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CORRECTIVE MEASURES IMPLEMENTATION PLAN FOR SOLID WASTE MANAGEMENT
UNIT 15 (SWMU 15) OLD PESTICIDE HANDLING AREA NS MAYPORT FL
3/9/2007
FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

**NAVAL STATION MAYPORT
CORRECTIVE MEASURES IMPLEMENTATION PLAN
OLD PESTICIDE HANDLING AREA
SOLID WASTE MANAGEMENT UNIT 15**

FACILITY IDENTIFICATION NUMBER FL9 170 024 260

1. OBJECTIVE

A Resource Conservation and Recovery Act (RCRA) Statement of Basis (SB) for Solid Waste Management Unit (SWMU) 15, the Old Pesticide Handling Area, which completed public comment on October 18, 2002. The SB stipulated the implementation of Land Use Controls (LUCs) including Engineering Controls (ECs) and Institutional Controls (ICs), and monitored natural attenuation (MNA) to prevent unacceptable human health risks from exposure to contaminated surface soil or groundwater at SWMU 15. The objective of this Corrective Measures Implementation Plan (CMIP) is to ensure the Corrective Measures selected in the SB are implemented and maintained for SWMU 15 on Naval Station (NAVSTA) Mayport.

Pursuant to RCRA, as amended by the 1984 Hazardous and Solid Waste Amendments (HSWA), the Florida Department of Environmental Protection (FDEP) issued the current HSWA permit to NAVSTA Mayport on August 30, 2005. The HSWA permit requires the CMIP to include identification of the LUC objectives.

The requirements set forth in this CMIP shall supersede the requirements of the LUC Memorandum of Agreement (MOA) signed on September 7, 1999, by the United States Navy (Navy), United States Environmental Protection Agency (USEPA), and FDEP. The inspections and reporting requirements described herein will be effective immediately upon approval of this CMIP by the FDEP. Once put into effect, the requirements set forth in this document will remain applicable to SWMU 15 during Navy ownership as well as subsequent ownership of the SWMU unless otherwise amended by the Navy and with FDEP concurrence.

2. SWMU DESCRIPTION AND BACKGROUND

SWMU 15 is located in the northwestern part of NAVSTA Mayport. It is approximately 350 feet east of the western boundary of the installation and approximately 700 feet west of Runway 23/5. Pesticides and the application equipment were stored in a shed at SWMU 15 during 1963 and 1964. Pesticides were mixed and equipment was washed at the site. Pesticides may have infiltrated the surface soil from equipment washing and/or pesticide mixing practices. No pesticides are currently stored or handled at the site.

The RCRA Facility Investigation (RFI) and Corrective Measures Study (CMS) for SWMU 15 were submitted to the FDEP in January 1996 and August 2002, respectively. The RFI concluded that SWMU 15 has been impacted by low concentrations of pesticides and arsenic in the soil and groundwater. Corrective measures recommended in the CMS and selected in the SB are LUCs including ECs and ICs, and MNA. An EC (impermeable cap) has been installed to prevent exposure to surface soils containing contaminants of concern (COCs) in excess of the FDEP Direct Exposure Residential Soil Cleanup Target Levels (SCTLs), to prevent the leaching of soil COCs to

groundwater, and to reduce ecological receptor exposure . ICs are in place to prevent the site from being used for residential purposes. MNA is being used to track the progress of COC reductions in groundwater. LUCs will be maintained until the concentrations of COCs in the soil and groundwater are at such levels to allow for the unrestricted use of the SWMU 15 property as determined by the FDEP.

