

DAVID Y. IGE  
GOVERNOR OF HAWAII



**STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES**

POST OFFICE BOX 621  
HONOLULU, HAWAII 96809

**Testimony of  
SUZANNE D. CASE  
Chairperson**

**Before the Senate Committees on  
ECONOMIC DEVELOPMENT, ENVIRONMENT, AND TECHNOLOGY  
and  
COMMERCE, CONSUMER PROTECTION, AND HEALTH**

**March 18, 2016  
9:15 AM**

**State Capitol, Conference Room 229**

**In consideration of  
HOUSE BILL 2646, HOUSE DRAFT 2  
RELATING TO ENVIRONMENTAL PROTECTION**

House Bill 2646, House Draft 2 proposes to establish in the Department of Health a permanent fuel tank advisory committee to study issues related to leaks of underground fuel storage tanks at the Red Hill Bulk Fuel Storage Facility, Kuahua Peninsula, Pacific Missile Range Facility Barking Sands, Hickam Pol Annex, and Schofield Barracks Military Reservation. **The Department of Land and Natural Resources (Department) strongly supports this measure.**

Our underground aquifers are the major source of drinking water for the people of Hawaii. We have a public trust obligation to protect and preserve this valuable and irreplaceable resource. We must be proactive and protective to ensure the long-term sustainability of our precious water resources statewide.

With respect to the State's funding of two test wells around the United States Navy's Red Hill Bulk Fuel Storage Facility and the funding for an additional four wells from the United States Navy, the Department notes that a representative from the Department's Commission on Water Resource Management (Commission) sat on the Red Hill Task Force and recommended and supported the installation of additional monitor wells in areas around the facility. Further, the Commission itself has recently taken strong positions that more action needs to be done immediately. Although a relatively small step towards resolution of this serious concern, the siting and installation of two additional monitor wells is timely action in the right direction.

**SUZANNE D. CASE**  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT

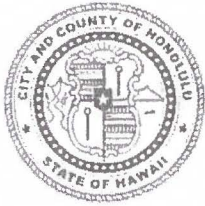
**KEKOA KALUHIWA**  
FIRST DEPUTY

**JEFFREY T. PEARSON, P.E.**  
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES  
BOATING AND OCEAN RECREATION  
BUREAU OF CONVEYANCES  
COMMISSION ON WATER RESOURCE MANAGEMENT  
CONSERVATION AND COASTAL LANDS  
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FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION  
KAHOOLAWE ISLAND RESERVE COMMISSION  
LAND  
STATE PARKS

With respect to the advisory committee and its duties proposed in this measure, underground tanks are a major threat to the public trust water resources of the State. It is critical that all owners and operators of underground storage tanks regularly monitor for leaks using approved methods, maintain adequate records, and meet corrosion protection, spill, and overfill requirements. These systems are prone to leak over time, as evidenced by the recent case regarding the Red Hill fuel storage tanks. However, the Department defers to the Department of Health regarding the appropriate means of funding, managing, and implementing the responsibilities of this advisory committee.

Lastly, it is unclear what is meant in SECTION 3 (b) that transfers functions and materials between the Red Hill Task Force, created and expanded pursuant to Senate Concurrent Resolution 73, House Draft 1, Regular Session of 2014 and Senate Concurrent Resolution 57, House Draft 1, Regular Session of 2015, respectively, and this measure's proposed advisory committee.



**CITY COUNCIL**  
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**BRANDON ELEFANTE**

Councilmember District 8

Aiea, Pearl City, Waipahu

Chair, Committee on Business, Economic Development and Tourism

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March 16, 2016

The Honorable Glenn Wakai, Chair

The Honorable Rosalyn H. Baker, Chair

and Members of the Senate Committee on Development, Environment, and Technology

and Members of the Senate Committee on Commerce, Consumer Protection, and Health

Subject:

**House Bill 2646 HD 2: Relating to Environmental Protection**

This testimony is to convey strong support for House Bill 2646 HD 2, to create a permanent fuel tank advisory committee to study and monitor fuel tank leak issues. Establishing a permanent fuel tank advisory committee would help mitigate potential adverse impacts to groundwater resources on the island of Oahu from any past and future leaks or spills at underground fuel storage tanks, including the Red Hill Bulk Fuel Storage Facility (Red Hill facility).

