

**REPORT TO THE TWENTY-NINTH LEGISLATURE
STATE OF HAWAII
2017**

**PURSUANT TO ACT 244 SLH 2016
REQUESTING THE DEPARTMENT OF HEALTH
TO ESTABLISH A PERMANENT FUEL TANK ADVISORY COMMITTEE
TO STUDY THE ISSUES RELATED TO LEAKS OF FIELD-CONSTRUCTED
UNDERGROUND STORAGE TANKS AT RED HILL BULK FUEL STORAGE FACILITY,
AS WELL AS, FOUR (4) OTHER DOD FACILITIES**

**PREPARED BY:
STATE OF HAWAII
PERMANENT FUEL TANK ADVISORY COMMITTEE
DECEMBER 2016**

The scope of the work prescribed in Act 244 SLH 2016 is a continuation of work from two previous task forces that were formed per Senate Concurrent Resolution (SCR) 57 (2015) and SCR 73 (2014). The purpose of these two groups was to gauge the impact of a 27,000-gallon fuel leak at the Red Hill Storage Facility and to assess what efforts were being made to prevent future releases from that facility. For additional details of those efforts please see the Department of Health Solid & Hazardous Waste Branch's (SHWB) website on Underground Storage Tanks (USTs) and namely the Red Hill Bulk Fuel Storage Facility (<http://health.hawaii.gov/shwb/ust-red-hill-project-main/>).

During these meetings, concerns were raised regarding USTs that were constructed in-situ during the 1940s and that were still in operation seventy (70) years later. Specifically, Act 244 SLH 2016 mandates a permanent, "advisory committee that shall study issues related to leaks of field-constructed underground fuel storage tanks (FCTs) at the Red Hill Fuel Storage Facility, Kuahua Peninsula, Pacific Missile Range Facility Barking Sands, Hickam Pol Annex, and Schofield barracks Military Reservation." A copy of this Act is attached as Appendix A.

On October 6, 2016, the Fuel Advisory Committee was assembled and the meeting was held. A court reporter made a transcript that is available as part of this official report. Because of the size of the document, it will be posted on the SHWB website. Also, a listing of committee members and attendees are attached as Appendix B.

Field- Constructed Tanks (FCT) Update

Navy representatives presented a summary of active FCTs, FCTs that were recently put into temporarily out of use (TOU) and permanently out of use (POU) status. The Navy's PowerPoint slides are attached as Appendix C. There were no changes from the table provided in the last report to the legislature in December 2015 (<http://health.hawaii.gov/shwb/files/2016/02/report-12.23.15.pdf>). In summary, 31 FCTs are active at two locations, Red Hill and the Pacific Missile Range Facility in Kauai. Because so

little information had changed in the year since the last update, a discussion ensued regarding the necessity and frequency of future update meetings.

The Navy acquired many of these facilities/tanks from U.S. Air Force during the Joint Base merge in 2010, and the details regarding the source of releases and a more in-depth history of the investigations at each site were not carried over from these original owners. It was mutually agreed upon that the Navy needed to give more details regarding these particular sites. The suggestion was given that although numerous reports were available to the public through DOH's Hazard Evaluation and Emergency Response (HEER) Office, the Navy should consolidate background information, organize it and presented it to the group in a more comprehensive overview for the next meeting.

DOH is tentatively scheduling the next Fuel Advisory Committee meeting for the second quarter of 2017. The U.S. Air Force and the U.S. Army asked if they could be excused from future meetings since they no longer manage any FCTs. Other than that change, the members will remain the same and will be notified when the next date becomes secured.

Administrative Order on Consent (AOC) and Scope of Work (SOW) Update For Red Hill

Because the Red Hill Fuel Storage Facility, has its own requirement under the Administrative Order on Consent (AOC) for separate public updates, there was a discussion as to whether it would be redundant to also provide Red Hill updates for this Fuel Advisory Committee. Red Hill accounts for 22 of the 31 active FCTs that were in the update. This Fuel Advisory Committee spent most of the time allotted on issues regarding updates to the Red Hill Facility and not the other FCTs.

The AOC is the enforcement agreement against the Navy with regards to investigations of and improvements to the Red Hill Facility after a release in January 2014. There have been various scoping meetings held addressing topics like Tank Upgrade Alternatives (TUA), Tank Inspection Repair and Maintenance (TIRM), groundwater monitoring and modeling efforts and Risk and Vulnerability Assessment (RVA), for example. There was also an invitation to a public meeting later that evening at Moanalua Middle School which would serve as the public meeting required under the AOC. Work product from these various scoping meetings and interim deliverables as required in the AOC/SOW are available for the public at the SHWB website (<http://health.hawaii.gov/shwb/ust-red-hill-project-main/>).

