

**EXPLANATION OF SIGNIFICANT DIFFERENCES
NAVAL AIR DEVELOPMENT CENTER
OPERABLE UNIT 3 - (OU-3)
WARMINSTER, PENNSYLVANIA**

INTRODUCTION

SITE NAME: Naval Air Development Center
SITE LOCATION: Warminster Township, Bucks County Pennsylvania
ISSUING AGENCIES: U. S. Navy and Environmental Protection Agency (EPA)
SUPPORT AGENCY: Pennsylvania Department of Environmental Protection (PADEP)

Statement of Purpose

This Explanation of Significant Differences (ESD) is issued in accordance with Section 117 (c) of the Comprehensive Environmental Response, Compensation, and Liability Act, as amended (CERCLA), 42 U.S.C. Section 9617(c), and 40 C.F.R. Section 300.435(c)(2)(i), and is now part of the Administrative Record for the Naval Air Development Center (Site). This document explains significant differences to the remedy selected in the Record of Decision (ROD) for Operable Unit 3 (OU-3) for the Site signed by the Navy BRAC Environmental Coordinator and the Director of the Hazardous Site Cleanup Division, EPA Region III on March 10, 1995. This ESD makes changes to the ROD previously issued, which is attached as Exhibit 1. Specifically, this ESD adds, as an additional component of the remedy, institutional controls to prevent the use of groundwater that presents an unacceptable risk to human health and to protect the integrity and effectiveness of the extraction well network which was constructed pursuant to the ROD.

In January 1993 the facility (Site) was renamed the Naval Air Warfare Center (NAWC) Aircraft Division Warminster. NAWC ceased operations on September 30, 1996 and is now targeted for transfer to the private sector.

SUMMARY OF SITE HISTORY, SITE CONDITIONS, AND SELECTED REMEDY

The NAWC is an 840-acre Naval facility located in Warminster Township, Northampton Township and Ivyland Borough, Bucks County Pennsylvania. The Site lies in a populated suburban area surrounded by private homes, various commercial and industrial activities, and a golf course. On-site areas include various buildings and other complexes connected by paved roads, the runway and ramp area, mowed fields, and a wooded area.

Commissioned in 1944, NAWC's main function until 1949 was aircraft manufacturing. From 1949 to 1996, NAWC was a research, development, testing, and evaluation facility for Naval aircraft systems. NAWC also conducted studies in anti-submarine warfare systems and software development. Pursuant to the Defense Base Realignment and Closure Act of 1990 (Public Law 101-510), NAWC ceased operations on September 30, 1996, and is targeted for transfer to the private sector. All research, development, testing, and evaluation activities have been relocated to Patuxent River, Maryland, with the exception of an enlisted men's housing area in the southwestern corner of NAWC, which will be retained by the Navy.

Historically, wastes containing hazardous substances were generated by NAWC during aircraft manufacturing, maintenance and repair, pest control, fire-fighting, machine and plating shop

operations, spray painting, and various materials research and testing activities in laboratories. The wastes generated have included paints, solvents, sludges from industrial wastewater treatment, and waste oils. From 1940 to 1980, these wastes were disposed in pits, trenches, and landfills located on current NAWC property. In addition, wastes generated by NAWC were burned in a fire training area until 1988.

Several investigations and remedial investigations and feasibility studies have been conducted at the Site. These investigations and studies have focused on waste disposal and generation areas as well as areas of groundwater contamination. Four major study areas (Areas A, B, C, and D) have been identified at the Site. These areas have been defined by disposal site locations, waste generation and handling practices, and the presence of separate groundwater contamination plumes.

Each area and the sites within each area are being addressed by separate actions. Area C has been defined as that area in the north-central portion of NAWC that includes sites 4 and 8, other miscellaneous potential contaminant sources, and a groundwater contaminant plume that exists on-site as well as immediately off-site in and around the Kirk Road area (see Figure 1). Exhibit 1 and the Administrative Record provide a more detailed description and analysis of Area C and the investigations conducted of this area.

In response to the presence of groundwater contamination and as a result of the investigations and studies performed in Area C, the Navy and the EPA selected a groundwater remedy for Area C and signed a ROD documenting that remedy in 1995. This ROD designated the area as Operable Unit 3 (OU-3). The ROD selected groundwater pump and treat as the remedy. The objective of the ROD was to restore contaminated groundwater attributable to Area C to a level protective of human health and the environment. More specifically, the selected remedy included the installation, operation and maintenance of extraction wells and an onsite groundwater treatment plant, the sampling of treated water and monitoring of observation and residential wells, and the periodic review of hydrogeologic data to evaluate the effectiveness of the extraction and treatment systems.

The Navy constructed the selected remedy from 1995 to 1996. The system became operational in July 1996 and has been in operation since that time. The Navy continues to operate the system and to monitor and evaluate its effectiveness. To date the system has operated in accordance to th design. The Navy has documented the operation through quarterly monitoring reports submitted to regulators. The Navy will continue to operate the system.

The selected remedy contained in the ROD for OU-3 did not address the need to 1) prevent the use of groundwater which presents an unacceptable human health risk and 2) to provide for th protection of the extraction well network area or to control potential influences through other groundwater withdraws in the area. The need for these controls has become more evident with the planned transfer of NAWC to the private sector.

