

POLICY ISSUE NOTATION VOTE

May 30, 2008

SECY-08-0077

FOR:

The Commissioners

FROM:

R. W. Borchardt
Executive Director for Operations

SUBJECT:

OPTIONS FOR U.S. NUCLEAR REGULATORY COMMISSION
INVOLVEMENT WITH THE NAVY'S REMEDIATION OF THE
HUNTERS POINT NAVAL SHIPYARD SITE IN CALIFORNIA

PURPOSE:

To obtain Commission approval on options for the U.S. Nuclear Regulatory Commission's (NRC's) involvement with the Navy's remediation of the Hunters Point Naval Shipyard (HPS) site, and recommended actions to inform the U.S. Environmental Protection Agency (EPA), the Navy, and stakeholders about the Commission's decision regarding NRC's involvement. This paper does not address any new commitments.

SUMMARY:

In July 2007 the Navy requested that NRC clarify the potential for NRC involvement with the remediation of the HPS site in San Francisco, California. The Navy explained that resolving uncertainties about NRC jurisdiction and involvement is important because of the potential impact on the Navy's ongoing remediation and expedited schedules needed to support the redevelopment plans of the City of San Francisco for the site. These redevelopment plans and schedules have high visibility and considerable support from elected Federal, State, and local officials. In response to the Navy's request, the staff has evaluated three options for NRC's involvement at the HPS and related policy issues. The staff recommends the option of relying

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on the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process and EPA oversight with limited NRC involvement to stay informed about the Navy's ongoing remediation.

BACKGROUND:

In July 2007 the Navy requested clarification about NRC's jurisdiction over material from terminated Atomic Energy Commission (AEC) licenses at the HPS site that could be commingled with fallout and similar debris material associated with atomic weapons testing. Such weapons-related material is exempt from NRC licensing under Section 91b of the Atomic Energy Act of 1954 (AEA). The Navy's questions resulted from the Navy's 2004 Historical Radiological Assessment (HRA) of the HPS, which documented the use of radiological materials there dating back several decades. The HRA is discussed further below and in Enclosure 1. The Navy also asked about NRC's new jurisdiction over discrete sources of radium-226 (hereafter referred to as radium-226). The Navy was unsure whether the Energy Policy Act of 2005 gave the NRC jurisdiction over radium-226 at the HPS site.

The HPS is a former Navy shipyard located in the southeast portion of the City of San Francisco, California. It is situated on a long promontory extending eastward into the San Francisco Bay (see Enclosure 1, Figure 1). Radioactive materials were used in shipyard operations from 1941 to 1974. Such operations including radioluminescent device handling, maintenance, and disposal, primarily resulted in radium-226 contamination. Radioactive materials were also used at the Navy Radiological Defense Laboratory (NRDL) which conducted research on the effects of atomic weapons. NRDL used radioactive material brought back from atomic weapons testing in the Pacific Ocean. Some of the existing site contamination resulted from these research activities, which were not licensed by the AEC. Any HPS site contamination from material relating to weapons testing is exempt from NRC licensing authority. Additional site contamination could also be related to NRDL's use of radioactive material under AEC licenses issued after 1955. All the AEC licenses were terminated by 1970 following radiological surveys performed to the applicable radiological standards at the time. Due to these license terminations, and the weapons exemption, the NRC never exercised direct regulatory authority over the residual contamination at the HPS site. NRC, however, reviewed the terminated license files for the HPS site in 1992 and 1997 as part of a larger review of all terminated licenses that was conducted from 1990 to 2001. The February 19, 1997, report (ADAMS Accession No: ML081480514) for the HPS terminated license file review noted that facilities were extensively surveyed in 1969, 1978, and 1995 and no contamination above release limits were identified. It was further noted, however, that the entire site was undergoing a radiological site characterization by the Navy and the State of California and any resultant remediation would adequately be addressed by the Navy.

The HPS site was placed on the National Priorities List (NPL) in 1989 for remediation under CERCLA for both radiological material and hazardous chemicals. In 1991, the site was identified for closure pursuant to the terms of the U.S. Department of Defense (DoD) Base Realignment and Closure (BRAC) process. A 1992 Federal Facility Agreement, signed by the Navy, EPA, and the State of California, established cleanup actions and timeframes for the HPS. The Navy is the lead agency for the site, but management of the site is conducted by a Base Closure Team which includes representatives from the Navy, EPA Region 9, California Department of Toxic Substance Control, California Regional Water Quality Control Board, and the City of San Francisco. The DoD has the authority to undertake CERCLA actions, and, as a

result, the Navy has undertaken the assessment of radioactive materials at the HPS site by conforming to the requirements of the National Oil and Hazardous Substances Pollution Contingency Plan.

In 2004, the Navy completed the HRA, which includes a systematic identification and description of impacted areas for the entire site, based on historical radiological surveys, documents, and interviews with past HPS personnel. An impacted area is one that has potential for radioactive contamination based on historical information, or is known to contain, or to have contained, radioactive contamination. The designation as an impacted area does not establish that radioactive contamination is present. Rather it indicates that the possibility exists that radioactive material may be present and investigation is necessary. The HRA identifies over 90 impacted areas. The Navy assumes that AEC-licensed material could be present at over half of the impacted areas. Furthermore, the Navy believes that the AEC-licensed material would likely be commingled with, and indistinguishable from, the atomic weapons testing material, because both types of material were used by NRDL research. The AEC-licensed material has the potential to exist in the storm drain lines, sanitary sewer lines, septic systems on the entire base, and one of the landfills.