The public was informed on October 2016, through various web announcements of a formal letter that was sent from the regulatory agencies on September 15, 2016 to the Navy regarding their disapproval of Section 6 & 7 Work Plan that was submitted as part of the AOC/SOW work. This letter is available at the above website which houses all of the AOC/SOW deliverables. There was a discussion in regards to why this letter was sent and what the consequences were for the Navy moving forward.

In regards to the completion of a revised work plan that addresses issues brought up in the 'disapproval' letter, Captain Epps, Commanding Officer for Fleet Logistic Center at Pearl Harbor, commented, "Our boss, Admiral Fuller is saying we're committed to meeting every single deadline and actually accelerating this when given permission by the regulators."

The Commission on Water Resource Management (CWRM) also asked questions with regards to the latest addition of monitoring wells at Red Hill (MW 8 & MW 9) that were installed in the NW and SW

direction from the Red Hill tanks in September 2016. They also wanted to know the schedule for MW 10 and MW 11 which are slated for installation on December 2016 and early 2017 respectively.

Update on the Federal UST Rules

EPA was asked to clarify the Federal UST rules revision which was promulgated in October 2015 and how it would affect Red Hill and FCTs moving forward. DOH has until October 2018 to update their UST rules to be as stringent as the Federal but they also have an ability to be more stringent if they deem it necessary.

2016 Fuel Advisory Committee Documents Available on the SHWB UST Website [\(http://health.hawaii.gov/shwb/ust-red-hill-project-main/\)](http://health.hawaii.gov/shwb/ust-red-hill-project-main/)

- Transcripts from the court reporter

Appendices

Appendix A - Act 244 SLH 2016

Appendix B - Meeting Agenda, List of Members of the Fuel Advisory Committee & Attendees

Appendix C - PowerPoint Presentation by the Navy to Update Status of FCTs

Appendix A



GOV. MSG. NO. 1353

EXECUTIVE CHAMBERS
HONOLULU

DAVID Y. IGE
GOVERNOR

July 12, 2016

The Honorable Ronald D. Kouchi,
President
and Members of the Senate
Twenty-Eighth State Legislature
State Capitol, Room 409
Honolulu, Hawai'i 96813

The Honorable Joseph M. Souki,
Speaker and Members of the
House of Representatives
Twenty-Eighth State Legislature
State Capitol, Room 431
Honolulu, Hawai'i 96813

Dear President Kouchi, Speaker Souki, and Members of the Legislature:

This is to inform you that on July 12, 2016, the following bill was signed into law:

HB2646 HD2 SD2 CD1

RELATING TO ENVIRONMENTAL PROTECTION
ACT 244 (16)

Sincerely,

DAVID Y. IGE
Governor, State of Hawai'i

A BILL FOR AN ACT

RELATING TO ENVIRONMENTAL PROTECTION.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF HAWAII:

1 SECTION 1. The legislature finds that protecting the
2 environment and underground sources of drinking water is in the
3 best interest of public health and safety and required under
4 article XI, section 7, of the state constitution.

5 The legislature also finds that since 2005, petroleum
6 chemical contaminants have been detected in the groundwater and
7 rocks beneath the United States Department of the Navy's Red
8 Hill Bulk Fuel Storage Facility fuel tanks. In January 2014,
9 the facility's tank number five released twenty-seven thousand
10 gallons of fuel into underground rocks and groundwater. The
11 current location of the released fuel is unknown.

12 The Red Hill Bulk Fuel Storage Facility fuel tanks have
13 been corroding for more than seventy years. The corrosion has
14 caused significant thinning of the steel tank walls and, in some
15 cases, has fully penetrated the steel. The ongoing corrosion
16 damages the steel walls of the fuel tanks, as well as the steel
17 reinforcement in the surrounding concrete, and can lead to more



1 frequent and larger fuel releases than have occurred in the
2 past.

3 The legislature further finds that the installation of
4 monitor wells is crucial to test groundwater underneath and
5 surrounding the Red Hill Bulk Fuel Storage Facility to protect
6 Oahu's fresh water supply. While it should be the duty of the
7 United States Navy to fund efforts to monitor and remediate fuel
8 leaking from the Red Hill Bulk Fuel Storage Facility, the
9 protection of Oahu's drinking water supply is of such critical
10 importance to the health and safety of the people of Hawaii that
11 as a first step, the local board of water supply is funding the
12 installation of two test wells in the area. The State is also
13 funding two test wells in the area, and the people of Hawaii are
14 waiting for the United States Navy to provide funding for at
15 least four additional wells.

