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Director

State of California—Health and Human Services Agency
California Department of Public Health



ARNOLD SCHWARZENEGGER
Governor

March 10, 2008

Mr. Elmo Collins, Jr.
Regional Administrator
US Nuclear Regulatory Commission, Region IV
Texas Health Resources Tower
611 Ryan Plaza, Suite 400
Arlington, TX 76011-4005

Dear Mr. Collins:

**REQUEST FOR TECHNICAL ASSISTANCE REGARDING THE FORMER HUNTERS
POINT NAVAL SHIPYARD INSTALLATION RESTORATION PROJECT**

The California Department of Public Health, Environmental Management Branch (EMB) requests technical assistance in determining if the Navy's proposed remedial alternative(s) for subsurface radiological contamination is protective of human health at Hunters Point Shipyard (HPS) on San Francisco Bay.

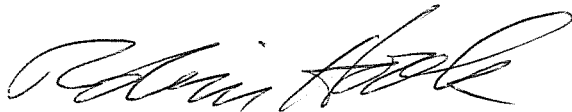
HPS has the most wide-ranging radiological history of any closed Department of Defense site in California. The radiologically related activities conducted on the site resulted in the disposal of radiological wastes in the HPS landfills and fill areas. The Navy proposes to leave these sites in place and release them with restrictions. HPS is on the US Environmental Protection Agency's National Priority List of top priority hazardous waste sites that are subject to the 1980 Comprehensive Environmental Response, Compensation and Liability Act (CERCLA or Superfund).

EMB has commented that the Navy's proposed remedial alternatives of capping with Institutional Controls (ICs) has not been shown to be health protective for the HPS sites known as IR 7 & 18. EMB stated that its preferred remediation option is complete characterization of the contaminated property and removal of radiological threats to public health, thus allowing unrestricted release. This is consistent with the methodology the military has followed in the release of other bases in California. The Navy has stated that the characterization and/or removal is too expensive and unnecessary and that public safety can be assured through ICs that prevent public access to the contaminants and limits further migration in the environment.

EMB has stated that the Navy has not provided sufficient information to conclude that fill areas on HPS are acceptable for unrestricted release. Based on information provided by the Navy, very few samples have been analyzed and insufficient trenching has been done to characterize Sites IR 7 & 18 thus far. Additionally, the history of what radiological wastes may have been disposed of in these fill areas is very limited. The Navy has recently provided additional historical information that discusses the use of sea burial and also the review of records showing sea burial. However, the existence of radiological waste at Sites 7 and 18 cannot be ruled out conclusively by the Navy. EMB has requested that additional characterization be performed on the fill areas to provide a better understanding of the magnitude of radiological wastes that may be present. It may not be possible to characterize the fill areas as thoroughly as we would like and therefore we request your assistance on alternative solutions and methods to gather sufficient information so an informed decision on the protectiveness of the remedy can be made. Your assistance is also requested to determine an acceptable characterization methodology that will enable us to model the potential dose and characterize the radiological hazard present. A more detailed description of the site is enclosed including a summary of investigations completed to date by the Navy.

Your immediate response is appreciated as to whether providing special technical expertise is available and whether cost-reimbursement will be necessary. We would like to have the assistance available as soon as possible and estimates that assistance will be needed for about one month. I certify that the technical expertise is not available within the State.

Sincerely,

A handwritten signature in black ink, appearing to read "Robin Hook", written in a cursive style.

Robin Hook, Chief
Environmental Management Branch
California Department of Public Health

Enclosure

Description of radiological history and investigations performed in Sites IR-07 and IR-18, Parcel B, Hunters Point Shipyard

➤ Overview

Hunters Point Shipyard (HPS) is a former Department of Navy shipyard located in the southeast portion of the city of San Francisco, California. The shipyard is divided into 7 parcels: B, C, D, 49, E, E-2 and F. Parcel B is located in the northern quadrant of HPS and has multiple buildings, two non-engineered fill areas (Installation Restoration (IR) Sites 7 and 18), former building sites, storm drains, and sanitary sewers considered radiologically impacted. The surface area occupied by IR-07 and IR-18 are about 12 acres and 6 acres, respectively, and are the only areas in Parcel B that EMB believes require NRC assistance. IR-07 borders the bay on one side while IR-18 does not.

➤ Radiological History

Disposal of radioluminescent devices was not controlled by specific procedures until the late 1960's. Prior to that time, it was a common practice for radioluminescent dials and gauges to be disposed of in fill areas and landfills and the Navy may also have disposed of materials (sandblast grit) from the decontamination of ships that participated in Operation Crossroads nuclear weapon testing. Parcel E appears to be the area where most of the radiological waste was disposed. Parcel E is similar to IR-07 and IR-18 in that the industrial materials and the fill materials were deposited at all these locations to extend the shoreline. There is only one "official" landfill at HPS and it is located in Parcel E-2 and was identified in the Historical Radiological Assessment as IR-01/21.

➤ Radiological Investigations

Listed below is the information that was provided by the Navy regarding radiological investigations which were conducted in Parcel B.

Previous investigations have not found any radiological materials at IR-07 or IR-18 however they have been very limited in scope [1].

Phase I investigation consisted of surface confirmation radiation survey that included air, surface soil, and ground water sampling. The survey was initiated in 1991 to determine and confirm the nature and surficial extent of radium-bearing devices in the disposal areas at IR-07 and IR-18. At these disposal areas, the gamma activity exceeded the site background value by more than 50% and general area gamma activities were noted and no anomalies were detected at the shoreline [2, 3]

Phase II investigation was conducted in 1993 and its objective was to identify the presence and distribution of radium point sources in the subsurface soils of IR-07 and IR-18. One test pit was excavated in IR-07 and one in IR-18. The size of the test pits were 15 feet long by 2 feet wide by 8 feet deep. It appears that less than 1% of the fill area volumes were examined through the test pits. The trenches (test

pits) in IR-07 and IR-18 contained areas of generally elevated diffuse gamma activity. Furthermore, no point source gamma emitting anomalies were found in the test pits [2, 3].

US EPA's NAREL laboratory conducted a petrographic study of the Parcel B soils and the soil analysis showed that the elevated activity was due to natural occurring minerals in the fill areas [2, 3].

➤ References:

[1] E-mail from Laurie Lowman (Director, Rad Support and LLRW), HPS August 7th, 2007

[2] Draft Radiological Addendum to the Technical Memorandum in Support of a Record of Decision Amendment For Parcel B, July3, 2007

[3] Hunters Point Shipyard Final Historical Radiological Assessment, Volume II, 2004

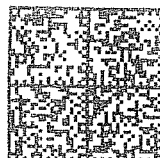
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