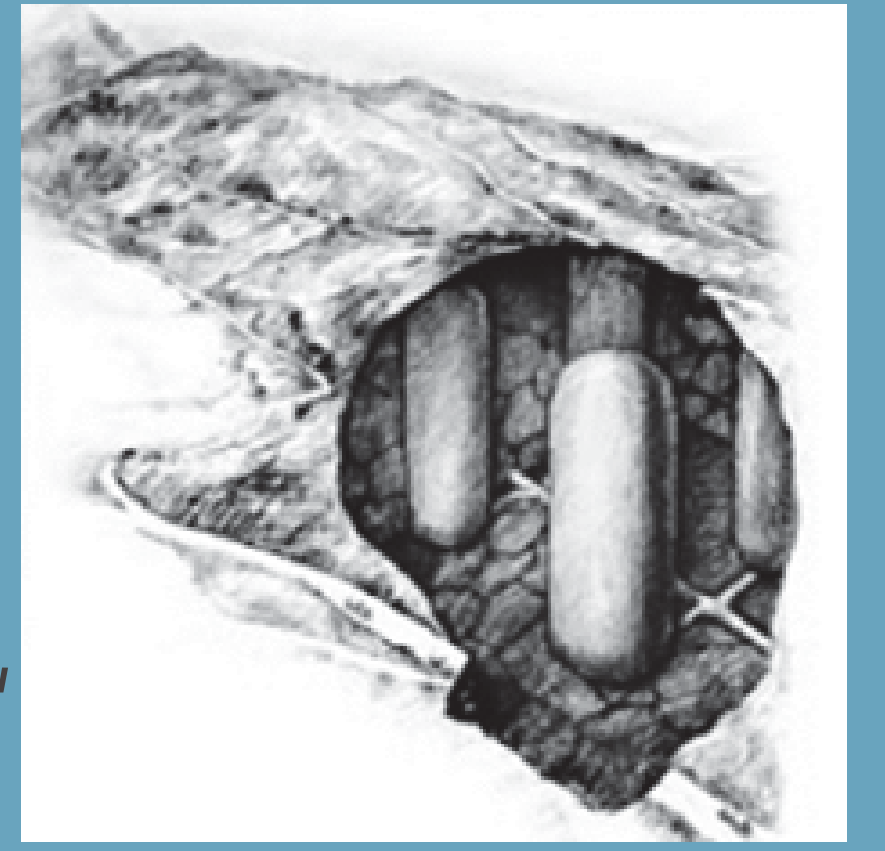


# RED HILL BULK FUEL STORAGE FACILITY SCHEDULE

Located east of Pearl Harbor, Hawaii, the U.S. Navy's Red Hill Facility provides fuel for military operations in the Pacific. Originally constructed in the 1940s inside the hills of Oahu and able to store up to 250 million gallons of fuel in 20 steel-lined concrete underground tanks, the Facility sits above a source of drinking water. In January 2014 the Navy reported a 27,000 gallon leak of fuel. In 2015 EPA, the State of Hawaii and Navy and Defense Logistics Agency reached a comprehensive enforceable agreement, or **Administrative Order on Consent**, requiring the Navy to perform environmental and infrastructure work.

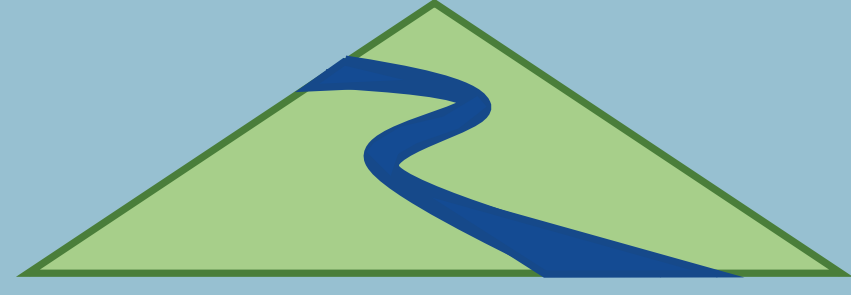


## Milestone In Focus

### Administrative Order on Consent ("AOC")

The AOC requires the Navy to ensure the groundwater resource is protected. Tanks storing fuel must be upgraded by the AOC deadline or they will be removed from service until they are upgraded. EPA and the State of Hawaii have already approved the Navy's plan for improved tank maintenance.