16 The purpose of this Act is to protect public health by
17 establishing a permanent fuel tank advisory committee.

18 SECTION 2. Chapter 342L, Hawaii Revised Statutes, is
19 amended by adding a new part to be appropriately designated and
20 to read as follows:



1 "PART . FUEL TANK ADVISORY COMMITTEE

2 §342L- Fuel tank advisory committee; established;

3 composition. (a) There is established in the department of

4 health the fuel tank advisory committee, which shall consist of

5 up to fourteen ex officio members and at least two public

6 members.

7 (b) The ex officio members of the committee shall be:

- 8 (1) The director of health, who shall serve as the
- 9 committee's chair;
- 10 (2) The four members of Hawaii's congressional delegation,
- 11 or their designees;
- 12 (3) The president of the Hawaii senate, or a senator
- 13 appointed by the president of the senate;
- 14 (4) The speaker of the Hawaii house of representatives, or
- 15 a representative appointed by the speaker of the
- 16 house;
- 17 (5) The chairperson of the board of land and natural
- 18 resources, or the chairperson's designee;
- 19 (6) The chairperson of the board of water supply of a
- 20 county with a population of five hundred thousand or
- 21 more, or the chairperson's designee; and



1 (7) The chairperson of the commission on water resource
2 management, or the chairperson's designee.

3 (c) The following persons shall be invited to participate
4 on the advisory committee as ex officio members:

5 (1) The Commanding General of the United States Army,
6 Pacific, or the Commanding General's designee;

7 (2) The Commander of the Pacific Fleet of the United
8 States Navy, or the Commander's designee;

9 (3) The Commander of the Pacific Air Forces, or the
10 Commander's designee; and

11 (4) A representative from the United States Environmental
12 Protection Agency, or the representative's designee.

13 (d) The governor shall appoint at least two public members
14 from the community at large in accordance with section 26-34;
15 provided that the advice and consent of the senate shall not be
16 necessary.

17 (e) The public members of the advisory committee shall
18 receive no salary, but shall be entitled to reimbursement for
19 necessary expenses, including travel expenses.

20 §342L- Duties. (a) The advisory committee shall study
21 issues related to leaks of field-constructed underground fuel



1 storage tanks at the Red Hill Bulk Fuel Storage Facility, Kuahua
2 Peninsula, Pacific Missile Range Facility Barking Sands, Hickam
3 Pol Annex, and Schofield Barracks Military Reservation. The
4 advisory committee shall consider:

- 5 (1) The short- and long-term effects of leaks of the fuel
6 tanks, including effects relating to the health of
7 residents, safe drinking water, and the environment;
- 8 (2) Response strategies to mitigate the effects of leaks
9 from fuel tanks;
- 10 (3) Methods to improve communication between the United
11 States Navy, Air Force, and Army; the State; any local
12 board of water supply; and the public in the event of
13 a leak of any fuel tank;
- 14 (4) Groundwater test results in relation to the
15 surrounding areas of fuel tank facilities, with a
16 particular emphasis on the groundwater near the Red
17 Hill Bulk Fuel Storage Facility;
- 18 (5) The implications of shutting down any fuel tank
19 facility; and



1 (6) Updates on progress toward meeting goals of agreement
2 between the State, the affected county, and the
3 federal government.

4 (b) No later than twenty days before the convening of each
5 regular session, the advisory committee shall submit a report of
6 its findings, including groundwater test results, and
7 recommendations, including any proposed legislation, to the
8 legislature."

9 SECTION 3. (a) All rights, powers, functions, and duties
10 of the task force to study fuel tank leaks initially created
11 pursuant to senate concurrent resolution no. 73, H.D. 1, regular
12 session of 2014, and expanded by senate concurrent resolution
13 no. 57, H.D. 1, regular session of 2015, are transferred to the
14 fuel tank advisory committee established pursuant to this Act.

15 (b) All records, equipment, machines, files, supplies,
16 contracts, books, papers, documents, maps, and other personal
17 property heretofore made, used, acquired, or held by the task
18 force to study fuel tank leaks relating to the functions
19 transferred to the fuel tank advisory committee established



1 pursuant to this Act shall be transferred with the functions to
2 which they relate.

