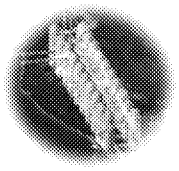

Status Update

~~Issue #3~~ – November 2017

Red Hill Underground Fuel Storage Facility

Implementation of the Administrative Consent Agreement between the Navy and Defense Logistics Agency and Hawaii Department of Health and US EPA for Environmental Investigation, Cleanup and Environmental Performance

EPA United States Environmental Protection Agency

HIGHLIGHTS OF INFORMATION IN THIS ISSUE:

- **Regulatory Agencies Approve Enhanced Tank Maintenance Procedures**
- **Navy Continues to Expand Groundwater Monitoring Network**
- **Drinking Water Sampling Continues to Meet Federal and State Standards**
- **Groundwater Experts Convene to Study Conditions Around Red Hill**
- **Tank Upgrade and Alternative Location Studies Near Completion**
- **Process for Selecting Tank Upgrades**
- **Public Information Workshop on Tank Upgrades in Late Winter/ Early Spring 2018**

Regulatory Agencies Approve Enhanced Tank Maintenance Procedures

On September 5, 2017, the Hawaii Department of Health and U.S. EPA ~~Environmental Protection Agency~~ approved the Navy's updated Tank Inspection, Repair, and Maintenance ("TIRM") Procedures for the Red Hill tanks. These improvements in tank maintenance will help to reduce the risk of future releases of fuel from the tanks.

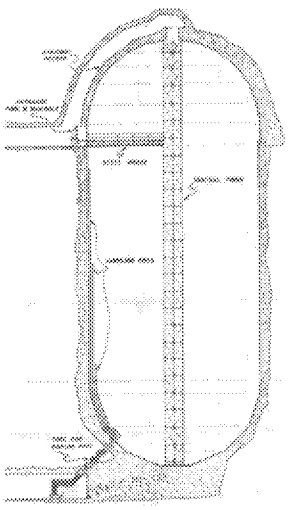

Figure 6-4 Typical Tank Construction

Notable improvements to the procedures include:

- Qualification requirements for Navy and contractor personnel
- Improved inspection procedures
- Improved repair and repair verification procedures
- Increased oversight of Navy contractors
- Additional protective measures prior to recommissioning tanks
- Increased frequency of precision leak testing
- Expanded use of high performance interior coating to prevent leaks

Further information on these improvements can be found at~~:~~ the U.S. EPA's Red Hill website.

Navy Continues to Expand Groundwater Monitoring Network

On August 25, 2017, the Navy provided revised plans for expansion of the groundwater monitoring network around the Red Hill facility. ~~T~~In addition to the monitoring wells installed since January 2014, the Navy is now planning to install an another four priority monitoring wells by the end of 2017 ~~in 2017~~ to improve understanding of groundwater flow conditions and water quality conditions (see map).

The Red Hill Fuel Tanks

The Navy's Red Hill Bulk Fuel Storage Facility, located near Pearl Harbor, provides fuel for military operations in the Pacific. First constructed in the 1940s, the unique facility includes 20 large underground storage tanks with a facility-wide capacity of approximately 250 million gallons of fuel. A fuel release of roughly 27,000 gallons in January 2014 led to a comprehensive plan to minimize the threat of future leaks and protect groundwater resources around the facility.