The corresponding soil and groundwater LUC areas cover approximately 0.95 acres and 0.86 acres, respectively, and are used for parking (see Attachment 1). The Navy plans to continue to use SWMU 15 for industrial operations. A table detailing the COCs for their respective media is presented below:

SWMU 15 COCs

Media of Concern	COCs
Surface Soil	<ul style="list-style-type: none"> • Arsenic • Alpha- hexachlorocyclohexane (BHC) • Beta-BHC • Gamma-BHC • Chlordane • Chromium • p,p'-dichlorodiphenyltrichloroethane (4,4'-DDT) • p,p'-dichlorodiphenyldichloroethylene (4,4'-DDE) • p,p'-dichlorodiphenyldichloroethane (4,4'-DDD) • Lead • Heptachlor epoxide • Total phthalates • Vanadium • Zinc
Groundwater	<ul style="list-style-type: none"> • Alpha-BHC • Beta-BHC • 4,4'-DDT • 4,4'-DDE • 4,4'-DDD • Arsenic • Chromium • Lead • Total phthalates • Vanadium • Zinc

3. CORRECTIVE MEASURES

a. Engineering Controls: The following are the Corrective Measures for the EC corrective actions to be implemented at SWMU 15:

1. Maintain existing soil cap over surface soil area contaminated with arsenic, alpha-BHC, beta-BHC, gamma-BHC, chlordane; chromium, 4,4'-DDT, 4,4'-DDE, 4,4'-DDD, lead, heptachlor epoxide, total phthalates, vanadium, and zinc in excess of FDEP Direct Exposure Residential SCTLs, ecological exposure levels, and leaching criteria.

Figure 2 (Attachment 1) shows the impacted area of soil contamination. The EC for soil capping applies to the area contained within the LUC boundary (approximately 0.95 acres) (see Figure 2). Any damage to the soil cap (e.g., potholes, missing segments, or severely cracked/eroded areas, etc.) discovered during inspection shall be repaired with materials comparable to the existing cap materials within 30 days from the time of discovery. In the event such cap disturbances are discovered, temporary controls shall be implemented within 5 days of discovery until the permanent ECs are restored.

2. Monitor the SWMU 15 groundwater semi-annually to assess the natural attenuation of the following COCs:
 - Alpha-BHC
 - Beta-BHC
 - Total phthalates
 - 4,4'-DDT
 - 4,4'-DDE
 - 4,4'-DDD

Monitor SWMU 15 groundwater semi-annually to assess possible contaminant migration of the following:

- Alpha-BHC
- Beta-BHC
- Arsenic
- Chromium
- 4,4'-DDT
- 4,4'-DDE
- 4,4'-DDD
- Lead
- Total phthalates
- Vanadium
- Zinc

Figure 1 (Attachment 1) shows the impacted area of groundwater contamination.

At the conclusion of each monitoring event at the SWMU, a report will be submitted to the FDEP no later than 60 days after laboratory results have been made final. In the event two consecutive monitoring events determine that detections of alpha-BHC, beta-BHC, 4,4'-DDT, 4,4'-DDE, 4,4'-DDD, and total phthalates in groundwater at SWMU 15 are below FDEP Groundwater Cleanup Target Levels (GCTLs), then the EC for MNA may be terminated upon the approval of the FDEP.

- b. Institutional Controls:** The following are the Corrective Measures for the LUC corrective action to be implemented at SWMU 15 until such time as the concentrations of COCs in the soil and groundwater are at levels to allow for unrestricted use:
1. Prevent disturbance of the concrete/asphalt caps covering soil contamination unless prior written approval is obtained from the Navy and FDEP.
 2. Prohibit the excavation of the cap and uncontrolled removal/disturbance and soil containing COC concentrations in excess of FDEP Direct Exposure Residential SCTLs unless prior written approval is obtained from the FDEP.
 3. Prevent exposure to contaminated groundwater underlying SWMU 15 including, but not limited to, human consumption, dewatering, irrigation, heating/cooling purposes, and industrial processes, unless prior written approval is obtained from the FDEP.
 4. Prohibit residential development or use of the SWMU until corrective measure(s) allow for unrestricted use. Prohibited residential development and uses shall include, but are not limited to, any form of housing, child-care facilities, pre-schools, elementary schools, secondary schools, playgrounds, or full-time adult convalescent or nursing care facilities.
 5. Maintain the integrity of any existing or future monitoring or remediation system(s).