3 SECTION 4. This Act shall take effect on July 1, 2016.

APPROVED this 12 day of JUL , 2016



GOVERNOR OF THE STATE OF HAWAII



Appendix B

**Fuel Advisory Committee – FCT update
Thursday, October 6, 2016
9:30 a.m. to 12 p.m.**

**919 Ala Moana Boulevard, 5th Floor
Honolulu, HI 96814**

AGENDA

- 1. Call to Order**
- 2. Welcome & Introductions – Keith Kawaoka, Deputy Director of Health, SOH**
 - a. Congressional Delegation**
 - b. State Legislature**
 - c. Department of Defense**
 - d. SMEs**
 - e. Public Members**
- 3. Purpose of Fuel Advisory Committee**
 - a. Short- and long- term effects of leaks
 - b. Response strategies to mitigate the effects of leaks
 - c. Method to improve communication between the US Navy, Air Force, and Army; the State; any local board of water supply; and the public in the event of a leak
 - d. Groundwater test results in relation to the surrounding areas of fuel tank facilities
 - e. Implications of shutting down any fuel tank facility
 - f. Updates on progress towards meeting goals of agreement between the State, the affected county, and the federal government
- 4. Presentations by DOD Representatives (if provided)**
 - a. Army**
 - b. Air Force**
 - c. Navy**
- 5. Next Update & Schedule for report to the legislature by DOH**
- 6. Adjournment**

Red Hill Task Force Members

1. Keith Kawaoka, Deputy Director, Department of Health
2. Congressional District 1, Cynthia Rezendes
3. Hirono's Office, TBD (previously Alan Yamamoto)
4. Gabbard's Office, Ryan Joslin, Military Affairs Liaison
5. Captain Kenneth W. Epps, NAVSUP FLC Hawaii
 - a. Captain Hayes
6. Army Hawaii, Sally Pfenning, Director of Public Works
7. Air Force Hawaii, TBD
8. Senator Glenn Wakai, Chair, Energy/Environment Committee
9. Representative Chris Lee, Energy/Environmental Committee
10. Steven Linder, EPA Region IX
11. Ernest Lau, P.E., Honolulu Board of Water Supply
12. Patrick Casey, Commission on Water Resource Management
13. Patrick Casey, Department of Land & Natural Resources
14. Steven Onoue, President, Moanalua Valley Community Association (pending)
15. David Yomes, Chair Aliamanu/Salt Lake Neighborhood Board (pending)

Schatz's Office, Dale Hahn (not official member)

Underground Storage Tank Program Website <http://health.hawaii.gov/shwb/underground-storage-tanks/>
Red Hill Website <http://health.hawaii.gov/shwb/ust-red-hill-project-main/>

Red Hill Fuel Advisory Committee

Task Force Members (not present/RED)			
Keith	Kawaoka	Deputy Director of Environmental Health	Department of Health
Captain	Rich Hayes	Commanding Officer	NAVFAC Hawaii
Captain	Ken Epps	Commanding Officer	FLCPH
Senator	Glenn Wakai	Chair, Energy/Environmental Committee	Hawaii State Senator
Rep Chris	Lee	Energy/Environmental Committee	Hawaii State Representative
Steven	Linder	Manager, UST Program	Environmental Protection Agency Region IX
Ernest	Lau	Program Manager	Honolulu Board of Water Supply
Patrick	Casey	Geologist	DLNR/Commission on Water Resource Management (CWRM)
Steven	Ononue	President	Moanalua Valley Community Association
David	Yomes	Chair	Salt Lake/Aliamanu/Foster Village Neighborhood Board NB#18
Cynthia	Rezentes	designee for 1st Congressional Seat/formerly Takai	
Ryan	Joslin	designee for Representative Tulsi Gabbard	
Kehau	Yap	designee for Senator Mazie Hirono	
Dale	Hahn	designee for Senator Brian Schatz	
		designee for Air Force	
Sally	Pfenning	designee for Army	
DOH			
Stuart	Yamada	Chief, Environmental Management Division	Department of Health
Steven	Chang	Chief, Solid and Hazardous Waste Branch	Department of Health
Roxanne	Kwan	Supervisor, Underground Storage Tank Section	Department of Health
Thu	Perry	Public Participation Coordinator, UST Section	Department of Health
Joanna	Seto	Chief, Safe Drinking Water Branch	Department of Health
Grace	Simmons	Supervisor, Hazardous Waste Section	Department of Health
Jenny	Bernier	LUST Project Officer	Department of Health
Navy			
Aaron	Poentis		NAVFAC Hawaii
Jimmy	Miyamoto		Navy
Drew	Lovegren		NAVSUP FLCPH
Tom	Clements		Navy
Danae	Smith		DLA
John	Floyd		FLC
Kathy	Isobe		Navy
Raelynn	Kishaba		NAVFAC Hawaii