The Navy's HPS site remediation is being conducted in phases for seven geographic parcels. Parcel A was remediated and released in 2004, and the remaining 6 parcels are in various stages of evaluation and remediation. The CERCLA process is expected to continue for approximately the next 10 years and each parcel has a schedule for completing the steps in the CERCLA process. Currently, CERCLA removal actions are being used to expedite remediation to support the redevelopment plans and schedules of the City of San Francisco, including the potential siting at the HPS site of a new San Francisco 49ers football stadium. The Navy plans to release most of the site for unrestricted use. However, two areas will be released for restricted use. The approaches for institutional controls that are being considered for the two restricted use areas are described in Enclosure 1. Enclosure 1 also provides more information about the site, status of the Navy's remediation, regulatory history, the CERCLA process now underway there, and NRC's current regulatory involvement under the Navy's Master Materials License (MML).

On March 10, 2008, the California Department of Public Health (DPH) sent NRC's Region IV a letter (Enclosure 2) concerning the HPS site. In that letter, the DPH requested technical assistance in ensuring that the proposed remedial alternative for subsurface radiological contamination is protective of human health at the HPS site. The staff responded by letter dated April 17, 2008 (ML081010119).

DISCUSSION:

In order to respond to the Navy's request and prepare this paper for the Commission's consideration, the staff reviewed key HPS documents, met with the Navy, and conducted a site visit in October 2007. The staff also met with representatives from EPA Region 9, the State of California agencies involved with the HPS site, and the City of San Francisco. In addition to evaluating potential NRC involvement, these meetings were used to obtain an understanding of the site, the Navy's remediation, and the oversight roles and issues of the key parties involved with the remediation.

Policy Issues Regarding NRC's Jurisdiction at Hunters Point

The issues associated with NRC jurisdiction at the HPS site are due to the assumed presence of terminated AEC-licensed material and radium-226. Although there is uncertainty about the presence and amount of AEC-licensed material at the HPS site, as discussed above, the staff is assuming for the purposes of this paper that the terminated AEC-licensed material could be present and that NRC does have jurisdiction over this material. While the NRC could exercise its jurisdiction over AEC-licensed material, the NRC has no jurisdiction over the atomic weapons testing material, pursuant to Section 91b of the AEA. However, at the HPS site, such weapons program material is assumed to be commingled with the terminated AEC-licensed material. If NRC's decommissioning regulations were applied at the HPS site, commingling of the material would be addressed by incorporating all residual radioactivity into the dose assessments for demonstrating compliance with NRC's dose criteria. NRC's regulations (10 CFR 20.1003), define "residual radioactivity" as radioactivity from all licensed and unlicensed sources used by the licensee, but excludes background radiation.

Regarding jurisdiction over radium-226 present at the HPS site, the Statements of Consideration (SOC) for NRC's recently-established Naturally Occurring and Acceleration Produced Radioactive Materials (NARM) rule addresses the issue. The SOC states that radium-226, still in control of the military and that was used for military operations, is outside of NRC's jurisdiction. Military operational material includes "material still under the control of the military, i.e., in storage, or material that may be subject to decontamination and disposal" 72FR55864, at 55867 (October 1, 2007). The radium-226 at the HPS site is being remediated by the Navy. Therefore, the staff concludes that such material is under military control and outside of NRC's jurisdiction. It should be noted that at the end of remediation, the site is expected to pass from military ownership to local or state ownership. Conceivably, at that time, the radium-226 would no longer be under military control and, therefore, would become subject to NRC's authority. However, given that the material will be cleaned up to an acceptable level under the CERCLA process, the staff believes that no further NRC action would then be required to ensure the protection of public health and safety.

Options for NRC Involvement with the HPS Site Remediation

The options described below assume that NRC has jurisdiction over at least part of the residual radioactivity at the HPS site. The first two options rely on the CERCLA remediation process in which the Navy is the lead Federal agency, acting under EPA oversight. The basis for these two options is that NRC can reasonably rely on the CERCLA process and EPA oversight because the process: (1) addresses all the radioactive material; and (2) should result in adequate protection of public health and safety and the environment that is equivalent to what would be provided if the NRC's site decommissioning process was used. Under the third option, NRC would exercise regulatory authority over the remediation of radioactive contamination at the HPS site. These three options are described below, and Enclosure 3 provides additional information on the supporting bases and an evaluation of the pros and cons for each option.

During the October 2007 meetings, the staff initiated discussions with EPA Region 9 and the Navy regarding potential options for NRC involvement. While EPA and the Navy were supportive of either Option 1 or 2, obtaining NRC's formal decision about its involvement was considered critical for EPA and Navy plans and schedules at the HPS.

Option 1: Rely on the CERCLA process and EPA oversight with no NRC involvement

NRC would rely on the CERCLA process and EPA's regulatory oversight of the ongoing Navy remediation of all radioactive material at the HPS site. NRC would not exercise regulatory authority and would not require compliance with its decommissioning regulations. Furthermore, NRC would not conduct any formal regulatory reviews or participate in the ongoing CERCLA comment process for the Navy's remediation. However, for Navy contractors with NRC licenses, NRC would continue its ongoing and routine oversight to ensure that Navy contractor remediation activities (e.g., handling, laboratory testing, and storage of radioactive materials) are conducted safely. Since the NRC would not be involved, the NRC would not be able to provide technical assistance.

Option 2: Rely on the CERCLA process and EPA oversight with limited NRC involvement to stay informed about the ongoing CERCLA process

NRC would rely on the CERCLA process and EPA's regulatory oversight of the ongoing Navy remediation of all radioactive material at the HPS site. NRC would not exercise its regulatory authority and would not require compliance with its decommissioning regulations. NRC would not conduct any formal regulatory reviews or participate in the ongoing CERCLA comment process for the Navy's remediation. For Navy contractors with NRC licenses, NRC would continue its ongoing and routine oversight to ensure that the Navy contractor remediation activities (e.g., handling, laboratory testing, and storage of radioactive materials) are safely conducted.

