

SB2159

Measure Title: RELATING TO UNDERGROUND STORAGE TANKS.

Report Title: Underground Storage Tank; Qualifications of Personnel

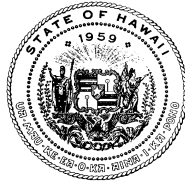
Description: Requires personnel performing any work on an underground storage tank or on an underground storage tank system to be certified by the American Petroleum Institute and receive ongoing training from the Institute.

Companion:

Package: None

Current Referral: CPH, JDL

Introducer(s): GABBARD, BAKER, CHUN OAKLAND, KEITH-AGARAN, SHIMABUKURO, Espero, Galuteria, Ihara, Nishihara, Ruderman, Slom



STATE OF HAWAII
DEPARTMENT OF HEALTH
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Testimony in OPPOSITION to S.B. 2159
Relating to Underground Storage Tanks

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

Hearing Date: February 4, 2016
Time: 9:00 am

Room Number: 229

1 **Fiscal Implications:** None

2 **Department Testimony:** The Department opposes this measure as currently written and offers
3 the following comments:

4 The Department is committed to taking measures required to prevent the future releases
5 from all underground storage tanks (USTs). Our current regulations already require that anyone
6 working on USTs and associated equipment follow the code of practice developed by “a
7 nationally recognized association.... and in accordance with the manufacturer’s instructions.”

8 Although American Petroleum Institute (API) is an important and reputable association,
9 other tank associations that the Department currently accepts codes of practice from are
10 Underwriters Laboratories, Steel Tank Institute, Petroleum Equipment Institute, and National
11 Fire Prevention Association. In addition, training done by the manufacturers themselves tend to
12 be more fitting for those working on their equipment. The Department does not believe that
13 narrowing the training requirements to exclusively API is appropriate at this time.

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

15

16



TO: SENATE COMMITTEE ON COMMERCE, CONSUMER PROTECTION
AND HEALTH
Senator Rosalyn H. Baker, Chair
Senator Michelle N. Kidani, Vice Chair

FROM: Richard Parry
President and Chief Executive Officer of Aloha Petroleum, Ltd.

HEARING

DATE: Thursday, February 4, 2016
TIME: 9:00 a.m.
PLACE: State Capitol, Conference Room 229

RE: Testimony on S.B. No. 2159 Relating to Underground Storage Tanks

Chair Baker, Vice Chair Kidani, and Members of the Senate Committee on Commerce, Consumer Protection and Health, I am Richard Parry, President and Chief Executive Officer of Aloha Petroleum, Ltd. ("Aloha Petroleum").

SB No. 2159 seeks to require personnel performing any work on an underground storage tank or tank system to be certified by the American Petroleum Institute (API) and receive ongoing training from the Institute.

Aloha Petroleum believes this bill is overbroad and unfeasible as currently drafted. We believe the intent of this bill is directed to the handful of field-constructed underground storage tanks or tank systems rather than the thousands of prefabricated underground storage tanks in Hawaii. In addition, based on our understanding, there is currently no available API certification applicable to the installation, maintenance or repair of underground storage tanks or tank systems.

Thank you for the opportunity to testify on SB No. 2159.

Senator Rosalyn H. Baker, Chair

Senator Michelle N. Kidani, Vice Chair

Committee on Commerce, Consumer Protection, and Health

Vic's International Consulting Agency (VICA)

Thursday, February 4, 2016

Support for S.B.No.2159, Relating to Underground Storage Tanks

The American Petroleum Institute (API) has a very rigorous and robust program for certifying personnel working in the Petroleum industry worldwide. The Pearl Harbor Fuel Department has had several major fuel losses over the past 10 years that could have been identified much quicker had they instituted a Site-specific API Certification process for Management and Operators.

The following Exhibits are examples of Fuel release issues that could have been identified in the early stages if this law is passed and enforced. We urge the committee to pass S.B.No. 2159. Thank you for this opportunity to testify.