Appendix C



Navy Region Hawaii
Senate Task Force Meeting
Fuel Advisory Committee

FIELD CONSTRUCTED TANKS

CAPT Richard Hayes III - Regional Engineer, Navy Region Hawaii
CAPT Ken Epps – Commanding Officer, Fleet Logistics Center, Pearl Harbor

October 6, 2016

Supporting the Fleet, Fighter, Family in Hawaii



Field Constructed Tanks

Active as of October 2016

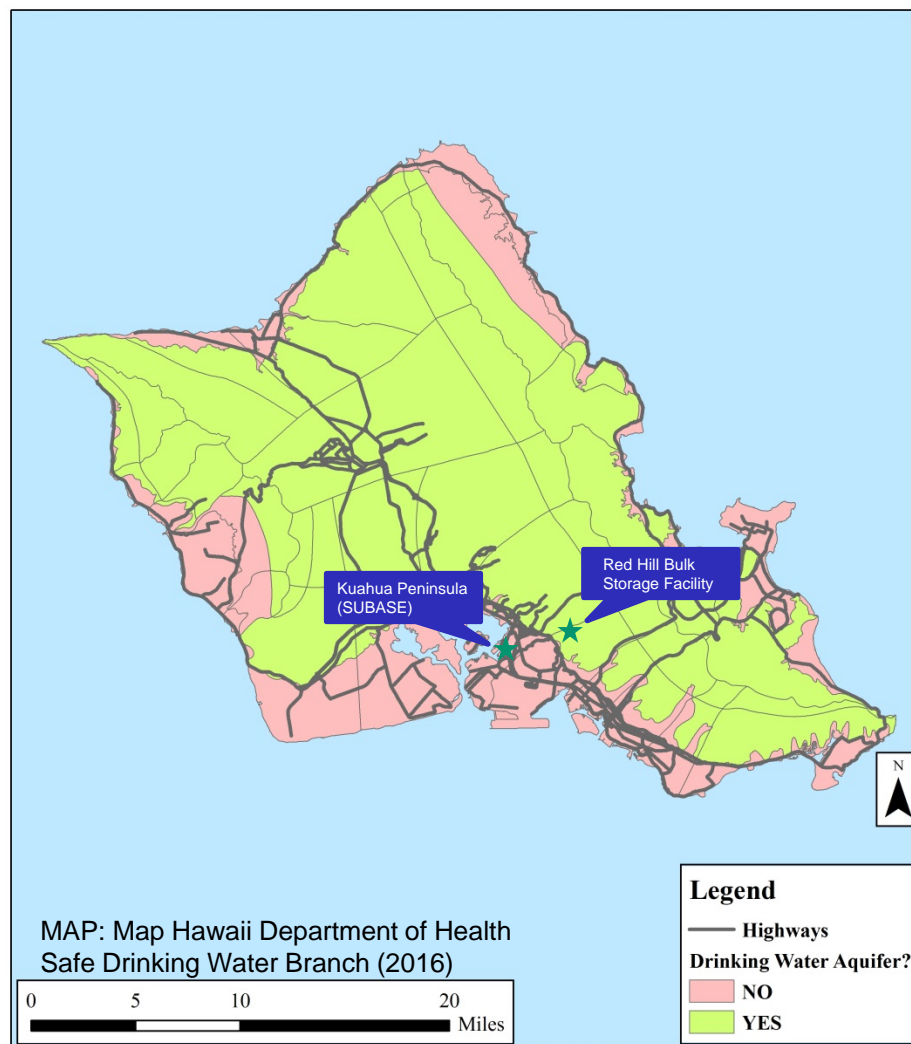
Location	Status	Qty	Capacity of each tank (gallons)	Composition	Installation Date	Over Drinking Water Resource	NOTES
Kipapa Gulch Fuel Storage Annex - Hickam Air Force Base - Wheeler Air Force Base	POU*	4	2,650,000	Bare Steel	May 1941	Yes	DOH Office of Hazard Evaluation & Emergency Response is overseeing remediation (bioventing) for a release
Red Hill Facility	TOU*	2	12,700,000	Bare Steel, encased in concrete	May 1941	Yes	
Red Hill Facility	In use	18	12,700,000	Bare Steel, encased in concrete	May 1941-1943	Yes	DOH Office of Solid & Hazardous Waste Branch is responding to a release from Tank 5
Kuahua Penninsula – Submarine Base Pearl Harbor	TOU*	3	20,000	Concrete	1941	No	DOH HEER Office is overseeing efforts
Kuahua Penninsula – Submarine Base Pearl Harbor	TOU*	5	94,000	Concrete	1941	No	DOH HEER Office is overseeing efforts
Kuahua Penninsula – Submarine Base Pearl Harbor	In use	4	425,000	Bare Steel	June 1942	No	Surge tanks used at Red Hill Facility
Pacific Missile Range	In use	9	50,000	Cathodically Protected Steel	April 1942	No	
Hickam POL Annex Waikakalaua - Hickam Air Force Base - Wheeler Air Force Base	POU	9	1,765,000	Field Constructed Concrete Encased Steel	May 1941	Yes	DOH HEER Office is overseeing remediation (bioventing) for a release
TOTAL	In use	31					
	TOU/POU*	23					
		54					