Unlike Option 1, NRC staff would have a limited involvement until completion of the Navy's remediation of the remaining 6 parcels, which is expected to take about 10 years. NRC's limited involvement would consist of informally reviewing key site documents and maintaining knowledge of site activities. The staff would use a risk-informed approach to focus on those elements of the Navy's remediation that are most important to the protection of public health and safety. The staff would also focus on those elements that are currently planned but not yet implemented such as formal establishment of the institutional controls and engineered controls. Finally, NRC would retain the ability to comment on the Navy's remediation to justify the NRC's continued reliance on the CERCLA process. Since the NRC would not be involved, the NRC would not be able to provide technical assistance.

Option 3: NRC Regulatory Oversight through the Navy MML

NRC would exercise its regulatory authority over the ongoing remediation of radioactive contamination at the HPS site, rather than rely on EPA's oversight. NRC would require the Navy to issue a site permit under the MML. Remediation of the site would be done in compliance with NRC's decommissioning regulations. NRC would need to develop an appropriate oversight process for this site under the MML, including: (1) coordinating compliance with NRC's decommissioning regulations and the CERCLA process; (2) reviewing and commenting on documents prepared by the Navy; (3) developing inspection plans, including confirmatory measurement plans in coordination with the NRC MML Project Manager; and, (4) coordinating with the ongoing regulatory oversight by EPA and the State of California. NRC's involvement would only be during remediation. Consistent with NRC's decommissioning regulations, for the potential restricted release areas, there would be no NRC involvement during the post remediation institutional control time period after the MML permit termination.

The staff believes that choosing this option would be inconsistent with a previous NRC Director's Decision made in a case involving Formally Utilized Site Remedial Action Program (FUSRAP) material (United States Army Corps of Engineers (Corps), DD-99-7, 49 NRC 299 (1999)). Like the Navy's role at the HPS site, the Corps acts as the lead Federal agency in CERCLA actions involving FUSRAP material. The NRC found that CERCLA's permit waiver provision (42 USC 9621(e)(1)) includes NRC licenses and permits within its scope, and relied on this as a basis for denying a petition requesting that the Corps be required to obtain an NRC license for its activity at FUSRAP sites.

Potential for NRC Jurisdiction and Involvement at Other DoD BRAC/NPL Sites

The staff wants to inform the Commission of similar activities at other DoD BRAC/NPL Sites. NRC staff is working with the Air Force to obtain information regarding whether material from terminated AEC licenses is present at the McClellan Air Force Base in California and if it could be commingled with atomic weapons testing material. If the additional information from the Air Force confirms the presence of such material, the recommendations for the HPS site would also apply to McClellan, which is an NPL site being remediated under CERCLA and under EPA's oversight. The staff would inform EPA Region 9 and the Air Force in letters similar to the one recommended for the HPS site in Enclosure 3. Additional information about McClellan Air Force Base is presented in Enclosure 4.

Actions to Inform EPA, Navy, and Stakeholders

The option recommended below could be implemented with letters from the Director of the Office of Federal and State Materials and Environmental Management Programs, informing EPA Region 9 and the Navy of the Commission's decision for the HPS site (Enclosure 5). The staff would coordinate with EPA and the Navy during the preparation of the letters. The staff could also prepare a notice in the *Federal Register* to inform stakeholders of the Commission's decision.

RECOMMENDATIONS:

The staff recommends that the Commission approve Option 2: Rely on CERCLA and EPA oversight with limited NRC involvement to stay informed about the ongoing CERCLA process. This option for the HPS site provides a balanced approach that allows remediation to proceed under CERCLA, avoids dual NRC-EPA regulation, and allows NRC to be in a position to respond to stakeholder questions in a timely and effective manner.

The staff also recommends that the Commission approve the preparation of letters to inform EPA and the Navy of the Commission's decision, and that a notice to inform stakeholders be published in the *Federal Register*.

Additionally, under this option, the staff would respond to the California DPH's March 10, 2008, letter that it intends to rely on the CERCLA process to ensure public health and safety and that it would not be involved in overseeing the cleanup. Thus, the staff would not be in a position to provide the technical assistance the California DPH requests.

RESOURCES:

- Letters to EPA and the Navy and *Federal Register* notice in Fiscal Year (FY) 2008: 0.1 Full Time Equivalent (FTE),
- Activities to stay informed each year from FY 2009 to about FY 2018: 0.1 FTE per year (included in the FY 2009 to FY 2010 budget request),
- NRC costs would be fee recoverable from the Navy.

COORDINATION:

The Office of the General Counsel has reviewed this paper and has no legal objections. The Office of the Chief Financial Officer has reviewed this paper for resource implications and has no objections.

This paper was not coordinated with the State of California because it addresses options for NRC's involvement at the HPS site. The State of California's role was discussed above and NRC's potential involvement would not impact the State's role with the HPS remediation under CERCLA. However, as mentioned above, during the staff's October 2007 site visit, the staff met with representatives from the State to discuss the State's role and issues with the HPS site remediation. The staff also plans on keeping the State informed in the future by providing this paper and the Staff Requirements Memorandum after they are released.

/RA/

R. W. Borchardt
Executive Director
for Operations

Enclosures:

1. Summary of the Hunters Point Shipyard Site
2. March 10, 2008, letter from California DPH
3. Evaluation of Options for NRC Involvement
4. Potential for NRC Jurisdiction and Involvement
at other DoD BRAC/NPL Sites
5. Draft letter to EPA Region 9

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Summary of the Hunters Point Shipyard Site

HPS History

The Hunters Point Naval Shipyard (HPS) site is a former Navy shipyard located in the southeast portion of the City of San Francisco, California, situated on a long promontory extending eastward into the San Francisco Bay (see Figure 1). The site currently consists of approximately 866 acres, 446 of which are under water. Six parcels (B, C, D, E, E-2, and F) have been identified to facilitate investigation and cleanup activities. A seventh parcel, Parcel A, was conveyed to the City of San Francisco in December 2004 (see Figure 2).