Exhibit "A" report has hard evidence from the Automated Fuel Handling System (AFHE) database that at least 10 Unscheduled Fuel Movement (UFM) alarms over a 30 day period were ignored. The first alarm occurred within 24 hours of starting to fill the tank. If Management had instituted proper Standard Operating Procedures (SOP), the leak would have been minimal and the soil conditions could have naturally mitigated the fuel released into the ground.

Exhibit "B" references a major spill in 2007 of 359,000 gallons. It took about 2 weeks to discover the spill. The Operators were getting UFM alarms from the Tank AFHE system but chose to keep resetting the alarms. This data may no longer be available in the database but I'm sure at the time this was evaluated because the AFHE Systems Analyst was directed to write up SOP's to prevent this from happening in the future. The direction was to investigate any UFM's. Obviously these instructions were ignored during the RH Tank 5 filling evolution.

Exhibit “C” references an Inventory study conducted by DLA’s Program Management Analyst as directed by DLA Management during the August 2010 timeframe. The study took data reported in DLA’s Inventory database for RH Tanks. After seeing these results DLA Inventory personnel were directed to pay closer attention to bulk storage tanks that had losses that were within accepted inventory tolerance.

Exhibit “D” references the API UST Operator Training Program using API’s WorkSafe™ platform. All Operator of UG Storage Tanks in Hawaii should have appropriate API Certification. In the case of the Pearl Fuel Department, site-specific training needs to be instituted to address AFHE and any other future Inventory and Leak Detection Systems. This certification program could be a valuable tool in preventing further mishaps that could contaminate Hawaii’s Clean Water!

Exhibit “E” references VICA Consulting background and qualifications related to Bulk Fuel Tank Issues at Pearl Harbor.

Exhibit “A”

SPACE AND NAVAL WARFARE Report 6 Feb 2014

General Overview of Unscheduled Fuel Movements Alarm

This alarm is used to track unauthorized fuel movement when a tank is not scheduled for an evolution. The alarms are based upon increments above and below the tank’s current level as defined at the end of the last evolution. If the alarm threshold is exceeded (either above or below), a Tank Unscheduled Fuel Movement alarm is generated. The Unscheduled Fuel Movement alarm thresholds are defined on a per-tank basis in the AFHE initialization file to allow for custom thresholds for tanks that have non-standard characteristics. Warning & Critical U.F.M. alarms are by default set to ½ inch and ¾ inch respectively and are displayed as the equivalent net volume. Tank 105’s warning and critical UFM alarm thresholds were set to the default ½ inch and ¾ inch respectively. The AFHE system uses the associated tank strapping tables to determine volumes associated with a ½ inch and ¾ inch movement. The tank data received from the field (product level, BS&W level, and temperature) is preprocessed to smooth and eliminate harsh spikes (positive and negative) before being passed to the rest of the AFHE system functions for processing and display.

To ensure that tank settling time is accounted for prior to establishing the UFM reference point, a delay timer exists in the AFHE system. This delay timer will start upon the completion of an evolution and upon expiration it will set the UFM thresholds to the values in the AFHE initialization file for warning and critical. The

delay timer is currently defaulted to 2.5 hours as this is the settling time normally given during Tank Calibration and API Testing. Prior to the expiration of the delay timer the thresholds are expanded to two times the value in the AFHE initialization file for warning and critical. During settling Tank 105's warning and critical UFM alarm thresholds are set to the default 1 inch and 1 ½ inch respectively. This will ensure that gross fuel movements are detected and will reduce false UFM alarms while allowance is given for tank/product settling. The delay timer can be set by the site administrator on an individual tank basis. Also, while tanks are "settling" all screens and alarms that display the tank product level will be depicted with an asterisk (*).

The result of the investigation into Tank 105 is that the AFHE system correctly responded and alarmed to the potential leak event. The investigation also revealed the AFHE system correctly reported a loss of product inventory over an extended period of time via generation of the daily hardcopy inventory reports.

The AFHE system generated UFM's alarms and these alarms were cleared through the use of operator intervention and alarm clearing evolutions.