Supporting the Fleet, Fighter, Family in Hawaii



Oahu Field Constructed Tanks

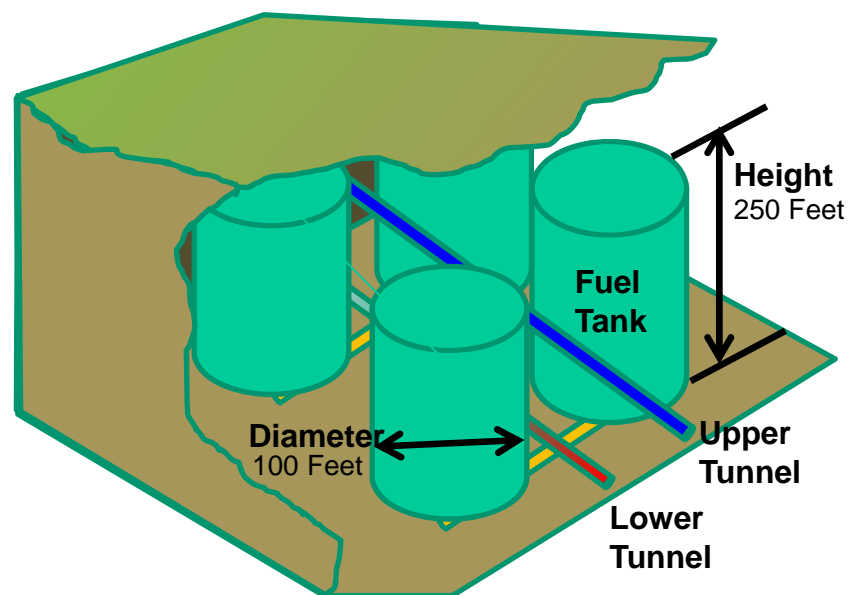
- Active Field Constructed Tanks Operating on Oahu
- Green color represents the Drinking Water Aquifers





Red Hill Bulk Fuel Storage Facility

- Eighteen (18) active tanks – 12.5M gallons each
- Two (2) tanks temporarily out of use
- Steel-lined concrete tanks, surrounded by basalt rock.
- Installed between 1940 – 1943
- State-of-the-art inventory management system
- Subject to Modified API 653 Inspections
 - 20-year suitability inspection
 - Next inspection 2017 - 2028
- Leak Detection
 - Tank Tightness Tests completed for all tanks within last 12 months
 - Complies with Federal regulations
- National Historic Civil Engineering Landmark





Kuahua Peninsula Red Hill Surge Tanks

- Four active tanks – 300K gallons each
- Intermediate transfer point for fuel
- Normally empty – emergency storage
- Bare steel encased in concrete
- Installed in June 1942
- Subject to Modified API 653 Inspections
 - Last done between 2004 – 2006
 - 20-year suitability inspection
 - Next inspection 2024 – 2026
- Leak Detection
 - Tank Tightness Tests completed in December 2015 and February 2016
- No reported releases
- Not over Drinking Water Aquifer





Kuahua Peninsula Former Diesel Purification Plant

- Three Tanks – 25K gallons each
- Five Tanks – 100K gallons each
- Tanks are empty
- Concrete
- Installed in 1941
- Temporarily out of use (last used in 1990)
- Included in the 1997 Naval Base Subsurface Oil Remedial Investigation
 - Evidence of fuel release
 - Recoverable free product removed
 - Monitoring indicates plume stable
 - State DOH approved action in 2010
- Demolition and removal actions starting in July 2016
- Not over Drinking Water Aquifer



Kauai Field Constructed Tanks

- Active Field Constructed Tanks Operating on Kauai
- Green color represents the Drinking Water Aquifers





Pacific Missile Range Facility Fuel Farm

- Nine active tanks – 50K gallons each
- Store Jet A
- Welded Steel
- Installed in April 1942
- Subject to Modified API 653 Inspections
 - Last done between 2011 – 2012
 - 10-year suitability inspection
 - Next inspection 2021 – 2022
- Leak Detection
 - Monthly static leak test
- No reported releases
- Not over Drinking Water Aquifer





QUESTIONS?



