Red Hill Bulk Fuel Storage Facility - Frequently Asked Questions

Why did EPA and DOH negotiate an Administrative Order on Consent with the Navy?
As a result of the fuel release from Tank 5 at the Red Hill Bulk Fuel Storage Facility ("Facility") in January 2014, EPA and the Hawaii Department of Health (DOH) brought an enforcement action against the Navy and Defense Logistics Agency (DLA) to address past fuel releases and minimize the likelihood of future releases. In general, a negotiated agreement such as an Administrative Order on Consent is appropriate, and the best enforcement tool to solve complex environmental problems since it allows for flexible and innovative solutions. The Administrative Order on Consent also goes beyond the scope of merely complying with the current regulations. The Red Hill Administrative Order on Consent is structured to establish a process for collecting the necessary data and evaluating the optimal technical solutions to address past fuel releases and prevent future releases.

Was the Administrative Order on Consent revised based on comments received from the public?
Yes, EPA and DOH made changes to the Administrative Order on Consent based on public comments. Specifically, eight changes were made to the Statement of Work, the document which provides a detailed description of the work to be performed under the Administrative Order on Consent. The changes address involvement of key stakeholders and the public; tank inspection, repair and maintenance procedures; the installation of additional groundwater monitoring wells; compliance with new Federal Underground Storage Tank Regulations; additional actions to reduce risks posed by the facility; and consideration of alternative fuel storage locations. In addition, the Navy and DLA committed to complete tank upgrades as soon as reasonably practicable. Many public comments were related to specific aspects of the work that will be performed. Specific technical requirements will be developed under the various tasks in the Statement of Work, and public comments related to these details will be considered during the development of the work plans required under the Administrative Order on Consent.

What if new information indicates that the Facility poses a much greater risk than current data suggest?
The Administrative Order on Consent is flexible and work requirements will be tailored to the findings from studies of the Facility and the surrounding environment conducted under the Administrative Order on Consent. In addition, the EPA and DOH each reserve their rights to take additional actions if they determine, together or separately, that the Administrative Order on Consent is not sufficiently protective. Existing regulations require the Navy and DLA to respond immediately to any emergency situation encountered at the Facility.

Why will it take such a long time to implement tank improvements under the Red Hill Administrative Order on Consent?
The primary goal of the Administrative Order on Consent is to ensure the long-term protection of groundwater resources in the vicinity of the Facility. Implementing the right solution for the Facility is a significant engineering challenge, and it will require technologies and procedures specifically designed for the Facility. The initial phases of the Administrative Order on Consent focus on accomplishing the extremely complex and critical work of evaluating, designing, and selecting cleanup specifics and upgrade technologies for the massive, uniquely engineered tanks, which are believed to be the largest underground fuel tanks in the world. Implementing an

effective long-term solution will take time to ensure its success. However, much work will also be conducted within the first two years of the Administrative Order on Consent to ensure that the Facility is operated safely while a long-term solution is implemented. The schedule requires the Navy and the DLA to hit the ground running, submitting within 120 days multiple plans ranging from improving inspection protocols and assessing groundwater contamination risk to addressing cleanup methods and tank upgrade alternatives. In all, the Navy and DLA are to complete approximately 40 tasks within the first three years. EPA and DOH anticipate opportunities to accelerate the current tank upgrade schedule, and the agreement includes penalties for the Navy and DLA if current schedules are not met. Ultimately, tanks not upgraded by the end of the current schedule will have to be taken out of service.

Can a double wall be added to the tanks at the Facility now?
In order to ensure the successful operation of such a major upgrade, further studies of the existing tank structure and engineering feasibility studies are necessary. The size and structure of the tanks at the Facility are unique. If not designed and constructed properly, a tank retrofit could increase the risk of future fuel releases.

Is my drinking water safe?
Yes, the drinking water is safe for human consumption for both Board of Water Supply customers and military communities. The water for Board of Water Supply customers and military communities is being tested every three months to assure the water is safe. Contamination related to the Facility has never been detected in the Honolulu Board of Water Supply drinking water sources.

What is the likelihood of a future catastrophic release at the Facility?
A catastrophic release from the Facility into groundwater is very unlikely. The tanks are constructed in solid rock and consist of 2.5 to 4 feet thick reinforced concrete and a steel plate. Major earth movement that would rupture a tank at the Facility is highly unlikely due to the construction of the tanks and the relatively low earthquake threat on Oahu. The most likely catastrophic release scenario would be a piping failure with a release into the lower access tunnel. This vulnerability is being addressed by the Navy and DLA with the installation of oil tight doors in the tunnel system, along with a new fire suppression system to reduce the threat of a release caused by fire. Furthermore, the piping in the lower tunnel system is not buried or concealed and is visually inspected daily.

Has contamination been found in the groundwater beneath the Facility?
Some contamination has been found in the groundwater immediately below the Facility. To date, some of these groundwater samples have exceeded the DOH's screening levels, but no samples have exceeded federal drinking water standards. The characteristics of the geology surrounding the tanks and depth to groundwater (approximately 100 feet) may be significantly limiting the vertical migration of contamination at the Facility.

