000		Completed	Submitted Final CMS Final Report.
AOC C	Excavation and off-site disposal	34,000		Completed	EPA approved Revised Final II CMS Final Report.
	Totals	471,000			

Notes:

\$380,000 is the total amount funded for SWMUs 1, 2, 45, and 9.

\$57,000 is the total amount funded for SWMUs 6/AOC B and 10.

\$34,000 is the total amount funded for the CMS for SWMUs 13, 46/AOC C, and 31/32.

TABLE 3-3

**CORRECTIVE MEASURES IMPLEMENTATION COST STATUS
SITE MANAGEMENT PLAN
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO**

SWMU	Corrective Measures Implementation	Funded Amount (\$)	Expended Amount (\$)	Status	Comments
13	Removal of pesticide and total cPAH contaminated sediments	106,000		(1)	EPA approved 100% Final CMI Work Plan Design Package.
46/AOC C	Removal of pesticide and total cPAH contaminated sediments	151,000		(1)	EPA approved 100% Final CMI Work Plan Design Package.
31/32	Capping and isolating dioxin contaminated surface soils			(1)	EPA approved Final CMI Work Plan Design Package.
7/8	To be developed in CMS	226,000		(2)	SWMU is still in CMS stage.
9	Unknown			(3)	Status of SWMU 9 moving to CMI has yet to be determined.
	Totals	483,000			

- Notes:**
- (1) Awaiting public comment.
 - (2) Needs to be developed.
 - (3) Yet to be determined.

TABLE 3-4

**CURRENT AND FUTURE RAC PROJECTS COST STATUS
SITE MANAGEMENT PLAN
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO**

Site	Description of RAC Project	Estimated Cost (\$)	Estimated Schedule (\$)	Status	Comments
13	Removal of pesticide and total cPAH contaminated sediments	142,000		(1)	CMI needs to go out for public comment before implementation can occur.
46/AOC C	Removal of pesticide and total cPAH contaminated sediments	142,000		(1)	CMI needs to go out for public comment before implementation can occur.
31/32	Capping and isolating dioxin contaminated surface soils	79,000		(1)	CMI needs to go out for public comment before implementation can occur.
7/8	Phase separated hydrocarbon removal			Ongoing	Original free product recovery system off-line.
	Totals	221,000			

Note: (1) Awaiting public comment.

\$142,000 is the total estimated cost of the RAC project for SWMUs 13 and 46/AOC C.

FIGURES