BACKUP



AOC STATUS

Administrative Order on Consent (AOC)/ Scope of Work (SOW) Status

AOC/SOW is composed of 8 Sections.

SECTION 1: Overall Project Management. Delineates roles, responsibilities, and a Plan of Actions and Milestones (POA&M).

SECTION 2: Tank inspection, repair, maintenance (TIRM) procedures to ensure continued tank integrity and develop and implement procedural improvements to prevent releases into the environment.

Scoping Completed June

Work Plan Report Due
October 11th

SECTION 3: Identification and evaluation of Tank Upgrade Alternatives (TUA), and the selection and implementation of Best Available Practicable Technology (BAPT) and TIRM procedures to prevent future releases into the environment.

Scoping Completed June

Work Plan Report
Submitted September 8th

TUA Report Due September 8, 2017

SECTION 4: Document and evaluate current Release Detection/Tank Tightness Testing (RD/TTT) and assess possible improvements to these processes.

Report Submitted
August 16th

Initial Scoping Started
October 3rd

Administrative Order on Consent (AOC)/ Scope of Work (SOW) Status (continued)

AOC/SOW is composed of 8 Sections.

SECTION 5: Evaluate the possibility and extent of corrosion and metal fatigue as well as practice to control corrosion and metal fatigue.

Report Approved
June 30th

Scoping Initiated For Destructive
Testing October 3rd

SECTION 6/7: Determine feasibility of alternatives for investigating and remediating releases from Red Hill. Efforts include a soil characterization study to evaluate potential remediations for the Tank #5 release.

Monitor and characterize the flow of groundwater around the facility while evaluating and updating the existing Groundwater Protection Plan. Efforts include installing four additional groundwater monitoring wells around Red Hill to support modeling studies.

Work Plan Comments
Received September 15th

Work Plan Being Revised

SECTION 8: Assess the level of risk the facility may pose to ground and drinking water aquifers while informing signatory parties of subsequent BAPT decisions. A risk/vulnerability assessment may include comparative risk/benefit between the current facility and alternative storage locations.

Draft Work Plan
Submitted August 12th

Scoping Continues



State Task Force Report (Dec 2014)

- List of Field Constructed Tanks (Appendix E of the 2014 Senate Task Force Report) provided by State Department of Health

List of Field Constructed Tanks in Hawaii

Location	Status	Qty	Capacity of each tank (gallons)	Composition	Installation Date	Over Drinking Water Resource	NOTES
Kipapa Gulch Fuel Storage Annex	POU* In 2002	4	2,650,000	Bare Steel	May 1941	Yes	DOH Office of Hazard Evaluation & Emergency Response is overseeing remediation (bioventing) for a release
Red Hill Facility	TOU* Tank 19 in 1986 Tank 1 in 1997	2	12,700,000	Bare Steel, encased in concrete	May 1941	Yes	
Red Hill Facility	In use	18	12,700,000	Bare Steel, encased in concrete	May 1941-1943	Yes	DOH Office of Solid & Hazardous Waste Branch is responding to a release from Tank 5
Kuahua Peninsula – Submarine Base Pearl Harbor	TOU* In 1990	3	20,000	Concrete	May 1943	No	
Kuahua Peninsula – Submarine Base Pearl Harbor	TOU* In 1990	5	94,000	Concrete	May 1943	No	
Kuahua Peninsula – Submarine Base Pearl Harbor	In use	4	425,000	Bare Steel	May 1941	No	Surge tanks used at Red Hill Facility
Pacific Missile Range	In use	9	50,000	Cathodically Protected Steel	April 1942	No	
Schofield Barracks	POU* In 1996	1	550	Concrete	Unk	Yes	
TOTAL	In use	31					
	TOU/POU*	15					
		46					

*TOU – temporarily out of use, subject to additional information from the tank owners
 *POU – permanently out of use/closed



Field Constructed Tanks Navy Update - October 2015

List of Field Constructed Tanks in Hawaii

★ Tanks for Red Hill Task Force discussion (as per SDOH)