An in depth review of the AFHE database revealed a total loss of approximately 8" of gross fuel, see below figure. This amount was accumulated while the tank was in static mode and does not account for the effect of temperature. The worst case theoretical volume loss over 8" would be approximately 936 BBLs or 39,312 GALs. This calculation is based on a loss of fuel at the 193' to 197' level where each inch increment of fuel is at its highest of 117 BBLs or 4,914 GALs per inch (volume based on Tank 105 strapping table).

Exhibit "B"

A diesel fuel leak of 359,000 gallons from a 1-1/2-by 3-inch hole in the above-ground Tank 48 on Joint Base Pearl Harbor-Hickam was reported in 2007. Between World War II and the Tank 48 fuel spill, meanwhile, approximately 5 million gallons of petroleum spilled from the tank farm and remained in the subsurface, according to Navy reporting.

<http://iframed.cqrcengage.com/uwmich/app/document/9480482;jsessionid=AKrfVZYJ0+c1bE3NaeNSxt3b.undefined?mode=iframe>

Posted at 5:43 p.m., Monday, April 30, 2007

Diesel fuel spills into ground at Pearl Harbor

Advertiser Staff

The U.S. Navy is working with the state Department of Health to clean up the underground release of 359,000 gallons of diesel fuel used to power naval vessels, according to a news release.

The spilled fuel does not pose any danger to the public or drinking water resources in the area, the news release said, and none of the fuel leaked into Pearl Harbor.

On Wednesday, gauges on a fuel storage tank located at Pearl Harbor indicated that the fuel level in the tank was dropping.

Unable to detect any visible leak, workers discovered the fuel was draining directly into the ground.

Using a variety of methods, including vacuum trucks, the Navy is cleaning up the spill.

The reason for the spill was not released

<http://the.honoluluadvertiser.com/article/2007/Apr/30/br/br3208659741.html>

Exhibit “C”

Red Hill Fuel Storage Inventory Management

This is an attempt to explain the relationship between Inventory Management and Leak Detection.

Pearl has 3 major Operational Processes.

- Receipt, is a transfer of fuel from a DLA Contracted Supplier. The Supplier owns the fuel until there is a Custody Transfer to DLA. Main Suppliers are refineries via various types of Modes of Transportation (pipelines, tankers, barges, trucks, trains, etc.) The Custody transfer is usually measured by a fuel flow meter at the point of transfer. DLA pays the Supplier based on the metered fuel quantity. This quantity is usually different from the quantity based on the Tank Level Computer software.
- Issues, this a transfer of fuel to a customer other than DLA. DLA owns the fuel until there is a Custody Transfer to a Customer. Main Customers are the Navy, Air Force, Marines and Army. The Custody transfer is usually measured by a fuel flow meter at the point of transfer. DLA bills the customer based on the metered fuel quantity. This quantity is usually different from the quantity based on the Tank Level Computer software.

- Transfers, is a movement of fuel within the DLA Infrastructure. There is no change of Custody. This is usually between tanks and can be complicated to explain all the possible situations. These transfers are rarely metered and thus depend on proper Automatic Fuel Handling Equipment (AFHE) process Evolutions to track the fuel quantities. If an Operator slacks a fuel pipeline and does not initiate a fuel Evolution, the total fuel inventory will be compromised. Same when the pipeline is than packed. Issue and Receipt Evolution accuracy is dependent on packed lines.

Accuracy of this data is critical to leak detection. At the end of each day the Operator logs the total Inventory and checks for accuracy based on Issues and Receipts for that day. If Inventory is out of tolerance, the Navy must initiate a NOV (Notice of Violation) to DLA Inventory personnel. The investigation could lead to a leaking tank or pipeline.

Ultimately, the storage of up to 187 million gallons of fuel, 100 feet above a drinking water resource, is inherently dangerous to the environment. DLA Inventory accuracy tolerance is 0.25%.