The creation of this fuel tank advisory committee could also be pro-active by looking at prevention of fuel spills rather than focusing on the uncertainty and possibly ineffective after-the-fact remediation. By the time remediation is needed, it is likely we will have a serious environmental crisis that potentially could have been averted. We need to assure that these facilities are sound and safe so that remediation is never needed.

To illustrate the importance of a permanent fuel tank advisory committee to protect public health, my testimony will focus on the Red Hill facility. Containing 20 vertical storage tanks, the Red Hill facility is capable of storing approximately 250,000,000 gallons of fuel. Regrettably, according to the State Department of Health, Navy-commissioned studies have indicated the presence of petroleum chemicals in the groundwater and soil beneath the facility. In January 2014, the Navy confirmed that fuel from the Red Hill facility's Tank 5 leaked 27,000 gallons of JP-8 aviation fuel.

According to the Manager and Chief Engineer of the Board of Water Supply (BWS), the fuel storage facility sits only about 100-feet above the aquifer that serves as a major drinking water resource to both the BWS and the Navy. Moreover, a BWS well located about one mile to the northwest of Red Hill and another to the south contribute over 25 percent of the water pumped daily to the BWS's metropolitan system for the island of Oahu.

Any past or future fuel tank leaks at the Red Hill facility or any other underground fuel storage tanks hold the potential for catastrophic impacts upon the underlying drinking water aquifers, directly affecting our island's residents. The establishment of a permanent fuel tank advisory committee would provide a mechanism for open discussion and transparency of information, thereby protecting our island's most precious resource – the groundwater aquifer – for future generations.

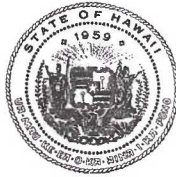
I respectfully request your passage of House Bill 2646 HD 2.

Sincerely,

A handwritten signature in black ink, appearing to read "Brandon Elefante", is written over a circular official stamp.

Brandon Elefante  
Councilmember, District 8





**STATE OF HAWAII**  
**DEPARTMENT OF HEALTH**  
P. O. Box 3378  
Honolulu, HI 96801-3378  
doh.testimony@doh.hawaii.gov

**Testimony in SUPPORT of H.B. 2646, H.D. 2**  
**RELATING TO ENVIRONMENTAL PROTECTION**

SENATOR GLENN WAKAI, CHAIR  
SENATE COMMITTEE ON ECONOMIC DEVELOPMENT, ENVIRONMENT AND  
TECHNOLOGY

SENATOR ROSALYN H. BAKER, CHAIR  
SENATE COMMITTEE ON COMMERCE, CONSUMER PROTECTION AND HEALTH

Hearing Date: March 18, 2016  
Time: 9:15am

Room Number: 229

1 **Fiscal Implications:** Allocates reimbursement for necessary expenses.

2 **Department Testimony:** The Department of Health supports the intent of H.B. 2646, H.D. 2  
3 and offers the following comments:

- 4 1. It is unclear whether H.B. 2646, H.D. 2 includes the study of all underground storage  
5 tanks. It would appear that the intent is for the study of leaks from field-constructed  
6 tanks owned and operated by the U. S. military.
- 7 2. The Department of Health also recommends to include the director of health or the  
8 director's designee on Line 7, page 3 of the bill.

9 If the intent is to study field-constructed tanks, we propose the following language:

10 "§342L- **Duties:** (a) The advisory committee shall study issues related to leaks of field-  
11 constructed underground fuel storage tanks at the Red Hill Bulk Fuel Storage Facility, Kuahua  
12 Peninsula, Pacific Missile Range Facility Barking Sands, and Hickam POL Annex. The advisory  
13 committee shall consider:..."

14 Thank you for the opportunity to testify on this measure.

## BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU  
630 SOUTH BERETANIA STREET  
HONOLULU, HI 96843



March 18, 2016

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Manager and Chief Engineer

ELLEN E. KITAMURA, P.E.  
Deputy Manager and Chief Engineer

The Honorable Glenn Wakai, Chair  
and Members  
Committee on Economic Development, Environment,  
and Technology

and

The Honorable Rosalyn Baker, Chair  
and Members  
Committee on Commerce, Consumer Protection,  
and Health  
State Senate  
Hawaii State Capitol, Room 229  
415 South Beretania Street  
Honolulu, Hawaii 96813

Dear Chair Wakai, Chair Baker, and Members:

Subject: House Bill 2646 HD 2 Relating to Environmental Protection

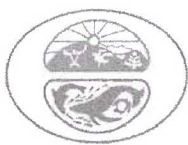
We strongly support House Bill 2646 HD 2. This bill creates a permanent fuel tank advisory committee to study and oversee fuel tank leak issues.