Is Tank 5 still leaking? Tank 5 released approximately 27,000 gallons of fuel in January 2014.
No, Tank 5 is not leaking. It is currently not in service. Following the confirmation of a fuel release from Tank 5 in January 2014, the tank was emptied of all fuel and has not been refilled.

Why did Tank 5 leak in January 2014?
The cause of the release from Tank 5 was poor repair procedures and workmanship during the Navy and DLA's scheduled maintenance of the tank that concluded in December 2013. The EPA and DOH have hired fuel storage tank experts to help review the Navy and DLA's procedures and practices in order to minimize the likelihood of such errors in the future.

Is the Facility in compliance with federal and state regulations?
Yes, the Red Hill Bulk Fuel Storage Facility is currently in compliance with state and federal regulations for underground storage tanks. We do not have evidence that the Facility was ever out of compliance, even at the time of the release from Tank 5.

Will the fuel already released from the Facility eventually contaminate the Board of Water Supply drinking water sources?
The migration of existing Facility contamination to the Board of Water Supply wells is unlikely. The predominant direction of groundwater flow beneath the Facility does not appear to be towards the nearby Board of Water Supply Halawa Shaft or the Moanalua wells. Additionally, over time naturally occurring bacteria typically degrade subsurface petroleum into harmless byproducts.

If contamination does get to drinking water supply locations, will these supplies be unusable?
No, petroleum related contamination can be easily and reliably removed from water. In the unlikely event petroleum from the Facility reaches drinking water sources, technologies such as granular activated carbon can be used to remove contamination. Granular activated carbon is a widely utilized technology that has proven effective at removing organic contaminants such as petroleum from water. This technology is currently being used by the Board of Water Supply to remove pesticide-related contamination from water used for drinking water on Oahu. In the unlikely event that fuel from the Facility reaches drinking water supplies, the Navy and DLA will be liable for the cost of any treatment required.

Can fuel released from the Facility be easily found and removed from the subsurface?
Unfortunately, locating and removing fuel released from the Facility will likely be difficult. The fractured basalt rock geology surrounding the tanks at the Facility is one of the most difficult settings to conduct environmental assessments and cleanup. The rock is difficult to drill into and contamination often flows in hard to find fractures in the rock. In some cases the rock traps the contamination and drilling a well through that location can worsen the problem by allowing contamination to spread from the areas where it is trapped in the rock. EPA and DOH are currently working with experts with experience in fractured basalt geology to identify technologies that may be able to locate and remove or destroy contamination.

EPA just published new regulations that apply to the tanks at the Facility. What changes will these new federal regulations require?
On July 15, 2015, EPA finalized revisions to the underground storage tanks regulations that change the regulatory requirements for tanks such as those at the Facility, known as "field constructed tanks." The regulations include new requirements for leak detection, operator

training, inspections, and testing of spill prevention equipment. EPA and DOH are currently evaluating the Navy's leak detection systems, which may already meet the new federal requirements.

The new regulations do not require installation of secondary containment at the Facility. Secondary containment is only required for new tank systems. Metal corrosion control known as cathodic protection is required under the new regulations in certain circumstances. Because the tanks are encased in concrete, cathodic protection is not required or effective at reducing corrosion of the tanks.

Since Hawaii has a federally-approved underground storage tanks program, the new regulations will take effect when Hawaii changes their rules. Hawaii has up to three years to make the needed changes.

Is the Facility inspected?
Yes, the Navy conducts inspections of the Facility regularly. EPA and DOH with the assistance of fuel storage tank experts are currently working on developing robust inspection procedures for the Facility. New inspections of the Facility by EPA and DOH are expected to begin in the near future.

What is Board of Water Supply's role in addressing fuel releases from the Facility?
Board of Water Supply manages Oahu's municipal water resources and distribution system and is responsible for providing clean and safe drinking water to its customers. The Board of Water Supply is a key stakeholder for work under the Administrative Order on Consent and is listed in the Administrative Order on Consent as a subject matter expert whose technical advice will be routinely sought during implementation of work under the Administrative Order on Consent.

DOH is responsible for overseeing drinking water quality and is the agency with expertise in issues related to regulation of fuel storage, environmental assessment and cleanup within the State. EPA is working in partnership with DOH to address issues related to the Facility. Both DOH and EPA have regulatory authority to ensure protection of drinking water resources.

Where can I find more information on the Facility and the Administrative Order on Consent?
More information on the Facility and the Administrative Order on Consent, including contact information, can be found at http://www3.epa.gov/region09/waste/ust/redhill/index.html or http://health.hawaii.gov/shwb/ust-red-hill-project-main/. If you would like to receive notices and other information regarding the Red Hill Administrative Order on Consent, you can join our e-mail distribution list by submitting a form at http://www2.epa.gov/region-9-documents/forms/red-hill-aoc-public-distribution-list.