DESCRIPTION OF SIGNIFICANT DIFFERENCES

Subsequent to the issuance of the ROD for OU-3, Navy, in consultation with EPA, has determined that a minor change should be made to the remedy set forth in the ROD. This change is identified as a significant difference rather than a fundamental change which would require a ROD amendment, as that term is used in 40 C.F.R. Section 300.435(c)(2)(ii). The significant difference between the remedy presented in the ROD and the change to the ROD that will be implemented is explained below. Except to the extent changed by the sections below, all of the terms of the remedy selected in the ROD remain in effect.

Institutional Controls

The Navy and EPA, in consultation with PADEP, have determined that institutional controls are necessary to prevent the use of groundwater that presents an unacceptable human health risk and to protect the long-term effective operation of the selected and implemented remedy at OU-3. The operating remedy relies on the hydraulic containment and capture of groundwater in and around the area of known contamination. Institutional controls restricting groundwater pumping and withdrawal activities that may impact the effectiveness of this system are needed. As such, the Navy and EPA are modifying the selected remedy to include an institutional control component. The component consists of the following:

Institutional controls to prevent the use of groundwater that presents an unacceptable human health risk and to protect the integrity and effectiveness of the extraction well network.

These institutional controls can be divided into two categories - those that address portions of Area C on current Navy property and those on current private property.

The institutional controls addressing current Navy property will consist of restrictions on the use of water from existing wells and restrictions on the future installation of wells and/or the use of water from wells installed in the future. Existing supply wells shall not be used, additional supply wells shall not be installed, and groundwater otherwise will not be withdrawn without the approval of the Navy and/or the EPA. For purpose of this ESD, the current Navy property subject to these restrictions is defined as that property generally bound by Jacksonville Road to the west, Kirk Road to the north, Newtown Road to the east, and the main runway to the south. These restrictions will be included in leases for affected property and deeds entered into for the transfer of such property.

The implementation of these restrictions is administratively possible through legal actions to be taken by the Navy. The need for such restrictions shall be identified in Findings of Suitability to Lease and Findings of Suitability to Transfer, respectively, issued by the Navy.

The institutional controls for affected current private property will consist of the continued enforcement by the Township of Warminster of its Ordinance No.32, which regulates well drilling in Warminster Township in order to promote the health of township residents. The Navy will provide copies of groundwater monitoring analytical results and groundwater monitoring and system efficiency evaluation reports prepared by the Navy and submitted to the regulators to Warminster Township for consideration by the Township in enforcing this Ordinance. These reports provide the location of extraction and monitoring wells and operational information including ground water elevation measurements and analytical data which depict the area of influence and hydraulic containment associated with the OU-3 remedy.

Institutional controls must remain in place so long as a threat to human health and the environment is posed by the contaminated groundwater and so long as the extraction well network remains in operation. The implementation of this institutional control component will not result in a significant cost change to the selected and operating remedy.

PUBLIC PARTICIPATION

Since 1988, the plans and results of ongoing CERCLA investigations and actions have been presented to a Technical Review Committee (TRC) and/or Restoration Advisory Board (RAB) established for NAWC. The TRC and/or RAB has included representatives of Bucks County Health Department, Warminster Township, Warminster Township Municipal Authority, Upper Southampton Township, Upper Southampton Water and Sewer Authority, Northampton Township, Northampton Township Municipal Authority, and Ivyland Borough.

A Public Notice summarizing this ESD and the proposed adoption of it as a change to the selected remedy was published in the Intelligencer, Philadelphia Inquirer, and Courier Times on July 14,

1999. The Public Notice established a two-week public review and comment period which closed on July 28, 1999. No comments resulted from that public review.

This ESD and the information upon which it is based have been included in the Administrative Record file for the Site. The Administrative Record also includes the ROD for OU-3 and all documents that formed the basis for Navy's and EPA's selection of the Remedial Actions for the Site. The Administrative Record is available for public review at the locations listed below:

Navy Caretaker Site Office
860 Flamingo Alley
Warminster, Pennsylvania 18974

Bucks County Library
150 South Pine Street
Doylestown, Pennsylvania 18901

SUPPORT AGENCY REVIEW

The Commonwealth of Pennsylvania has concurred with the change to the selected remedy for OU-3 at the Site.

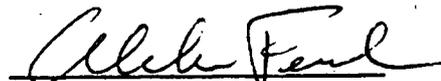
AFFIRMATION OF STATUTORY DETERMINATION

Considering the new information that has been developed and the changes that have been made to the scope of the selected remedy, the Navy and the EPA believe that the revised remedy remains protective of human health and the environment, complies with Federal and State requirements that are applicable or relevant and appropriate to this remedial action, and is cost effective. In addition the revised remedy utilizes treatment technologies that permanently and significantly reduce the toxicity, mobility, or volume of the hazardous substances to the maximum extent practicable for this site.



Thomas C. Ames
BRAC Environmental Coordinator
Navy Caretaker Site Office
Warminster, Pennsylvania

Date: 9.27.99



Abraham Ferdas, Director
Hazardous Site Cleanup Division
EPA Region III

Date: 9/29/99