HPS is a federally owned facility, which began using radioactive materials in the early 1940's. The Navy's Historical Radiological Assessment (HRA), completed in 2004, describes the radiological history of the site. The HRA indicates that radioactive materials were used in shipyard operations from 1941 to 1974, primarily for gamma radiography, calibration, and radioluminescent device handling, maintenance and disposal. After 1955, Atomic Energy Commission (AEC) licenses were issued for calibration and gamma radiography. Radioactive materials were also extensively used for research conducted at the Naval Radiological Defense Laboratory (NRDL) from 1946 to 1969. NRDL's mission was to study the effects of atomic weapons. Activities included animal research, radiation detection instrumentation development, ship shielding studies, fallout testing, decontamination of ships that participated in atomic weapons testing, burning contaminated fuel, and handling and packaging radioactive waste for deep-sea disposal. NRDL used both radioactive material from the atomic weapons testing and material under AEC licenses that were issued after 1955. AEC licenses were issued for both sealed sources and loose material, including a broad scope license managed by the NRDL Radioisotope Committee.

The HRA also systematically identified and described the potential for residual contamination at over 90 radiologically impacted sites within the 6 parcels. The radionuclides encountered to date include: americium-241, cobalt-60, strontium-90, cesium-137, europium-152, europium-154, plutonium-239, radium-226, hydrogen-3, thorium-232, and uranium-235. The Navy believes that the residual contamination is primarily the result of: 1) NRDL activities with both atomic weapons testing material and AEC licensed material; 2) radium and strontium from radioluminescent devices; and 3) decontamination of ships that participated in the Pacific atomic weapons testing. The material from atomic weapons testing is exempt from U.S. Nuclear Regulatory Commission (NRC) licensing under Section 91b of the Atomic Energy Act (AEA). The Navy assumes that AEC-licensed material could be present at over half of the impacted sites. Furthermore, the Navy believes that the AEC-licensed material would likely be commingled with, and indistinguishable from, the atomic weapons testing material, because both types of material were used by NRDL research. In some cases these two sources involve the same radionuclides and therefore, cannot be differentiated. Some of this material can also be commingled with radium. The AEC-licensed material has the potential to exist base-wide in the storm drain lines, sanitary sewer lines, and septic systems, as well as one of the landfills.

According to the HRA, almost all radioactive materials encountered at HPS have been isolated from human contact and located in restricted-access areas. The overall conclusion from the HRA was that "... low levels of radioactive contamination exist within the confines of HPS. The review of previous radiological activities, cleanup actions, and release surveys has not identified

any imminent threat or substantial risk to tenants or the environment of HPS or the local community.”

Status of the Navy's Remediation

The site was placed on the National Priorities List (NPL) in 1989 for remediation of both radiological and hazardous materials under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). In 1991, the site was identified for closure pursuant to the terms of the Defense Base Realignment and Closure Act of 1990. Closure of HPS includes conducting environmental remediation activities and transferring the property to the City of San Francisco for future non-defense reuse. A Federal Facility Agreement (FFA) signed on January 22, 1992, by the Navy, the U.S. Environmental Protection Agency (EPA), and the State of California, established cleanup actions and timeframes for HPS. On January 21, 1994, a Memorandum of Understanding was executed among the Navy, the City and County of San Francisco, and the City and County of San Francisco Redevelopment Agency to establish the process for conveyance of the property at HPS for reuse. On January 23, 2002, a Memorandum of Agreement (MOA) between the Navy and the City of San Francisco established the terms and conditions to be included in a binding and comprehensive agreement regarding the remediation and conveyance of HPS to the city.

The U.S. Department of Defense (DoD) has the authority to undertake CERCLA actions and, as a result, the Navy has undertaken the assessment of radioactive materials at HPS by conforming to the requirements of the National Oil and Hazardous Substances Pollution Contingency Plan. Because CERCLA defines radionuclides as hazardous substances, radionuclides are included in the CERCLA process to investigate, characterize, and remediate contamination. Most of the radionuclides previously used at HPS are radionuclides defined as CERCLA hazardous substances.

Beginning in 1991, five phases of radiological investigations were performed at HPS. Phases I and II delineated the surface and subsurface distribution of radium-containing devices. Phases III and IV recommended actions and performed the removal of anomalies from various buildings on Parcels D and E. Phase V conducted radiological surveys and remedial action in Parcels B, C, D, and E. Current radiological actions include various localized removal actions and implementation of recommended actions identified in the HRA. Future activities are being planned through the development of a radiological addendum to the existing CERCLA Record of Decision for Parcels B, D, and E. Removal actions for soils, debris/slag, and concrete surfaces (walls, slabs, and foundations) are expected to result in removal of radioactive materials to or below the established cleanup goals, followed by off-site disposal. Removal actions are subject to release criteria developed for surfaces, soil, and water as part of the process for developing the Basewide Radiological Removal Action, Action Memorandum—Revision 2006.

The primary remediation goal is to achieve a 10^{-6} risk level for both hazardous chemicals and radioactive material combined. In addition, pursuant to CERCLA requirements, Applicable or Relevant and Appropriate Requirements (ARARs) are currently being developed and are under review by all the parties. There is a proposal to include, as an ARAR, the unrestricted release and restricted release criteria set forth in the U.S. Nuclear Regulatory Commission's (NRC's) decommissioning regulations in 10 CFR Part 20 Subpart E.