Deleted as not Field Constructed Tank

Former Storage Facility Supported Hickam and Wheeler Air Force Base

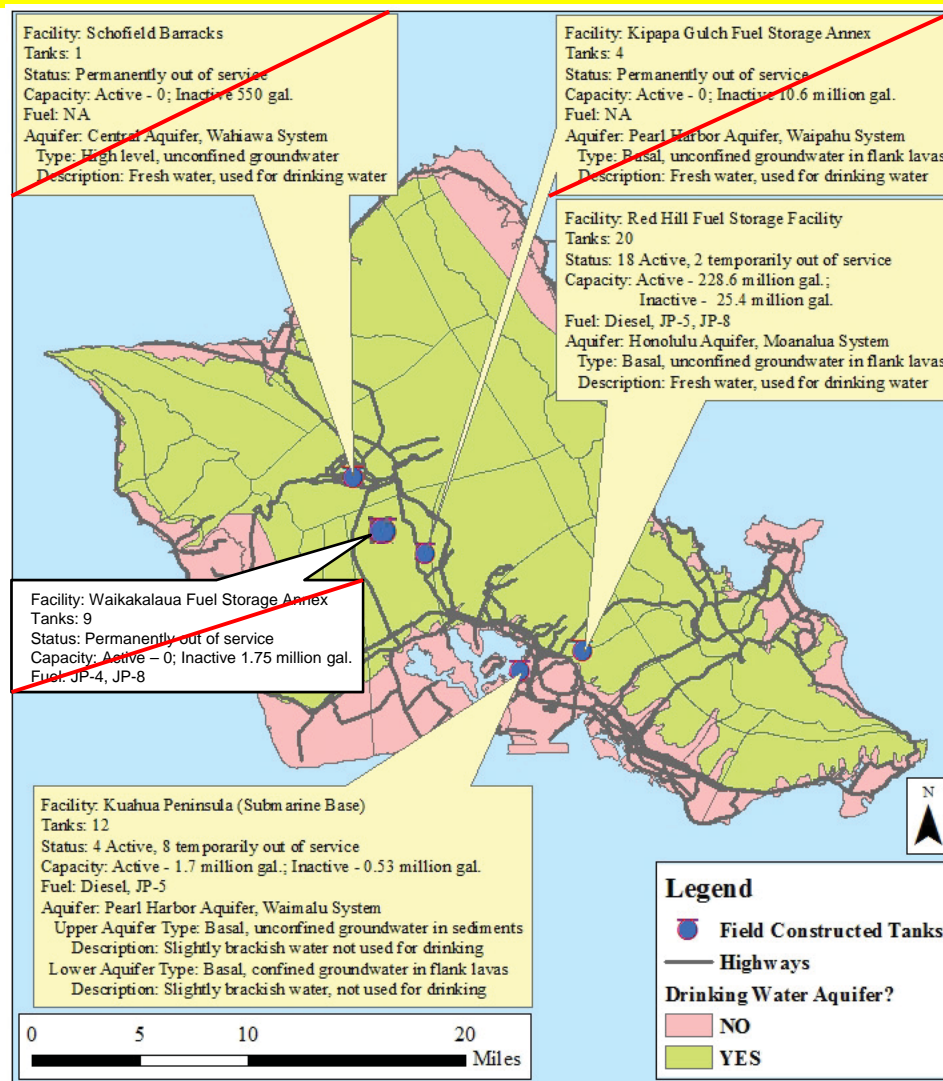
DOH HEER – Department of Health Hazard Evaluation & Emergency Response

Location	Status	Qty	Capacity of each tank (gallons)	Composition	Installation Date	Over Drinking Water Resource	NOTES
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Kuabua Peninsula – Submarine Base Pearl Harbor	TOU*	3	20,000	Concrete	May 1943 1941	No	DOH HEER Office is overseeing efforts
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Kuabua Peninsula – Submarine Base Pearl Harbor	In use	4	425,000	Bare Steel	May 1941 June 1942	No	Surge tanks used at Red Hill Facility
Pacific Missile Range	In use	9	50,000	Cathodically Protected Steel	April 1942	No	
Schofield Barracks	POU*	1	660	Concrete	Unknown	Yes	
Hickam POL Annex Waikakaloa - Hickam Air Force Base - Wheeler Air Force Base	POU	9	1,765,000	Field Constructed Concrete Encased Steel	May 1941	Yes	DOH HEER Office is overseeing remediation (bioventing) for a release
TOTAL	In use	31					
	TOU/POU*	24					
		55					



Revised Field Constructed Tanks Oahu Map Navy Update - October 2015

- Oahu Field Constructed Tanks
 - Red Hill – In Use
 - Kuahua Peninsula (Red Hill Surge Tank) – In Use
 - Kuahua Peninsula (Former Diesel Purification Plant) – Temporarily Out of Use





State Task Force Report (Dec 2014)

- Kauai Field
Constructed Tanks
 - Pacific Missile
Range Facility –
In Use