4. CORRECTIVE ACTION IMPLEMENTATION

The following implementation actions shall be executed by the Navy to ensure that the Corrective Measures for SWMU 15 are met and maintained:

- a. CMIP Distribution:** Within 30 days of receiving FDEP approval of this CMIP, the Navy will place the CMIP in the Information Repository located at the Jacksonville Public Library – Beaches Branch, 600 3rd Street, Neptune Beach, Florida, 32266, (904) 241-1141.
- b. Implementing Corrective Actions:** Semi-annual monitoring to assess natural attenuation parameters and possible contaminant migration at SWMU 15 shall begin within 6 months of the approval of this CMIP. Likewise, any additional soil capping required to cover the impacted area of soil contamination at SWMU 15 shall be completed within 6 months of the approval of this CMIP.
- c. SWMU Inspections:** Beginning upon approval of this CMIP, the Navy will conduct annual physical inspections of SWMU 15 to confirm compliance with Corrective Measures. Any activity inconsistent with the Corrective Measures objectives or use restrictions, or any other action that may interfere with the effectiveness of the Corrective Measures, will be addressed by the Navy upon discovery.
- d. Compliance Reporting:** Upon approval of this CMIP, the Navy will provide to the FDEP an annual Corrective Measures Compliance Certificate (consistent with Attachment 2) after inspection of SWMU 15 has been completed. A summary of the

annual analytical results shall accompany the Corrective Measures Compliance Certificate. In addition, should any deficiencies be discovered during annual inspection, the Navy will provide FDEP a written description of the deficiencies and the measures that are proposed to correct the deficiencies.

- e. **Five Year Reviews:** The Navy shall conduct five-year reviews of the SWMU 15 Corrective Measures as outlined in the CMS.
- f. **Notice of Planned Property Conveyances:** Although the Navy may later transfer these procedural responsibilities to another party by contract, property transfer agreement, or through other means, the Navy shall retain ultimate responsibility for Corrective Measures integrity. In the event of any conveyance of the SWMU 15 property to any other agency, person, or entity, the Navy shall provide notice to the FDEP of such intended conveyance at least 6 months prior to the conveyance. If it is not possible for the Navy to notify the FDEP at least 6 months prior to the conveyance, then the Navy will notify FDEP as soon as possible, but no later than 60 days prior to the conveyance. The notice shall describe the mechanism for maintenance of Corrective Measures and the responsible party. In the event of a property transfer, the Navy and FDEP shall have the opportunity to review the intended deed restrictions.
- g. **Changes and Termination of Corrective Measures:** The Navy shall not modify or terminate Corrective Measures, implementation actions, or modify land use without approval by the FDEP. The Navy shall seek prior concurrence before any anticipated action that may disrupt the effectiveness of the Corrective Measures or any action that may alter or negate the need for Corrective Measures. When the Navy determines, with the FDEP concurrence, that one or more of the Corrective Measures at SWMU 15 are no longer needed for protection of human health and the environment, the Navy shall complete the appropriate documentation.

5. POINTS OF CONTACT

Listed below is the point of contact information for the Navy and FDEP.

Navy

Diane Racine
Environmental Division
Public Works Office
Naval Station Mayport
Mayport, FL 32228-0067
(904) 270-6730, extension 208
Diane.Racine@navy.mil

FDEP

James Cason, PG
FDEP, Bob Martinez Building
Federal Facilities Review Section
2600 Blair Stone Road
Tallahassee, FL 32399-2400
(850) 245-8999
(850) 245-7690 (FAX)
James.Cason@dep.state.fl.us

6. REFERENCES

TtNUS, 2002. Statement of Basis for SWMU 15 – Old Pesticide Handling Area, Naval Station Mayport, Jacksonville, Florida, September.

ATTACHMENT 1
CORRECTIVE ACTIONS FOR SOIL & GROUNDWATER FIGURES

Location	Northing	Easting
1	2203448	521868
2	2203541	521994
3	2203357	522145
4	2203262	522021



Legend

- Area of Impacted Groundwater
- SWMU Boundary
- LUC Boundary
- Building
- Road
- Sidewalk

Note: The Engineering Control for groundwater assessments of natural attenuation and contaminant migration applies to the Land Use Control Boundary shown on the figure.