The overall objective of the Navy's HPS remediation is unrestricted release for Parcels C and D and major portions of Parcels B and E-2. Parcel A was released for unrestricted use in 2004 and transferred to the City of San Francisco. Draft plans currently under review also propose restricted release for the fill areas of Parcel B and the existing landfill on Parcel E-2. For any restricted release areas, proposed institutional controls consist of future restrictive covenants designed to prevent any contact with soils below a one-foot depth without prior approval. The specific restrictive covenant for these restricted release areas would be prepared using a "model" or generic restrictive covenant that was developed as a MOA between the State of California and the Navy in 2000 and is consistent with CERCLA and State of California law. Current plans assume that these restricted areas would be released and ownership would likely transfer to the City of San Francisco. Furthermore, under CERCLA, the Navy would be required to conduct a Five Year Review of the effectiveness of the institutional controls and engineered controls for these restricted areas. CERCLA requires that EPA conduct an independent review of the Navy's Five Year Reviews. Thus, the current approach would result in a layered system of government controls including: City Government ownership; legal controls using a restrictive covenant that involves the Navy, City, and State; and CERCLA oversight and enforcement through the Five-Year Review process conducted by the Navy and EPA. These plans are being coordinated and reviewed by the City so that they will be acceptable to the future owner and consistent with the City's plans for redevelopment of the HPS site. The restricted areas are currently planned for open space or recreational use and would not be used for residential or commercial/industrial purposes.

Regulatory History

The HRA also summarizes the regulatory history for the HPS site. Under the AEA, the AEC controlled uses of radioactive material by issuing "authorization" or "permits" until 1954, when the AEA was amended to establish the licensing program. In some instances, the AEC licenses were issued for the Navy's use of radioactive material. The shipyard and NRDL were subject to the AEC licensing requirements for radioactive material that began in 1954. The HRA summarizes the multiple AEC licenses for possession and use of radioactive material at HPS. NRDL was authorized to use a broad spectrum of all types of radioactive materials for its research. These authorizations were incorporated into AEC licenses after 1954. At the time of NRDL's closure in 1969, a specific license was issued for decommissioning activities. Prior to termination of NRDLs' AEC licenses in 1970, all licensed sealed sources were transferred to other licensed activities or sent to a radioactive waste disposal facility. Surveys were conducted in areas where radioactive materials had been used. AEC inspectors conducted independent final surveys to verify that areas released for unrestricted use met the standard in effect at the time.

Current Regulatory Involvement under CERCLA

The Navy's remediation of the HPS site is conducted under CERCLA and a FFA. Oversight is provided by EPA Region 9 since the property was designated as an NPL site in 1989. For HPS, the EPA oversees the radiological release of outdoor structures and open areas but defers release of buildings to the State of California Department of Public Health (DPH). EPA is a member of both the Base Closure Team and the Restoration Advisory Board (RAB). EPA Region 9 has regulatory oversight both during and after remediation. EPA conducts reviews and some confirmatory surveys during remediation. After remediation, EPA will independently

review the Navy's Five-Year Reviews of the restricted release areas that rely on institutional controls, engineering controls, and potentially monitoring, and maintenance.

The State of California works with EPA Region 9 to ensure that all aspects of CERCLA are implemented at the HPS site. Three State of California agencies are involved with the Navy's remediation at the HPS site. The Department of Toxic Substance Control (DTSC) is the lead State regulator and a co-signature, to the FAA for this site. The DPH provides technical assistance to DTSC for radiological reviews, including restricted release. DPH has done some confirmatory surveys of buildings and plans on conducting these surveys in the future, as its limited resources permit. The Regional Water Quality Control Board is a regional office of the California State Water Resources Control Board and develops and enforces water quality objectives and protects the beneficial uses of the state's waters. It focuses on water related reviews at the HPS site.

The City and County of San Francisco take an active role in the ongoing CERCLA process at HPS as a member of the Base Closure Team, which also includes representatives from the Navy, EPA Region 9, DTSC, the Regional Water Quality Control Board, and the City of San Francisco. San Francisco is the potential transferee of the HPS site from the Navy and also provides representation on the RAB. It reviews all radiological actions at the HPS site and has been, and continues to be, involved with preparations for potentially implementing institutional controls at the restricted release areas which it would also regulate if it becomes the owner.

NRC's Current Regulatory Involvement

NRC no longer exercises direct regulatory authority over the residual contamination at the HPS site that may have resulted from the Navy's use of licensed radioactive material because, as noted above, all the AEC licenses have been terminated since 1970. However, the Navy currently holds an NRC Master Materials License (MML), which allows the Navy to administer and manage the use of licensed radioactive materials by the Navy and Marine Corps at any Navy location around the country. The MML authorizes the licensee to issue permits for the possession and use of licensed material under the license, and ties the license to a framework for oversight and internal licensee inspection of the MML. For the HPS site, the remediation activities conducted by Navy contractors, including radiological surveys and sampling as well as removing, storing, and disposing of material, are done under Navy oversight within the BRAC/CERCLA process. In addition, these Navy contractors have specific NRC licenses. As a result, NRC inspects these activities as part of its routine materials inspection program. However, this NRC oversight does not include regulating the remediation of the residual contamination at the site under NRC's decommissioning regulations because the BRAC process includes remediation under CERCLA.

Plans for Future Redevelopment

The City of San Francisco began redevelopment planning in 1993 and adopted a Redevelopment Plan for the HPS site in 1997. A mixed-use project is planned for the entire site that includes a mix of residential, retail and research space, and new waterfront parks and open space. There is the potential that Parcel D could be the location for the new San Francisco 49ers football stadium. The Navy's remediation plans and schedules have been coordinated extensively with the City to support, and be consistent with, the redevelopment plans.

