FILED

~~RECEIVED~~
OFFICE OF THE DIRECTOR
DEPT OF HEALTH

'21 DEC 13 P2:02

DAVID L. HENKIN #6876
ISAAC H. MORIWAKE #7141
KYLIE W. WAGER CRUZ #10165
EARTHJUSTICE
850 Richards Street, Suite 400
Honolulu, Hawai'i 96813
T: (808) 599-2436
Email: dhenkin@earthjustice.org
imoriwake@earthjustice.org
kwager@earthjustice.org

Attorneys for Proposed Intervenor Sierra Club

DEPARTMENT OF HEALTH
SOLID AND HAZARDOUS WASTE BRANCH
UNDERGROUND STORAGE TANK SECTION

STATE OF HAWAI'I

In the Matter of	)	Docket No. 21-UST-EA-02
	)	
EMERGENCY CHANGE-IN-SERVICE AND DEFUELING OF 20 UNDERGROUND STORAGE TANKS, RED HILL BULK FUEL STORAGE FACILITY	)	SIERRA CLUB'S MOTION TO INTERVENE; MEMORANDUM IN SUPPORT OF MOTION; DECLARATION OF WAYNE TANAKA; DECLARATION OF KEVIN T. AUBART; DECLARATION OF DAVID L. HENKIN; EXHIBITS "A" – "I"; CERTIFICATE OF SERVICE
	)	

DAVID L. HENKIN #6876
ISAAC H. MORIWAKE #7141
KYLIE W. WAGER CRUZ #10165
EARTHJUSTICE
850 Richards Street, Suite 400
Honolulu, Hawai'i 96813
T: (808) 599-2436
Email: dhenkin@earthjustice.org
imoriwake@earthjustice.org
kwager@earthjustice.org

Attorneys for Proposed Intervenor Sierra Club

DEPARTMENT OF HEALTH
SOLID AND HAZARDOUS WASTE BRANCH
UNDERGROUND STORAGE TANK SECTION

STATE OF HAWAI'I

In the Matter of	)	Docket No. 21-UST-EA-02
	)	
EMERGENCY CHANGE-IN-SERVICE AND DEFUELING OF 20 UNDERGROUND STORAGE TANKS, RED HILL BULK FUEL STORAGE FACILITY	)	SIERRA CLUB'S MOTION TO INTERVENE

SIERRA CLUB'S MOTION TO INTERVENE

Pursuant to Hawai'i Revised Statutes chapter 91, Hawai'i Administrative Rules § 11-1-35. as well as article I, section 5 and article XI, sections 1, 7, and 9 of the Hawai'i Constitution, Sierra Club, by and through its counsel Earthjustice, hereby moves to intervene in this contested case on the Emergency Order entered on December 6, 2021 by the State of Hawai'i Department of Health, Solid and Hazardous Waste Branch, Underground Storage Tank Section, against Respondent the U.S. Department of the Navy, regarding the emergency change-in-service and defueling of 20 Underground Storage Tanks at the Red Hill Bulk Fuel Storage Facility.

Sierra Club submits a memorandum, exhibits, as well as the declarations of Wayne Tanaka. Kevin T. Aubart, and David L. Henkin in support of this motion.[1]

DATED: Honolulu, Hawai'i, December 13, 2021.

DAVID L. HENKIN
EARTHJUSTICE

Attorneys for Proposed Intervenor Sierra Club

[1] Kevin T. Aubert's signature page with an indelible ink signature is currently en route to Earthjustice and, upon receipt, will promptly be delivered to the Hearings Officer.

DAVID L. HENKIN #6876
ISAAC H. MORIWAKE #7141
KYLIE W. WAGER CRUZ #10165
EARTHJUSTICE
850 Richards Street, Suite 400
Honolulu, Hawai'i 96813
T: (808) 599-2436
Email: dhenkin@earthjustice.org
imoriwake@earthjustice.org
kwager@earthjustice.org

Attorneys for Proposed Intervenor Sierra Club

DEPARTMENT OF HEALTH
SOLID AND HAZARDOUS WASTE BRANCH
UNDERGROUND STORAGE TANK SECTION

STATE OF HAWAI'I

In the Matter of EMERGENCY CHANGE-IN-SERVICE AND DEFUELING OF 20 UNDERGROUND STORAGE TANKS, RED HILL BULK FUEL STORAGE FACILITY	)	Docket No. 21-UST-EA-02 MEMORANDUM IN SUPPORT OF MOTION