The establishment of a permanent fuel tank advisory committee ensures the results of on-going and future studies and work to understand and mitigate the impact of fuel leaks receive immediate and continuous discussion, analysis, follow up attention and action. It also provides a way for the open discussion and disclosure of information. The public has a right to know about the quality of their environment and drinking water aquifers and are entitled to the responsibility and transparency vested in this advisory committee to protect them as declared in article XI, section 7 of the state constitution. This bill is in the best interest of public health protection and our most precious resource – the groundwater aquifer – and we respectfully request your passage of this measure.

Thank you for the opportunity to testify.

Very truly yours,

for ERNEST Y.W. LAU, P.E.  
Manager and Chief Engineer



Conservation Council  
for Hawai'i

*Hawai'i's voice for wildlife*  
Kō Hawai'i, leo no nā holoholona lōhiu

Testimony Submitted to the  
Senate Committee on Economic Development, Environment, and Technology  
And Senate Committee on Commerce, Consumer Protection, and Health

Hearing: Friday, March 18, 2016 9:15 am  
Conference Room 229

In Support with Comments on HB 2646 HD 2 - Relating to Environmental Protection

Chair Wakai, Chair Baker, Vice Chair Slom, Vice Chair Kidani, and Members of the Committee.

Aloha. Conservation Council for Hawai'i supports the intent of HB 2646 HD 2, which creates a permanent fuel tank advisory committee to study, monitor, and address fuel tank leak issues.

By all means, establish the committee to study and monitor the issues. But at the same, someone needs to actually monitor the leaks and potential leaks, mitigate the damage, and protect public health, our groundwater, other natural resources. This requires funding; what is the funding source?

In the Red Hill situation, the U.S. Navy should pay the full cost of monitoring and remediating its leaking fuel. Unfortunately, instead of looking out for the public interest in the Red Hill disaster, the State and the EPA gave away the store. The State and the EPA should also require the Navy to replace its ancient and dilapidated fuel storage tanks in the next 5-10 years, and not 20 years from now as provided in the Administrative Order on Consent. In the meantime, the leaking fuel at Red Hill is in the soil, and it is not going away. It may only be a matter of time before the fuel reaches our groundwater.

The Red Hill situation is an extreme example of what happens without proper environmental stewardship and oversight, and failure on the State's part to negotiate in the public's best interest.

Please support HB 2646 HD 12 but not at the expense of actual monitoring, remediating, and preventing contamination at Red Hill and other hot spots.

Mahalo nui loa for the opportunity to testify.

Sincerely,

Marjorie Ziegler

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**SENATE COMMITTEE ON COMMERCE, CONSUMER PROTECTION, AND HEALTH**

Chair Sen. Rosalyn Baker; Vice Chair Michelle Kidani

**SENATE COMMITTEE ON ECONOMIC DEVELOPMENT, ENVIRONMENT, AND  
TECHNOLOGY**

Chair Sen. Glenn Wakai; Vice-Chair Sen. Sam Slom

**Testimony on House Bill 2646 H.D. 2, Relating to Environmental Protection  
Hearing on date/time: Friday, March 18, 2016, 9:15pm,  
Conference Room 229, State Capitol, 415 South Beretania Street**

**Testimony by Navy Region Hawaii**

Chairs Baker and Wakai, Vice-Chairs Kidani and Slom, and Senators,

We wanted to take this opportunity to inform the committees on what work we are doing to upgrade the Red Hill tank facility.

Since 2006, the Navy and Defense Logistics Agency have invested \$192 million to both modernize Red Hill and provide for environmental testing. This includes \$43 million to upgrade the facility's fire suppression, ventilation and oil-tight door systems. We plan to invest an additional \$20 million in Red Hill over the next five years to further enhance the integrity of the tanks and operational efficiency of the facility.

Red Hill's steel tanks are encased in 2.5 to four feet of reinforced concrete. The reinforced concrete is surrounded by a thin layer of grout and another six to eight inches of gunite, creating a barrier to the environment and serving as a seismic activity mitigation control. We put all of the Red Hill tanks through a clean/inspect/repair cycle which includes nondestructive 100% electromagnetic scanning for tank thickness. At any given time, three of the twenty tanks are undergoing this process. Any areas of the tank with a steel thickness that is determined to provide an inadequate margin of safety against corrosion for at least twenty more years is strengthened by welding additional steel to the inside of the tank.