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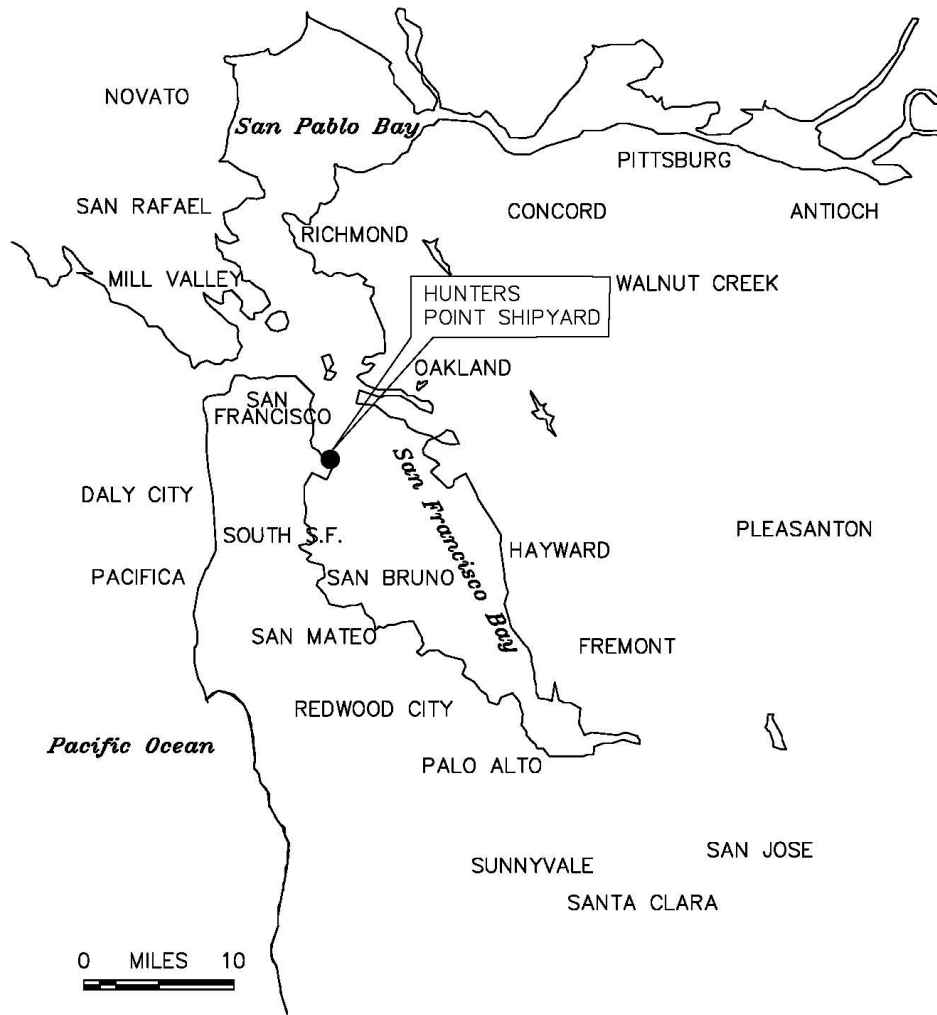


FIGURE 1
HUNTERS POINT SHIPYARD LOCATION

HUNTERS POINT SHIPYARD—SAN FRANCISCO, CA

 TETRA TECH EC, INC.

TETRA TECH EC, INC.

Enclosure 2
March 10, 2008, Letter from
California Department of Public Health

ML080770239

Evaluation of Options for the U.S. Nuclear Regulatory Commission Involvement

The options presented below assume that U.S. Nuclear Regulatory Commission (NRC) has jurisdiction over at least part of the residual radioactivity at the Hunter's Point Shipyard (HPS) site.

Option 1: Rely on the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process and U.S. Environmental Protection Agency (EPA) oversight with no NRC involvement

Description: NRC would rely on the CERCLA process and EPA's regulatory oversight of the ongoing Navy remediation of all radioactive material at the HPS site. NRC would not exercise its regulatory authority and would not require compliance with its decommissioning regulations. Furthermore, NRC would not conduct any formal regulatory reviews or participate in the ongoing stakeholder comments of the Navy's remediation. However, for Navy contractors with NRC licenses, NRC would continue its ongoing and routine oversight to ensure that the Navy contractor remediation activities (e.g., handling, laboratory testing, and storage of radioactive materials) are safely conducted.

Basis: NRC can reasonably rely on the CERCLA process and EPA's regulatory oversight because the process: (1) addresses all the radioactive material; and (2) should result in protection of public health and safety and the environment equivalent to that which would be provided if the NRC's decommissioning process was used. Furthermore, NRC assumes that the CERCLA process would be sustained during the long time period when protection of the restricted release areas primarily depends on the effectiveness of institutional controls, engineered controls, and the combined Navy and EPA Five Year Review oversight required by CERCLA.

Pros:

- This option avoids dual NRC-EPA regulation, thus avoiding potential delays and higher costs.
- No NRC resources would be needed.
- This option is consistent with the CERCLA permit waiver provision (see Option 3 discussion in the body of the Commission Paper).

Cons:

- NRC could not guarantee that the NRC's decommissioning requirements have been met.
- NRC would not be informed about the development of future Navy remediation plans and activities for other HPS parcels. NRC would thus lack information to confirm the sustained implementation of the CERCLA process and EPA oversight over the next 10 years.

- NRC would not be informed about the site-specific establishment of post remediation plans for the use of institutional controls and engineered controls at restricted release areas. Such plans would be necessary for maintaining protection of public health and safety during the long post remediation time period.
- The staff would not be able to assist the California Department of Public Health (DPH) in its request for technical assistance.
- NRC would not be able to provide timely responses to stakeholder questions.