TABLE OF CONTENTS

TABLE OF AUTHORITIES

Page(s)

CASES

ADMINISTRATIVE PROCEEDINGS

STATUTES

HAWAI'I ADMINISTRATIVE RULES

CONSTITUTIONAL PROVISIONS

Other Authorities

MEMORANDUM IN SUPPORT OF MOTION

I. INTRODUCTION

For years, Sierra Club and others have been sounding the alarm bell about the existential threat the Red Hill Bulk Fuel Storage Facility ("Red Hill Facility" or "Facility") poses to O'ahu's primary drinking water source, and the people who rely on it each day. Now that this threat has become an undeniable reality, through the recent contamination of drinking water for tens of thousands of residents, the State of Hawai'i Department of Health, Solid and Hazardous Waste Branch, Underground Storage Tank Section ("DOH"), has initiated an emergency action against Respondent the U.S. Department of the Navy ("Navy") to address this public health crisis.

Pursuant to an emergency order issued on December 6, 2021 ("Emergency Order"), DOH is requiring the Navy to suspend operations at the Red Hill Facility, take measures to treat contaminated drinking water, and safely defuel the 20 Underground Storage Tanks ("USTs") at the Facility. Sierra Club has long-advocated for similar relief to prevent harm to its members and the public. Now that DOH has instituted proceedings to determine whether the Navy should be obliged to undertake actions for which Sierra Club has long been advocating, Sierra Club is entitled to intervene to challenge the Navy in this contested case and defend its constitutionally protected environmental rights to a clean and healthful environment.

II. RELEVANT BACKGROUND

The Navy's Red Hill facility consists of 20 World War II-era USTs, each of which has a fuel storage capacity ranging from approximately 12.5 to 12.7 million gallons; the tanks currently store approximately 180 million gallons of fuel. Ex. A: *In re Red Hill Bulk Fuel Storage Facility*, EPA Dkt. No. RCRA 7003-R9-2015-01, DOH Dkt. No. 15-UST-EA-01,

Administrative Order on Consent ("AOC") at 4. This massive stockpile of petroleum products is perched only about 100 feet above the Southern O'ahu Basal Aquifer,[2] which the U.S. Environmental Protection Agency ("EPA") has designated as the "principal source" of drinking water for most of O'ahu's population. Ex. C: Southern O'ahu Basal Aquifer in the Pearl Harbor Area of O'ahu; Principal Source Aquifer Determination, 52 Fed. Reg. 45,496 (Nov. 30, 1987).

For decades, the Navy has documented leaks from the Red Hill tanks. A release of approximately 27,000 gallons of fuel in January 2014 finally prompted EPA and DOH (which administers the federal Resource Conservation and Recovery Act's regulation of USTs) to enter into an administrative consent order with the Navy in an attempt to minimize the risk of future leaks from the Red Hill tanks. AOC at 2, 5. Those efforts have proved ineffective. Ex. D: Emergency Order at 3-4. Earlier this year alone, at least 1,000 gallons of fuel leaked in May and another 150 gallons in July. *Id.* at 2.

The situation came to a head on or about November 20, 2021, when approximately 14,000 gallons of mixed water and fuel were released, allegedly from a fire suppression line in a tunnel a quarter-mile downhill from the Red Hill tanks. *Id.* at 2-3. While the Navy has denied that this leak came from the tanks themselves, the impacts to O'ahu's water supply are undeniable.

About a week after the release, the Navy began receiving complaints from water users from its system regarding a gas or fuel odor from their drinking water. *Id.* at 2. On December 2,

[2] Ex. B: Report to the Twenty-Eighth Legislature State of Hawai'i 2015, Pursuant to Senate Concurrent Resolution 73 Requesting the Department of Health to Convene a Task Force to Study the Effects of the January 2014 Fuel Tank Leak at the Red Hill Fuel Storage Facility (Dec. 2014) at 14.