DRAWN BY	DATE
C. FOSTER	12/06/04
CHECKED BY	DATE
J. FOSTER	3/05/07
COST/SCHEDULE-AREA	
SCALE AS NOTED	



SWMU 15 - OLD PESTICIDE HANDLING AREA
SELECTED CORRECTIVE ACTION FOR GROUNDWATER
CORRECTIVE MEASURES IMPLEMENTATION PLAN
NAVSTA MAYPORT
MAYPORT, FLORIDA

CONTRACT NUMBER CTO 164	
APPROVED BY	DATE
APPROVED BY	DATE
DRAWING NO.	REV
FIGURE 1	0

Location	Northing	Easting
1	2203373	521992
2	2203373	522125
3	2203263	522125
4	2203165	522029
5	2203166	521992



Legend

- Area of Impacted Soils
- SWMU Boundary
- LUC Boundary
- Building
- Road
- Sidewalk
- Fence

Note: The Engineering Control for soil capping applies to the area contained within the Land Use Control Boundary shown on this figure.



DRAWN BY	DATE
C. FOSTER	12/06/04
CHECKED BY	DATE
J. FOSTER	3/05/07
COST/SCHEDULE-AREA	
SCALE AS NOTED	



**SWMU 15 - OLD PESTICIDE HANDLING AREA
 SELECTED CORRECTIVE ACTION FOR SOIL
 CORRECTIVE MEASURES IMPLEMENTATION PLAN
 NAVSTA MAYPORT
 MAYPORT, FLORIDA**

CONTRACT NUMBER CTO 164	
APPROVED BY	DATE
APPROVED BY	DATE
DRAWING NO.	REV
FIGURE 2	0

ATTACHMENT 2
ANNUAL CORRECTIVE MEASURES COMPLIANCE CERTIFICATE

ANNUAL CORRECTIVE MEASURES COMPLIANCE CERTIFICATE

SWMU 15 – OLD PESTICIDE HANDLING AREA

Naval Station Mayport

Facility I.D. No.: FL9 170 024 260

SWMU and LUC boundaries are shown on Attachment 1 of the SWMU 15 CMIP.

This evaluation covers the period from **1 January** _____ **through 31 December** _____.
Form shall be submitted by **1 March** of the year following the reporting period.

CERTIFICATION CHECKLIST

	IN COMPLIANCE	NON- COMPLIANCE	SEE COMMENT	NOT APPLICABLE
1) No residential development or use on parcel, including but not limited to, any form of housing, child-care facilities, pre-schools, elementary schools, secondary schools, playgrounds, or full-time adult convalescent or nursing care facilities. <u>Comments:</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2) No excavation of the cap or uncontrolled removal/ disturbance of soil with concentrations of COCs exceeding FDEP Direct Exposure Residential SCTLs (unless previously approved by FDEP and the Navy). <u>Comments:</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3) No disturbance of any concrete or asphalt covered areas (unless previously approved by FDEP and the Navy). <u>Comments:</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4) No human consumption of groundwater. <u>Comments:</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	IN COMPLIANCE	NON- COMPLIANCE	SEE COMMENT	NOT APPLICABLE
5) No groundwater usage. <u>Comments:</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6) No tampering or damage to any Navy monitoring or remediation systems. <u>Comments:</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7) Semi-annual assessment reports that summarize MNA and COC migration findings of each monitoring event and annual analytical results <u>are</u> being submitted to the FDEP. <u>Comments:</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

I, the undersigned, hereby certify that I am an authorized representative of the above named property owner and that the above described remedies and controls have been complied with for the period noted. Alternately, any known deficiency(ies) and the owner's completed or planned actions to address such deficiency(ies) are described in the attached page explaining the deficiency(ies).

Signature

Date

Mail completed form(s) to:

Chief, RCRA Programs Branch
U.S. Environmental Protection
Agency Region IV
Sam Nunn Atlanta Federal Center
61 Forsyth Street
Atlanta, GA 30303-3104

Florida Dept of Environmental Protection
Bob Martinez Building
Federal Facilities Review Section
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Commander
NAVFAC SE
Attn: Director, Environmental
Services Business Line
PO Box 190010
North Charleston, SC 29419-0010