Option 2: Rely on the CERCLA process and EPA oversight with limited NRC involvement to stay informed about the ongoing CERCLA process

Description: NRC would rely on the CERCLA process and EPA's regulatory oversight of the ongoing Navy remediation of all radioactive material at the HPS site. NRC would not require compliance with its decommissioning regulations in the license termination rule (LTR) and would not conduct any formal regulatory reviews or participate in the ongoing stakeholder comments of the Navy's remediation. For Navy contractors with NRC licenses, NRC would continue its ongoing and routine oversight to ensure that the Navy contractor remediation activities (e.g., handling, laboratory testing, and storage of radioactive materials) are safely conducted. Unlike Option 1, NRC would take the limited actions discussed below to keep informed about the remediation. However, NRC would retain the ability to comment on the Navy's remediation, if necessary, to justify NRC's continued reliance on the CERCLA process.

NRC would stay informed until completion of the Navy's remediation of the remaining 6 parcels, which is expected to occur over the next 10 years. The staff would take a risk informed approach to focus on those elements of the Navy's remediation that are most important to the protection of public health and safety such as formal establishment of the site-specific institutional controls and engineered controls, if used for the restricted release areas of the site.

NRC would stay informed by using existing mechanisms such as standard Navy distributions and availability of the Administrative Record (e.g. records of decision and completion documents such as the finding of suitability to transfer). If necessary, NRC would request access to documents. Staff would read key documents and possibly conduct one site visit and progress meeting each year.

NRC has taken a similar approach and relied on EPA oversight and CERCLA remediation for the decommissioning of a few NRC licensed sites (e.g., Lake City Army Ammunition Depot site, Safety Light site, and U.S. Army Corps of Engineers Formally Utilized Site Remediation Program (FUSRAP) sites). For these sites, NRC has also retained limited involvement, but NRC's limited involvement included confirming compliance with the dose criteria in the NRC's decommissioning regulations for the purpose of terminating the license. For these cases, reliance on EPA oversight was more efficient for the licensees because dual NRC-EPA regulation was avoided.

Basis: The basis for this option is the same as stated above for Option 1.

Pros:

- This option avoids dual NRC-EPA regulation, thus avoiding potential delays and higher costs.
- NRC remains generally aware of site remediation under the CERCLA process and any new information about terminated AEC-licensed material. NRC would have assurance that the CERCLA process is being properly implemented for the remaining 6 parcels of the site over the next 10 years.
- NRC remains generally aware of the site-specific establishment of the institutional controls and engineered controls for the restricted release areas and associated regulatory oversight under the CERCLA process.
- NRC would be able to provide timely responses to stakeholder questions.
- This option is consistent with the CERCLA permit waiver provision (see Option 3 discussion in the body of the Commission paper).

Cons:

- NRC could not guarantee that NRC's decommissioning requirements have been met.
- Certain stakeholders might disagree with this option and prefer greater NRC involvement.
- Maintaining general awareness and knowledge transfer over the next 10 years will require more resources than Option 1 (approximately 1 FTE over 10 years).
- The staff would not be able to assist the California DPH in its request for technical assistance.

Option 3: NRC Regulatory Oversight through the Navy Master Materials List (MML)

Description: NRC would exercise its regulatory authority over the ongoing remediation of radioactive contamination at the HPS rather than rely on EPA's oversight. NRC would require the Navy to place the HPS site under a permit that would be governed by the MML. Remediation of the site would be done in compliance with NRC's decommissioning regulations. NRC would need to develop an appropriate oversight process for this site under the MML, including: 1) coordinating compliance with NRC's decommissioning regulations and the CERCLA process; 2) reviewing and commenting on documents prepared by the Navy; 3) developing inspection plans, including confirmatory measurement plans in coordination with the NRC Navy MML Project Manager; and 4) coordinating with ongoing regulatory oversight by EPA and the State of California. NRC's involvement would only be during remediation. This approach is consistent with NRC's decommissioning regulations for restricted release sites where there would be no NRC involvement during the post license termination institutional control time period after NRC approval of post termination plans for institutional control, monitoring, and maintenance.

Basis: NRC would exercise its jurisdiction because of the assumed presence of terminated AEC-licensed material, even though it could be commingled with other radioactive material that is not under NRC's jurisdiction.

Pros:

- Compliance with NRC's decommissioning regulations would be demonstrated.
- Public confidence might be increased with the addition of NRC involvement.
- NRC would be able to provide assistance to California DPH.

Cons:

- This option would create dual NRC-EPA regulation by: 1) requiring demonstration of compliance with all of NRC's decommissioning requirements in addition to the CERCLA requirements; and 2) adding another "layer" of regulatory oversight to the existing Federal, State, and City oversight. It is not clear if dual NRC-EPA regulation would provide a significant benefit to protection of public health and safety.
- Different regulatory approaches and methods between NRC and EPA could be difficult and time consuming to resolve and would add unnecessary complexity to an already complex site and remediation process. Resolving and coordinating different regulatory approaches and comments could delay remediation schedules with no benefit to the protection of public health and safety.
- Implementing this option would require more resources than Options 1 and 2. Establishing an NRC oversight process for this site, and implementing the process during remediation would involve approximately 20 FTE over 10 years. The technical and regulatory complexity of the site would necessitate a major commitment of a multidisciplinary team over approximately 10 years until remediation of all parcels has been completed.
- Choosing this option would arguably be inconsistent with DD-99-7, 49 NRC 299 (1999), in which the NRC found the CERCLA's permit waiver provision includes within its scope NRC licenses and permits (see discussion in Option 3 in the body of the Commission Paper).

Potential for U.S. Nuclear Regulatory Commission Jurisdiction and Involvement at Other U.S. Department of Defense Base Realignment and Closure Sites listed on the National Priorities List

The U.S. Nuclear Regulatory Commission (NRC) staff also initiated a review to determine if there could be other U.S. Department of Defense (DoD) Defense Base Realignment and Closure (BRAC) sites listed on the National Priorities List (NPL) and with the potential for Atomic Energy Commission (AEC)-licensed material similar to the Hunters Point Shipyard (HPS) site. The staff reviewed all DoD BRAC sites listed on the NPL that also had previously terminated AEC licenses. The staff used results from NRC's Terminated License File Review conducted by Oak Ridge National Laboratory (ORNL) and NRC's Regions from 1990 to 2001. This review examined over 37,000 terminated license files to ensure that previously licensed facilities were properly decontaminated and posed no threat to public health and safety. The results of the ORNL and Regions work indicate that all the current BRAC NPL sites with terminated AEC licenses have sufficient documentation in the files to indicate that they had been terminated in an acceptable manner and no further NRC action was needed.