2021, the Navy identified the source of fuel contamination to be the Red Hill shaft, one of the drinking water sources that services the Navy's water system. *Id.*

As of December 3, 2021, DOH had received nearly 500 complaints, mostly from residents or customers serviced by the Navy's water system complaining of a chemical smell from their drinking water. *Id.* There are no on-site remedies available to treat the water prior to distribution. *Id.*

The more than 92,000 residents normally served by the Navy's water supply now cannot use water from their taps, and hundreds of families have been moved to temporary housing. Ex. E: Anita Hofscheider, *State Finds Red Hill Contamination Far Above Health Thresholds for Drinking Water*, Civil Beat, Dec. 10, 2021; Ex. F: News Release: Hawai'i Department of Health Confirms High Levels of Petroleum Contamination in Navy's Red Hill Shaft, Dec. 10, 2021 ("12/10/2021 DOH News Release") (advising all "Navy water system users [to] avoid using the water for drinking, cooking or oral hygiene," including "consumption by pets"; "Navy water system users who detect a fuel-like odor from their water should avoid using the water for drinking, cooking, bathing, dishwashing, laundry or oral hygiene"); Ex. G: News Release: Petroleum Contamination Reported in Navy's Aiea Halawa Shaft, Dec. 8, 2021 ("12/8/2021 DOH News Release") (same); Declaration of Kevin T. Aubart ("Aubart Decl.") ¶¶ 4-9. Samples collected by DOH earlier this month at the Red Hill shaft found levels of gasoline and diesel-range hydrocarbons as much as 350 times higher than state approved levels for drinking water. 12/10/2021 DOH News Release. The Navy reported to DOH that diesel fuel levels in samples from the Navy's Aiea Hālawa shaft were more than double the state-approved levels for drinking water. 12/8/2021 DOH News Release. To avoid contamination of the drinking water system that serves O'ahu's civilians, the Honolulu Board of Water Supply shut down its Hālawa shaft,

closing off 20% of the supply of water for residents of central and eastern O'ahu. Ex. H: News Release: Board of Water Supply Shuts Down Halawa Shaft in Response to Red Hill Contamination, Dec. 3, 2021.

In response to the Navy's poisoning of O'ahu's water supply, DOH issued an Emergency Order on December 6, 2021 requiring the Navy promptly to "suspend operations" at the Facility, "install a drinking water treatment system or systems at Red Hill shaft," and develop and implement a plan to drain fuel from the Facility's 20 USTs. Emergency Order at 4. The Sierra Club is informed that the Navy plans to challenge the Emergency Order. Ex. I: Christina Jedra, *Navy's Opposition to Governor's Red Hill Order Raises Question of State Versus Federal Power*, Civil Beat, Dec. 7, 2021.

The Emergency Order noticed a contested case hearing, pursuant to Hawai'i Revised Statutes ("HRS") chapter 91 and Hawai'i Administrative Rules ("HAR") chapter 11-1, for December 7, 2021. Emergency Order at 4-5. To Sierra Club's knowledge, no such contested case hearing has occurred or has been officially rescheduled or otherwise publicly noticed. Declaration of David L. Henkin ("Henkin Decl."), ¶ 6.

III. LEGAL STANDARD FOR INTERVENTION

DOH has deemed this proceeding a contested case pursuant to HRS chapter 91 and HAR chapter 11-1. HAR § 11-1-35 provides for intervention in a contested case hearing as follows: First, the applicant seeking intervention must show that "it has an interest in a question of law or fact involved in the contested matter." HAR § 11-1-35(a). Second, the movant must show that "the disposition of the contested case may as a practical matter impair or impede the applicant's ability to protect that interest." *Id.* Third, the Hearings Officer must grant intervention to "persons . . . seeking and entitled as of right to be admitted as a party"; otherwise, the Hearings

Officer may exercise discretion in granting or denying intervention. *Id.* Fourth, intervention is unwarranted if "the applicant's interest is adequately represented by existing parties." *Id.* Fifth, a request to intervene must be timely filed. *See id.* Finally, the Hearings Officer may allow intervention "to such an extent and upon such terms as the [H]earings [O]fficer may deem proper and shall consider whether the intervention will unduly delay or prejudice the adjudication of the rights of the original parties." *Id.* § 11-1-35(b).