## Environmental

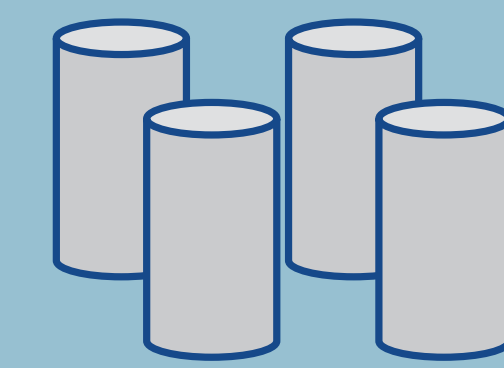


- **Installation of New Monitoring Wells**  
Up to 8 new monitoring wells installed to further understanding of groundwater.
- **Groundwater Flow Model**  
Report and model detailing groundwater flow patterns. Interim progress reports due in Q2 and Q3. Final report *Due Q4*
- **Investigation and Remediation of Releases**  
Report detailing the extent and remedial options for the 2014 release: *Due Q4*

## Public Engagement

- **Public Workshop**  
Navy explains study of tank upgrade alternatives. *Q1*
- **Public Meeting**  
EPA and State of Hawaii seek public input on Navy's tank upgrade proposal. *Planned Q3*
- **House Armed Services Committee Briefing**  
Joint briefing before Congressional committee. *Q4*

## Infrastructure



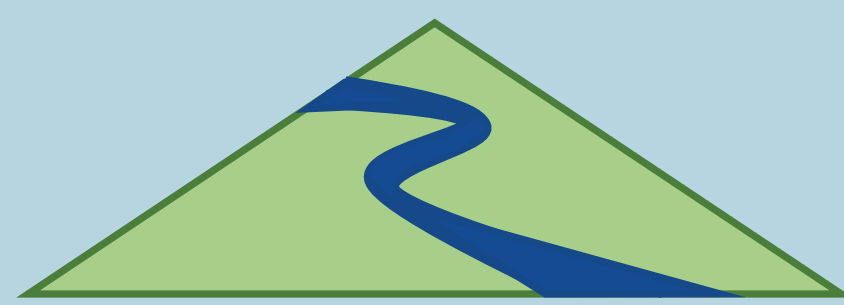
- **Alternative Storage Locations**  
An investigation of other potential locations to store fuel that supports Pearl Harbor. *Due Q1*
- **Tank Release Detection**  
Tests to evaluate advancements in leak detection technology. *Due Q2*
- **Tank Upgrade Proposal**  
A proposed upgrade alternative to retrofit the facility's tanks. *Due Q3*
- **Risk Assessment**  
Quantitative study to infer the risk and probability of uncontrolled fuel releases from the facility. *Due Q4*

## Milestone In Focus

### Tank Upgrade Proposal

The Navy's proposal will be based on results from other work completed under the AOC and input from key stakeholders. Potential upgrades may be simple or complex, and could vary widely in cost. All upgrade decisions are subject to EPA and State of Hawaii approval.

## Environmental

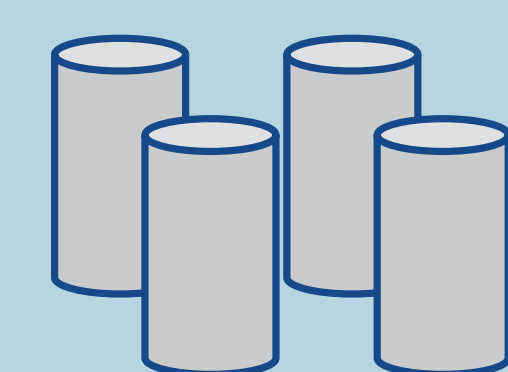


- **Groundwater Fate and Transport Modeling**  
A report on contaminant degradation and movement around the facility. *Q3 2019*
- **Groundwater Monitoring Well Network Plan Update**  
Final report on the existing and future monitoring well network serving the Red Hill Facility. *2020*

## Public Engagement

- **Public Meeting**  
EPA and State seek public input on AOC progress. *Planned Q3 2019 & Q3 2020*

