FACT SHEET • FORMER NAVAL WEAPONS STATION SEAL BEACH DETACHMENT CONCORD, INLAND AREA, CALIFORNIA

Historical Radiological Assessment

Fact Sheet No. 2 **August 2009**

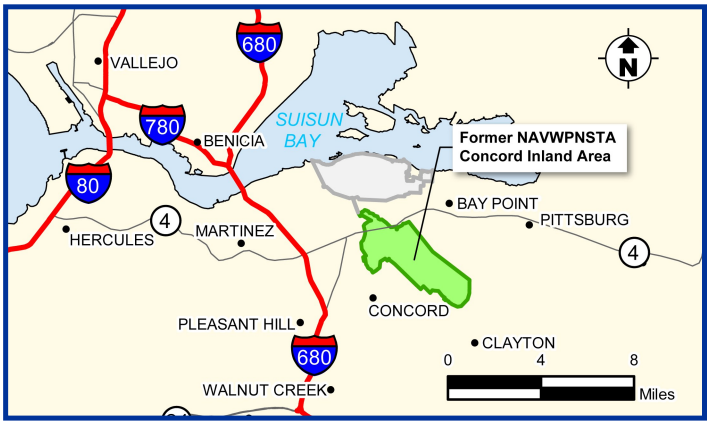
Introduction

The Department of the Navy (Navy) has completed the draft Historical Radiological Assessment (HRA) for the Inland Area at the former Naval Weapons Station Seal Beach Detachment (NAVWPNSTA) Concord, referred to in this Fact Sheet as the former NAVWPNSTA Concord. The HRA is an assessment of past activities at the base that involved radiological operations. The Navy prepared the HRA as the first step in a program to determine if the potential for radioactive contamination exists at the former NAVWPNSTA Concord from past activities. The result of the HRA will guide future possible cleanup activities if radiological contamination is found. The draft HRA will be available to the public for review at the Concord Public Library. Please refer to page 4 for the location and operating hours of the library.

This Fact Sheet describes how the draft HRA was prepared and summarizes the HRA findings, conclusions, and recommended path forward. The public is encouraged to review and provide comments on the HRA. Page 4 explains how to submit comments.

Text in bold is defined on Page 3.

Typical former NAVWPNSTA Concord storage magazine that was used to store depleted uranium munitions



Inland Area Location Map

HRA Preparation

The HRA covers 64 years of radiological history at the former NAVWPNSTA Concord, beginning in January 1945. To prepare the HRA, the Navy studied past radiological operations that introduced **general radioactive material** (called **G-RAM**) to former NAVWPNSTA Concord. These operations included:

- Use of **gamma radiography, gas chromatography,** and **X-ray machines** (some with **depleted uranium** shielding) to examine weapons material and components
- Receipt, repair, and disposition of equipment containing **radioluminescent dials or gauges**
- Storage and examination of depleted uranium ammunition
- Storage of instrument calibrators
- Storage and transshipment of **radioactive materials** from other Navy facilities
- Handling and disposal of radioactive materials by shipment to off-site vendors or waste disposal sites
- Storage and maintenance of **special weapons**

Information for the HRA was obtained from records searches, site inspections at locations where G-RAM may have been used or stored, and interviews with people who knew of radiological operations at the former NAVWPNSTA Concord. Several thousand records were reviewed and those pertinent to the HRA were compiled into a project database. The HRA is based on the evaluation of these records.

HRA Findings

The primary goal of the HRA is to identify sites that are **impacted** by past radiological activities. An impacted site is one that has the potential for radioactive contamination based on historical information, or one that is known to contain or to have contained radioactive materials, and thereby may require further action. The designation of being impacted does not confirm that radioactive contamination is present, only that the possibility exists and additional investigation is warranted. Impacted sites may include:

- Sites where radioactive materials were used or stored
- Sites where known spills, discharges, or other occurrences involving radioactive materials have taken place, or may have taken place, that could have resulted in the spread of radioactive contamination
- Sites where radioactive materials might have been disposed of or buried

A nonimpacted site is one where, based on historical information or results from previous investigations, there is no reasonable possibility that radioactive contamination is present.

The HRA designated 48 sites as impacted. **Scoping surveys** are recommended for all the impacted sites, which consist of 7 buildings, 6 depleted uranium munitions storage magazines, and 35 special weapons magazines. These sites are designated as impacted based on one, or several, of the following reasons.

- The building housed X-ray and gamma radiography equipment;
- Radioactive material was stored pending off-site disposal;
- Depleted uranium ammunition was stored or examined; or
- There is a potential that special weapons were stored and/or maintained at the building.

Page 3 provides a table that associates each site with the reason why it is designated as impacted.

Details on the rationale for designating a site as impacted are provided in the HRA. Potentially contaminated media include subsurface soils, structures, and drainage systems.

The designation of the 48 sites as impacted does not confirm the presence of radioactive contamination. For example, if a site has the potential for G-RAM based on historical information, but the record does not clearly document that G-RAM exists, the Navy took a conservative approach and designated the site as impacted.