IV. SIERRA CLUB IS ENTITLED TO INTERVENE IN THIS CONTESTED CASE.

A. Sierra Club Has Substantial Interests in Protecting O'ahu's Drinking Water Supply from the Red Hill Facility.

Sierra Club is a national non-profit organization with more than 60 chapters and more than 630,000 members nationwide. Declaration of Wayne Tanaka ("Tanaka Decl.") ¶ 3. It includes a chapter in Hawai'i, which was founded in 1968 and is registered to do business in the state. *Id.* ¶¶ 2-3. Sierra Club is a leading public interest organization and the largest public interest environmental membership organization in Hawai'i. *Id.* ¶ 3.

Protecting O'ahu's drinking water from the Red Hill Facility is one of Sierra Club's primary campaigns in Hawai'i. *Id.* ¶ 4; *see also* Sierra Club of Hawai'i, Red Hill, https://sierraclubhawaii.org/redhill (last visited Dec. 13, 2021). Sierra Club's many years of advocacy on this issue have included: lobbying federal, state, and local government entities and officials to shut down the Red Hill Facility; building public awareness and support through emails, newsletters, social media, public events, and fundraising activities; and actively litigating against the Navy and DOH in agency proceedings and civil lawsuits. Tanaka Decl. ¶¶ 4, 10.

With respect to litigation regarding the Red Hill Facility, Sierra Club was or is a party in:

- a contested case regarding the Navy's Application for a UST permit to continue operations at the Red Hill Facility, which is currently pending before DOH, *see In re US Navy's Application for a UST Permit for the Red Hill Bulk Storage Facility*, Docket No. 19-UST-EA-01 (Dep't of Health);
- a civil suit against DOH to prevent the automatic approval of USTs pursuant to HAR § 11-280.1-327(b), which was settled in Sierra Club's favor, *see Sierra Club v. Dep't of Health*, Civ. No. 1CCV-19-0002098 (Environmental Court, 1st Cir.);
- a civil suit against DOH to invalidate exemptions from rules regulating pollution from the Red Hill Facility, in which Sierra Club was the prevailing party, *see Sierra Club v. Dep't of Health*, Civ. No. 17-1-1350-08 JPC (Environmental Court, 1st Cir.); and
- a civil suit against DOH to obtain government records relating to a fuel leak from the Red Hill Facility pursuant to HRS chapter 92F. *See Sierra Club v. Dep't of Health*, Civ. No. 1CCV-21-0001307 (Environmental Court, 1st Cir.).

Tanaka Decl. ¶ 5.

Sierra Club's members have constitutionally protected interests in the protection and remediation of drinking water that is threatened or has been contaminated by the Red Hill Facility. More than 2,700 dues-paying members of Sierra Club live on O'ahu. *Id.* ¶ 6. A substantial portion of those members lives in the areas between Hālawa and Maunalua and depends on water provided by the Board of Water Supply, City and County of Honolulu. *Id.* ¶¶ 6. 8. Sierra Club members drink water that comes from the Southern O'ahu Basal Aquifer and rely on it for their health and livelihoods. *Id.* ¶ 6. Sierra Club members are dependent on clean drinking water from the Southern O'ahu Basal Aquifer and have been and could continue to be adversely affected by water contamination from the Red Hill Facility. *Id.* ¶ 8; *see, e.g.*, Aubart

Decl. ¶¶ 1-12. The Red Hill Facility has also contaminated—and threatens future contamination of—the nearshore waters of Pu'uloa, harming the interests of Sierra Club members who fish from those waters. Tanaka Decl. ¶ 9.

B. Resolution of this Contested Case May, As A Practical Matter, Affect Sierra Club's Ability to Protect its Rights and Interests.

DOH's decision in this contested case regarding the health and safety of O'ahu's primary drinking water source will have broad and long-term impacts for Sierra Club members who reside on O'ahu and rely on safe, clean drinking water from the Southern O'ahu Basal Aquifer, as well as Sierra Club's organizational priorities. This is the first legal proceeding initiated since the November 2021 release. Although tribunals in any subsequent legal proceedings would not necessarily be bound by DOH's resolution of these various issues at the conclusion of the contested case, these tribunals (which could include DOH) could be influenced by deliberations in this matter. Accordingly, Sierra Club seeks to participate in this contested case to have a full and fair opportunity to present its case at the ground floor of litigation surrounding this recent incident.