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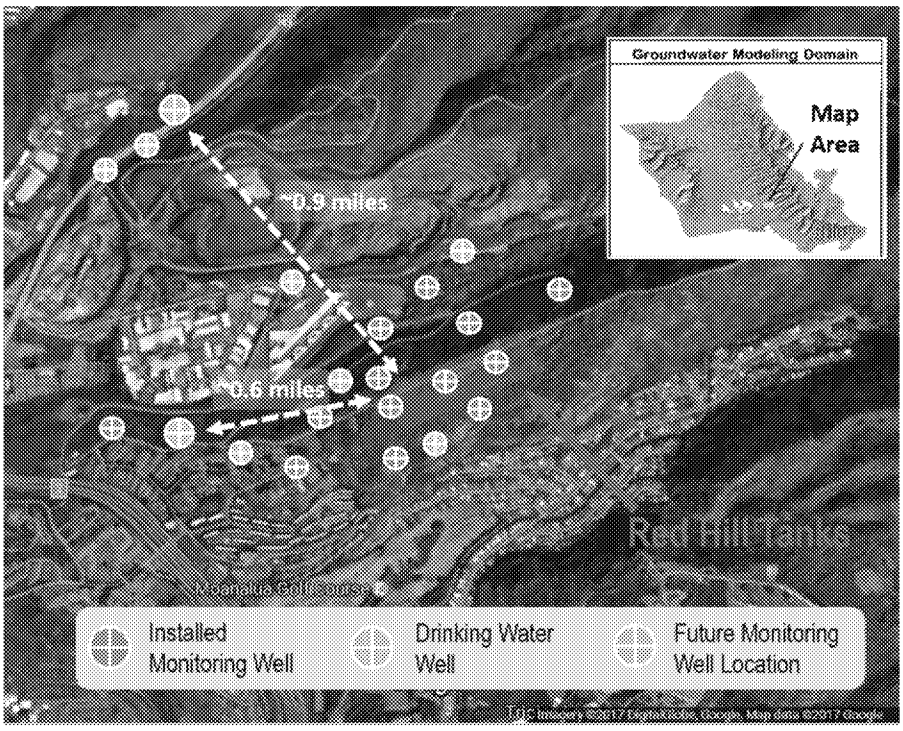

~~The new monitoring wells will be designed with seals between water bearing layers and multiple ports to collect water samples. These wells should provide additional information that will improve understanding of groundwater water flow in three dimensions and may also identify if any water bearing layers contain contamination that can be specifically targeted for cleanup. Because these wells draw water from isolated water-bearing zones, contaminant concentrations can differ significantly between zones, and much higher concentrations of pollutants may be identified at the wells near the tanks that are measured currently. This is because the sample represents a smaller area, and concentrations are calculated per-zone rather than for the entire well.~~ The new monitoring wells will have a more sophisticated design and will give detailed information on any contamination distribution laterally as well as vertically. This will be important for targeted cleanup and improve understanding of groundwater flow.

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Drinking Water Sampling Continues to Meet Federal and State Standards

Drinking water samples continue to meet federal and state standards and the most recent drinking water testing results continue to indicate that the public drinking water supply is safe. Depending on your location, drinking water in the Red Hill region is either supplied by the Honolulu Board of Water Supply, or Joint Base Pearl Harbor-Hickam Water System. Full drinking water reports are available on your local water purveyor's website.

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Groundwater Experts Convene to Study Conditions Around Red Hill

Representatives from the United States Geological Survey, Hawaii Department of Land and Natural Resources, Honolulu Board of Water Supply, Hawaii Department of Health, U.S. EPA and the Navy have formed a working group to discuss groundwater conditions around the Red Hill facility. Comprised of

engineers, expert scientists and hydrogeologists, the group reviews Navy work products and examines best practices to be employed as a regional groundwater model is being developed. The regional groundwater model is necessary to understand how water moves through the subsurface. An accurate understanding of groundwater flow will provide a strong basis for predicting how contamination will act in the subsurface.

Tank Upgrade and Alternative Locations Studies Near Completion

The Navy hired expert engineering consultants to study both tank upgrade options and alternative fuel storage locations. These two studies to be completed by the middle of December 2017 will provide critical information to the Navy and the Hawaii Department of Health and the U.S. EPA as they begin to evaluate how tanks at the facility should be upgraded. The Tank Upgrade Study will evaluate six tank upgrade options through approximately 20 factors ranging from construction challenges and cost to inspection and maintenance requirements. Three options utilize a single-walled tank system and three foresee area double-walled systems. The Alternative Locations Study is limited to investigating locations that would provide fuel support to Joint Base Pearl Harbor Hickam.