HRA Conclusions

The HRA concludes that 48 sites are impacted; however, the potential for residual radioactive contamination is unlikely. The Navy anticipates that future investigations will find either no or low levels of residual radioactive contamination.

Definitions

Check source – A sealed small quantity of radioactive material used to check radiation detection instruments for proper operation.

Depleted uranium – Depleted uranium results from enriching natural uranium, which is present in most rocks and soils. Because of its high density, depleted uranium is used where dense mass is required. Military uses include defensive armor plating and armor-piercing projectiles.

Gamma radiography – In this process, gamma rays, like X-rays, pass through an object and create an image on film. A small pellet of radioactive material in a permanently sealed metal capsule is placed on one side of the object, and photographic film is placed on the other side. Gamma radiography allows manufactured components to be inspected for internal defects or flaws without damage.

Gas chromatography – An analytical process that measures components of a mixture of chemicals.

General radioactive material or G-RAM – All general radioactive materials used by the Navy not associated with the Naval Nuclear Propulsion Program.

Impacted – An area, building, or piece of equipment that, under professional interpretation, has the possibility of having residual radioactive material.

Radioactive material – A substance that contains or emits radiation. Radioactive materials and radiation occur in nature or may be man made. These materials are also used by the military and private industry and are present in common household items. Common items that use radioactive materials are smoke detectors; radioluminescent devices, including dials, ship's deck markers, and gauges; lead paint analyzers; static eliminators; non-electrically powered exit signs; and biological and chemical agent detectors.

Radioluminescent dials, gauges – items that contained a paint mixed with radium to make them visible in the dark.

Scoping survey – A survey to identify if radioactive contamination is present, general levels, and extent of contamination. These surveys usually include surface scans, sampling, and dose rate assessments to determine whether further surveys are necessary.

Special weapons – A term used by the U.S. military since 1947 to refer to nonconventional weapons.

X-ray machine – A device for generating X-rays. X-ray machines work by applying controlled voltage and current to an X-ray tube, which results in a beam of X-rays. The beam is projected through matter. Some of the X-rays are absorbed while others pass through the object, creating an image of the interior of the object.

Path Forward

Scoping surveys will be conducted to determine if radiological contamination is present. Scoping surveys are used to identify if radioactive contamination is present, general levels and extent of contamination. These surveys usually include surface scans and sampling.

The Navy will continue to provide updates to the public on the progress of these surveys at Restoration Advisory Board (RAB) meetings. For a schedule of RAB meetings, see the Navy's environmental website at:

http://www.bracpmo.navy.mil/brac2005/bracbases/ca/concord/default.aspx

HRA - Use of G-RAM and Recommended Future Actions

Site ID	Facility Function at Time of Base Closure	Use of G-RAM	Recommended Action
Building IA-20	Evaluation Laboratory (WQEC)	Radioluminescent paint, depleted uranium munitions	Scoping Survey
Building IA-21	Quality Evaluation Laboratory (WQEC)	Gamma radiography, gas chromatography, radioluminescent paint, depleted uranium munitions	Scoping Survey
Building IA-21A	Evaluation Laboratory (WQEC)	Instrument calibration, X-ray machine shielding	Scoping Survey
Building IA-22	Evaluation Laboratory (WQEC)	Gas chromatography, depleted uranium munitions	Scoping Survey
Building IA-58	X-Ray Building-QEL (WQEC)	Instrument calibration, X-ray machine shielding, **check sources**, potential waste material, gamma radiography, radioluminescent paint, equipment used to analyze a material's density, depleted uranium munitions	Scoping Survey
Building 81	Weapons Maintenance Building (WQEC)	Gamma radiography, special weapons	Scoping Survey
Building 87	Inert Storage Building	Gamma radiography, special weapons	Scoping Survey
35 Special Weapons Magazines	Storage of Special Weapons	Special weapons	Scoping Surveys
6 Depleted Uranium Magazines	Storage of Depleted Uranium Munitions	Depleted uranium munitions	Scoping Surveys

QEL – Quality Engineering Laboratory
WQEC – Weapons Quality Engineering Center

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How to Submit Comments on the Draft HRA

To produce the highest quality HRA, the Navy encourages the public's input on the report. The Navy asks the public to submit comments on the draft HRA before the comment period closes. Letters and postcards must be mailed to Ms. Kathryn A. Stewart (see address below) and postmarked no later than one month after the HRA is issued, to be considered. Please provide your name and full mailing or email address with your comments. All comments will be compiled and responded to in a formal Response to Comments document that will be released within 45 days of the closing of the comment period.

Where to Get Information

This document will be available to the public at the:

Concord Public Library
2900 Salvio St.
Concord, CA 94519
Phone: (925) 646-5455

Library Hours:
Monday & Thursday .....12:00 p.m. - 9:00 p.m.
Tuesday & Wednesday..... 10:00 a.m. - 5:00 p.m.
Friday & Saturday..... 10:00 a.m. - 5:00 p.m.
Sunday .....1:00 p.m. - 5:00 p.m.

Send your comments on the draft HRA to:

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