Moreover, absent intervention in this case, Sierra Club would be deprived of the opportunity to introduce evidence, call and cross-examine witnesses, file motions and briefs, engage in settlement negotiations, and otherwise have access to the full suite of procedural tools and safeguards afforded to parties under HRS chapter 91 and HAR chapter 11-1. Thus, challenging the Navy in this emergency proceeding is mission critical for the Sierra Club to protect its rights and interests.

C. Sierra Club Is Entitled as of Right to be Admitted as a Party.

Sierra Club is legally entitled to intervene in this contested case under the due process clause of the Hawai'i Constitution, article I, § 5, to protect its members' constitutional rights to a

clean and healthful environment under article XI, section 9, and to public trust resources under article XI, sections 1 and 7.

Under article XI, section 9 of the Hawai'i Constitution, Sierra Club and its members have substantive rights to a clean and healthful environment and are entitled to intervene in this contested case to protect these rights. Article XI, section 9 states that "[e]ach person has the right to a clean and healthful environment." Haw. Const. art. XI, § 9. It further creates a "property interest" that is shaped by "laws relating to environmental quality, including . . . conservation, protection and enhancement of natural resources." *In re Application of Maui Elec. Co., Ltd.* ("*MECO*"), 141 Hawai'i 249, 264, 408 P.3d 1, 16 (2017) (quoting Haw. Const. art. XI, § 9). DOH has initiated this proceeding pursuant to HRS chapter 342L, pertaining to USTs. HRS chapter 342L is indisputably a law relating to environmental quality and natural resources. *See*, *e.g.*, HRS § 342L-9(a) (granting the Governor and DOH emergency powers to address "imminent peril to human health and safety or the environment" caused by USTs); *id.* § 342L-4(c) (authorizing DOH to issue a UST permit if it would be "protective of human health and the environment"); *id.* § 342L-6(c) (authorizing DOH to issue a variance for USTs if the applicant "clearly show[s]" that granting a variance "does not imminently and substantially endanger human health or the environment or the public's safety"). Through laws related to environmental quality such as HRS chapter 342L, article XI, section 9 confers on the public "a property interest protected by due process." *MECO*, 141 Hawai'i at 261, 408 P.3d at 13. Sierra Club and its members, thus, have due process rights to intervene in this contested case regarding the Emergency Order to protect their environmental rights and interests.

Sierra Club also has public trust rights under article XI, sections 1 and 7 of the Hawai'i Constitution. Article XI, section 1 requires the State to "conserve and protect . . . all natural

resources, including . . . water" for the "benefit of present and future generations." Haw. Const. art. XI, § 1. Article XI, section 7 requires the State to "protect, control and regulate the use of Hawai'i's water resources for the benefit of its people." Haw. Const. art. XI, § 7. The Hawai'i Supreme Court has held that the State's duties under article XI, sections 1 and 7 are a "constitutional mandate." *In re Waiāhole Ditch Combined Contested Case Hr'g*, 94 Hawai'i 97, 131, 9 P.3d 409, 443 (2000). This mandate governs all state agencies, including DOH, which also has a statutory mandate to "protect, preserve, care for, and improve the physical . . . health of the people of the State," HRS § 26-13(a), including through administration of the UST program, HRS chapter 342L, and safe drinking water standards, HRS chapter 340E. Given the recognition and protection that public trust resources command under the Hawai'i Constitution, the public's rights to these resources should receive no less protection than other state-conferred "property" rights requiring due process.

Even if the Hearings Officer were to conclude that Sierra Club lacks a right to intervene in this contested case, the Hearings Officer should, in its discretion, grant Sierra Club intervention based on its long track record of advocacy pertaining to the Red Hill Facility and the substantial harm that the Facility poses to the Sierra Club's and its members' interests. *See* HAR § 11-1-35(a) (if the Hearings Officer determines a proposed intervenor is not "entitled as of right to be admitted as a party," the Hearings Officer may, in its "discretion," grant intervention). Sierra Club has already invested hundreds of hours researching and documenting factual issues related to the threats posed by the Red Hill Facility. Tanaka Decl. ¶ 4. Sierra Club's participation would, therefore, greatly assist in developing a complete record regarding the threats posed by continued operation of the Red Hill Facility.