The January 2014 release was from a tank that had just gone through this clean/inspect/repair work. The release was due to human error, and not the age of, or corrosion to, the Red Hill facility. The Navy invoked the warranty provision of the earlier contract for Tank 5 repairs so that the contractor, at its own cost, can correct any errors and complete the work as originally negotiated. The contractor, with close government and third party oversight, has performed tests to identify work that did not meet original contract requirements and has commenced rework; each repair site is being re-inspected with close government and third party oversight following rework.

After public notice, hearing, and comment, the governing Administrative Order on Consent/Statement of Work (AOC/SOW) between the U.S. EPA, State Department of Health, and the Navy was signed on September 28, 2015. All work called for by the AOC/SOW is over and above the hundreds of millions of dollars in upgrades mentioned above. Our initial joint scoping meetings were held in December 2015, and addressed the schedule for specific deliverables.

Although a 2008 Red Hill Repair Tanks Options Study was done, this was a conceptual product highlighting two concepts for further consideration by the government. Neither of these options involved proven technology, and each recommended approach would have required an additional pilot project to prove the concepts and confirm cost validity.

Under the AOC/SOW, the Navy, along with EPA and DOH, will analyze six tank upgrade alternatives, which include but are not limited to, double-walling the tanks or building a new tank within the existing tanks. Note, however, these are unique, 12.5 million-gallon structures inside a rock mountain. They are 250' tall and 100' in diameter (Aloha Tower could fit inside of each tank), and located deep inside solid basalt only accessible through a narrow tunnel. What might work for an above-ground tank, or a small 10,000 gallon, prefabricated underground fuel tank at the local gas station, may not function at Red Hill.

None of our Red Hill tanks are leaking and we can accurately assess their condition through our constant testing. Because the tanks are surrounded by concrete and basalt, there is limited oxygen outside the tank walls to create a corrosive environment. Steel plates from these tanks have been pulled in the past showing no major corrosion on the outside of the tanks. Corrosion on the inside of the tanks generally occurs above the fuel line and is addressed during periodic maintenance and upgrades.

Tanks that have received 100% low frequency electromagnetic scanning and analysis indicate a very low long-term corrosion rate and no evidence of major backside corrosion. Anomalies on tank walls identified by the scanning that are determined to compromise the tank integrity are repaired before the tank is placed back into service. Low corrosion rates on the exterior wall are attributable to the high pH (alkaline) nature of the concrete encasement that mitigates corrosion of the steel tank walls and the reinforcing steel in the concrete encasement.

For these reasons, the Navy notes its disagreement with the bill's current language in the third paragraph of section 1, which states that "The Red Hill Bulk Fuel Storage facility fuel tanks have been corroding for more than seventy years. The corrosion has caused significant thinning of the steel tank walls and, in some cases, has fully penetrated the steel. The ongoing corrosion damages the steel walls of the fuel tanks, as well as the steel reinforcement in the surrounding concrete, and can lead to more frequent and larger fuel releases than have occurred in the past." This paragraph is not essential to the bill, and the Navy asks that it be deleted.

Thank you for the opportunity to comment on this bill.



## wakai1 - Lilinoe

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**From:** mailinglist@capitol.hawaii.gov  
**Sent:** Friday, March 11, 2016 3:51 PM  
**To:** EET Testimony  
**Cc:** ndavlantes@aol.com  
**Subject:** \*Submitted testimony for HB2646 on Mar 18, 2016 09:15AM\*

### **HB2646**

Submitted on: 3/11/2016

Testimony for EET/CPH on Mar 18, 2016 09:15AM in Conference Room 229

Submitted By	Organization	Testifier Position	Present at Hearing
Nancy Davlantes	Individual	Support	No

### Comments:

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## wakai1 - Lilinoe

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**From:** mailinglist@capitol.hawaii.gov  
**Sent:** Thursday, March 17, 2016 11:34 AM  
**To:** EET Testimony  
**Cc:** dylanarm@hawaii.edu  
**Subject:** \*Submitted testimony for HB2646 on Mar 18, 2016 09:15AM\*

### **HB2646**

Submitted on: 3/17/2016

Testimony for EET/CPH on Mar 18, 2016 09:15AM in Conference Room 229

Submitted By	Organization	Testifier Position	Present at Hearing
Dylan Armstrong	Individual	Support	No

### Comments:

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