Process for Selecting Tank Upgrades

While the Navy conducts a study on alternative site locations, it is also conducting a study to investigate potential options for improving the containment structure of the tanks at Red Hill while the facility remains in operation. Rather than recommend a specific upgrade option, the tank study will provide conceptual design information regarding the tank upgrade alternatives. This information will be used in conjunction with work from other portions of the Red Hill Administrative Order on Consent and input from the community to ultimately inform the Navy and Hawaii Department of Health and U.S. EPA's determination of how to best upgrade the tanks.

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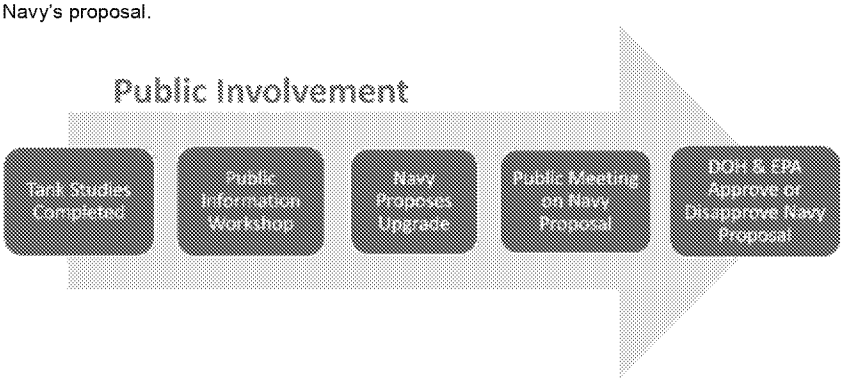
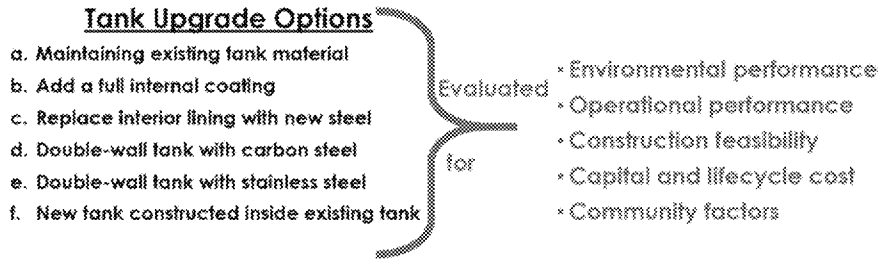
The selection of a containment upgrade solution will depend on the results of this study in conjunction with the other sections of the AOC (including, but not limited to; risk assessment, release detection, and tank inspection/repair/maintenance) and input from SMEs and the community.

The graphic below shows how public input will be sequenced and incorporated into a tank upgrade decision. Following completion of the tank studies, a public information workshop will be held to explain the content of the studies and to allow the Navy and Hawaii Department of Health and U.S. EPA to respond to questions and concerns from the community. Additional technical meetings to discuss the tank upgrade options will be held after the workshop and then the Navy will propose to implement a tank upgrade option. Hawaii Department of Health and U.S. EPA will then hold a public meeting to hear from the community about the Navy's proposed upgrade decision before electing to approve or disapprove the Navy's proposal.



A decision on how to best upgrade the tanks at Red Hill will be revisited once every five years. For this first tank upgrade decision, six tank upgrade options are being closely evaluated.



More information on the tank upgrade decision process is available on the Tank Upgrade Alternatives page of EPA's Red Hill website.

Public Information Workshop on Tank Upgrades

The Navy and the Hawaii Department of Health and U.S. EPA will be hosting a public information workshop in late Winter or early Spring of 2018 in Honolulu, Hawaii to answer questions about the Tank Upgrade and Alternative location studies. The workshop will be an open-house style format to allow community members an opportunity to have their individual questions answered one on one with representatives from each organization.

For Further Information

[HYPERLINK "https://www.epa.gov/red-hill"]
[HYPERLINK "http://health.hawaii.gov/shwb/ust-red-hill-project-main/"]

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