Because of the Navy's jurisdictional question at the HPS site, the staff also looked at the February 19, 1997, terminated license review report for the HPS file review. This report noted that HPS facilities were extensively surveyed in 1969, 1978, and 1995 and no contamination above release limits were identified. It was further noted, however, that the entire site was undergoing a radiological site characterization by the Navy and State of California and any resultant remediation would adequately be addressed by the Navy. As described in Enclosure 1, the Navy has provided new information that is sufficient to assume the presence of terminated AEC-licensed material at the HPS site.

Based on a jurisdictional question in a May 22, 2007, letter from the Air Force, the NRC staff also reviewed the Region's August 23, 2001, terminated license review report for McClellan Air Force Base in Sacramento, California. This report documented NRC's review of the license file and concluded that radioactive material was transferred to other AEC licenses and subsequently to Air Force permits following issuance of the Air Force Master Materials License (MML) in 1985. The report also noted that the laboratory buildings had been remediated by the Air Force and released for unrestricted use. However, it was noted in the report that buried wastes have been identified at McClellan Air Force Base, and reclamation of these wastes was being conducted under Air Force oversight under the MML.

Information in the May 22, 2007, letter to NRC from the Air Force indicated to the NRC staff that some laboratory standards material could have been present along with atomic weapons test material in one recently excavated onsite burial pit. All of this material has been disposed of offsite. Recent NRC staff discussions with the Air Force clarified that the laboratory standards material was likely under the AEC license. The atomic weapons test material analyzed in this AEC-licensed laboratory was under Section 91(b) of the Atomic Energy Act of 1954 and, therefore, was always outside of AEC-NRC jurisdiction. The Air force also believes that these materials are commingled because both types of material were used in the laboratory analyses. Although, this excavated burial pit is considered by the Air Force to be the most likely pit to contain such material, additional information is needed from the Air Force regarding the potential for similar material at 10 other burial pits or areas on this site. As a result, the staff is

working the Air Force to obtain additional information to determine the potential presence of other AEC-licensed material at the former McClellan Air Force Base. If the additional information from the Air Force supports the potential for terminated AEC-licensed material, the recommendations for HPS would also apply to McClellan, and the staff would inform the U.S. Environmental Protection Agency Region 9 and the Air Force in letters similar to the one recommended for the HPS site in Enclosure 2.

Similar to the HPS site, McClellan has soil containing radium-226 contamination. Some of this soil is stockpiled at the excavated burial pit under a weatherization tent. The Air Force, rather than the NRC, has jurisdiction over the radium-226 present at McClellan, for the reasons discussed in the body of this Commission paper. The Air force will be providing NRC with additional information about the extent of the radium-226 contamination.

Draft Letter to U.S. Environmental Protection Agency Region 9

Regional Administrator
EPA Region 9

Dear Administrator

The U.S. Nuclear Regulatory Commission (NRC) staff has initiated consultations with the staff from the U.S. Environmental Protection Agency (EPA) Region 9 regarding the ongoing Navy remediation of the Hunters Point Shipyard (HPS) site under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and EPA oversight. NRC's interest in this site stems from the results of the Navy's Historical Radiological Assessment (HRA) in 2004, which provided new information and assumed the presence of material from Atomic Energy Commission (AEC) licenses previously terminated in 1970. The HRA also indicated that this material was likely to be commingled with and indistinguishable from atomic weapons testing material because the Navy's Radiological Defense Laboratory used both types of material in its research. The atomic weapons material has always been outside AEC-NRC jurisdiction, pursuant to Section 91b of the Atomic Energy Act. As a result of the HRA information, the Navy asked NRC to clarify the potential for NRC involvement with the remediation of the HPS site. The Navy also asked about NRC's new jurisdiction for radium-226 under the Energy Policy Act of 2005.

The NRC has decided that the most effective and efficient approach is to defer its authority and rely on the ongoing Navy remediation under the CERCLA process and EPA regulatory oversight. However, NRC would maintain a limited involvement to stay informed about the remediation effort.

Under this approach, NRC would not exercise its regulatory authority and not require compliance with its decommissioning regulations, but would retain the ability to respond to stakeholder questions. NRC would not conduct any formal regulatory reviews or participate in the ongoing CERCLA reviews of the Navy's remediation. However, NRC would retain the ability to access the site and remediation documents. NRC would primarily stay informed about the HPS remediation by using existing mechanisms such as standard Navy distributions and availability of the Administrative Record. NRC would also reserve the option of commenting to EPA to justify the continued reliance on the CERCLA process. Finally, NRC would continue its ongoing oversight of the Navy contractors' that have NRC licenses. Additional information about the preferred option is provided in the enclosed Commission paper and Commission's direction to the staff. I believe this option provides a balanced approach that allows remediation to proceed under CERCLA, avoids dual NRC-EPA regulation, and allows NRC to be in a position to respond to stakeholder questions in a timely and effective manner.

Enclosure 5

I request that you formally reply that EPA is in agreement with the NRC's proposed approach. I appreciate the assistance your staff has given to us, and if you have any questions regarding NRC's deferral and limited involvement, please call me at (301) 415-7197

Sincerely,

Charles L. Miller, Director
Office of Federal and State Materials
and Environmental Management Programs

Enclosure:
Commission Paper and Directions to Staff

cc: Navy contacts
State of California contacts
City of San Francisco contacts