## Infrastructure



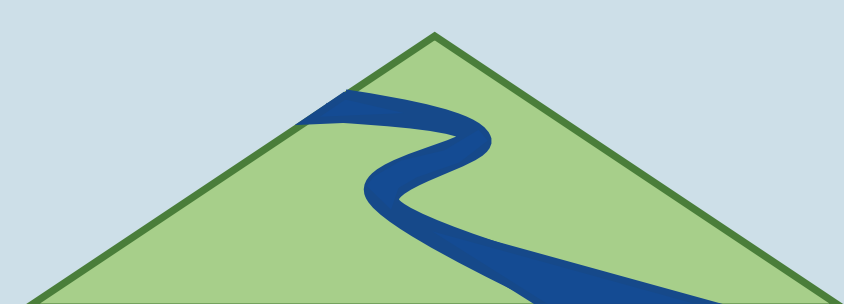
- **Tank Corrosion Study**  
An evaluation of Navy's tank inspection techniques. *Q2 2019*
- **Risk Assessment Update**  
Potential revision to risk assessment that incorporates groundwater understanding. *2020*

## Milestone In Focus

### Groundwater Fate and Transport Modeling

Examines existing and potential contaminant movement in the environment utilizing understanding of geology, contaminant degradation, and groundwater flow.

## Environmental

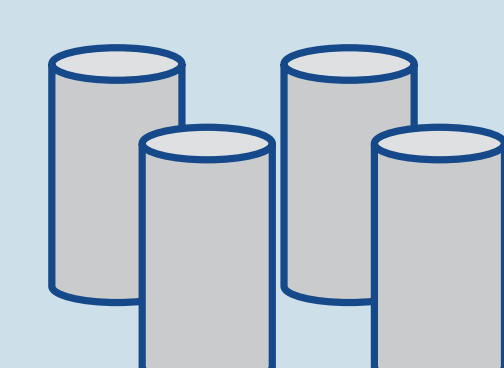


- **Groundwater Protection Plan Update**  
An updated plan that includes release response procedures and risk based action levels. *Q3 2021*

## Public Engagement

- **Public Meetings**  
EPA and State of Hawaii must seek public input. *Q3 Annually*

## Infrastructure



- **Tank Upgrade Study**  
Revisit tank upgrade alternatives every 5 years. *2023*
- **Revised Tank Maintenance Plan**  
Revise tank maintenance plans to reflect tank upgrade selections.
- **Tank Upgrade Deadline**  
In service tanks must be upgraded by 2037, or 2042 if Congressional authorization is needed.

## Milestones In Focus

### Groundwater Protection Plan Update

Details actions triggered in response to possible contamination migrating from the facility towards any drinking water well.

### Tank Upgrade Deadline

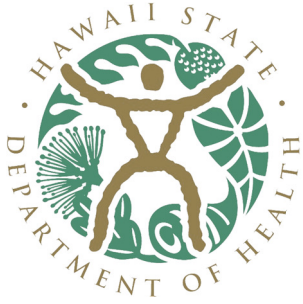
Any large tanks not upgraded by the AOC deadline must be removed from service until they receive an upgrade.

2018

2019 - 2020

2021 & after





# Oversight of the Red Hill Facility

## Current Regulations on FCTs

(HAR 11-281)

- Design & construction requirements for tank and piping (corrosion protection)
- Release reporting, investigation, and confirmation
- Release response action
- Closure and change-in-service

## Proposed Regulations version 12.2017

**Estimated effective date - October 2018**

(HAR 11-280.1)

- By 2018
  - Secondary containment & interstitial monitoring or approved alternative design and release detection for all **newly** constructed FCTs
- By 2021
  - UST system permitting & notification
  - Spill & overfill control
  - Compatibility
  - Reporting & recordkeeping
  - Equipment repair, testing & maintenance
  - Walkthrough inspections
  - Release detection
  - Financial Responsibility
  - Operator Training

## The Administrative Order on Consent Aggressively Regulates Red Hill

Effective date - September 28, 2015

### Requires Regulatory Evaluation and Approval of...

- Tank Upgrade (every 5 year interval)
- Improvements to Tank Maintenance Protocols
- Facility Specific Leak Detection Methods
- Corrosion Evaluation Methods
- Non-Destructive Testing Evaluation Procedures
- Operating Protocols including Response to Alarms
- Environmental Assessments including Contaminant Transport Modeling monitoring well network installation
- Updates to Contingency Plans & A Qualitative Risk Assessment Plan

### Additional advantages of the AOC over the rules

#### Local Participation

- Requires opportunity for public participation annually
- Involves local subject matter experts & local stakeholders

#### Tangible Results

- Requires immediate changes to training, operational procedures (e.g. filling procedures) & response to alarms
- Increase frequency of tank tightness testing
- Evaluation & selection of better, redundant release detection methods
- Deadline when tanks without approved upgrade will not be allowed to operate