- This means that for Red Hill the Navy could lose $.0025 \times 187,000,000 = 476,500$ gallons before having to report a NOV (Notice of Violation) to DLA Inventory personnel.
- Inventory Records from July 2007 to July 2010 with no NOV's
- Total loss in dollars = \$3,490,219 (Used 2010 DLA Standard Price)
- Total loss in gallons = 1,184,654

These are probably legitimate Inventory losses within the Red Hill System (not Leaks) but it is an indication that something is very wrong with the Red Hill Inventory processes. At the very least they should investigate gains or losses after a transfer, issue or receipt! Leak detection software should be a part of this process but this is not solely a technology issues – It is a MANAGEMENT Issue!

The following data was based on data from the DLA Database. After performing the analysis,.

Exhibit “D”

Class A, B and C Operator Training

API, working with Antea Group, has created a cost effective, easy to use UST Operator Training Program using API’s WorkSafe™ platform.

Our web-based training meets federal and state regulatory requirements for UST A, B and C operator training.

[Click here to access the API WorkSafe Website now!](#)

The Antea Group/API Operator Training curriculum consists of 18 customized training modules*, including:

- Operator Training Overview
- UST System Overview Part 1 – Tanks and Piping
- UST System Overview Part 2 – Ancillary Equipment
- Spill and Overfill Prevention
- Release Detection Overview
- Statistical Inventory Reconciliation
- Manual Tank Gauging
- Automatic Tank Gauging
- Secondary Containment and Interstitial Monitoring
- Groundwater and Vapor Monitoring
- Release Detection for Piping
- Corrosion Protection
- Emergency Response
- Product Compatibility
- Notification and Registration Requirements
- Release Reporting
- Closure Requirements
- Financial Responsibility

**Please note: Not all modules are required for each Class of Operator*

Each module contains **state specific training content** for one, two or all three Classes of Operators. Depending on the Class of Operator taking the course, only the modules applicable to that certification will be available. Content within each module may also vary by state. At the conclusion of each module, Operators will be required to take a quiz that demonstrates comprehension of content. At the end of the program, the Operator will take final examination. After successfully passing the Operator Training exam, Class A, B and C Operators will have the ability to print their certificate directly from the web site.

The site also includes regulatory information on each state, which includes program status and the required training timeline.

For more information on the Class ABC Operator WorkSafe program, please email mcarthurm@api.org or tristan.steichen@anteagroup.com

<http://www.api.org/Events-and-Training/API-WorkSafe/Class-A-B-and-C-Operator-Training>

Exhibit “E”

Qualifications:

1972 – 1985

- Contactor who designed, installed and maintained Red Hill Tank Telemetry System
- Contractor who designed installed and maintained the AFH&PCS – Automated Fuel Handling and Pollution Control System for Red Hill Fuel Distribution System

1985 – 2009

- Facility Manager and Management Analyst for Red Hill Fuel Distribution System
- Managed all Fuel Distribution Systems including the present AFHE – Automated Fuel Handling Equipment System and MTG – Mass Tank Gauging System
- Managed RH GIS – Geographical Information System
- Managed Maximo – Fuel Asset Information Management System

- Managed Red Hill Leak detection R&D – Research and Development Projects
- Managed many NAVFAC and SPWAR contracts including TEC's contract for RH site Investigation and Risk Assessment
- Initiated a project through TEC's to equip existing borings under tanks with vapor monitoring capabilities
- Managed AMEC's Fate and Transport Risk Assessment Modeling software which was provided at a cost to the Navy
- Advised Senators Akaka's office on RH leak detection initiatives

2009 – 2010

- APO – Accountable Property Officer for 72 DLA – Defense Logistics Agency sites in the Pacific AOR – Area of Responsibility
- SME – Subject Matter Expert for all Real Property at Navy Fuel Sites in the Pacific

2010 – 2014

- DLA Energy Pacific Program Management Analysis
- Analyzed Pacific OOS – Out of Service Tank Program
- Analyzed significant Inventory losses for Red Hill from July 2007 to July 2010
- Advised management on issues that need to be addressed related to Red Hill Tank 5 fuel release