D. Absent Intervention, Sierra Club's Interests Will Not be Adequately Represented.

Neither the Navy nor DOH would adequately represent Sierra Club's interests. Sierra Club has for years advocated for the clean-up and closure of the Red Hill Facility, over the Navy's objections. For example, in DOH's other pending contested case regarding the Facility, Docket No. 19-UST-EA-01, the Navy applied for a UST permit to continue operations at the Facility. Sierra Club rigorously opposed and also sought mitigation measures to prevent and contain further releases. Here, DOH has ordered the Navy promptly to "suspend operations" at the Facility, "install a drinking water treatment system or systems at Red Hill shaft," and develop and implement a plan to drain fuel from the Facility's 20 USTs. Emergency Order at 4. These measures align with what Sierra Club has been asking for all along through various forms of advocacy—all of which the Navy has opposed. The Navy's interests in continuing operations at the Facility with minimal mitigation measures are directly adverse to Sierra Club's interests.

Sierra Club's interests have also been adverse to DOH's in several lawsuits pertaining to the Red Hill Facility. Sierra Club has brought three civil lawsuits against DOH to demand better oversight and regulation of the Facility, as well as greater public transparency regarding the Facility's operations and contamination incidents. *See* Tanaka Decl. ¶ 5. In *Sierra Club v. Dep't of Health*, Civ. No. 1CCV-19-0002098 (Environmental Court, 1st Cir.), Sierra Club sued DOH to prevent the automatic approval of USTs pursuant to HAR § 11-280.1-327(b). In *Sierra Club v. Dep't of Health*, Civ. No. 17-1-1350-08 JPC (Environmental Court, 1st Cir.), Sierra Club sued DOH to invalidate rules that exempted the Red Hill Facility from otherwise generally applicable rules regulating pollution from USTs. In *Sierra Club v. Dep't of Health*, Civ. No. 1CCV-21-0001307 (Environmental Court, 1st Cir.), Sierra Club sued DOH to obtain government records relating to a fuel leak from the Red Hill Facility pursuant to HRS chapter 92F. *See Sierra Club*

v. Dep't of Health, Civ. No. 1CCV-21-0001307 (Environmental Court, 1st Cir.). While Sierra Club welcomes DOH's December 6, 2021 emergency order, it is a departure from DOH's past reticence to confront the Navy and insist that it promptly defuel and shut down the Red Hill Facility to protect O'ahu's water supply. Sierra Club's years of litigation demanding that DOH do more to protect the Southern O'ahu Basal Aquifer from the Red Hill Facility demonstrate that DOH cannot adequately represent Sierra Club's interests in the enforcement proceedings. Sierra Club is entitled to intervene to ensure that DOH actually implements and makes good on its proposal to hold the Navy accountable for contaminating O'ahu's drinking water supply and to secure the orderly defueling and permanent closure of the Red Hill Facility.

Moreover, Sierra Club has unique rights and interests based on its more than 2,700 members living on the island of O'ahu, its longstanding campaign for the clean-up and closure of the Red Hill Facility, and its direct and extensive involvement and experience with these very issues. Tanaka Decl. ¶¶ 3-10. Sierra Club members, many of whom rely on drinking water from the Southern O'ahu Basal Aquifer and who fish from the waters of Pu'uloa, also have unique environmental rights and interests, as discussed above. *See id.* ¶¶ 6-10. The full range of interests and issues affecting Sierra Club and its members cannot be represented by other parties. Sierra Club should be allowed to represent its own interests.

E. Sierra Club's Motion is Timely.

Although the Emergency Order notes that a contested case hearing pursuant to HRS chapter 91 and HAR chapter 11-1 would be held on December 7, 2021, *see* Emergency Order at 4-5, that date has come and gone without the occurrence of any such hearing. To Sierra Club's knowledge, no new hearing date has officially been set or otherwise publicly noticed. Henkin

Decl. ¶ 6. Without any scheduled and duly noticed hearing date, Sierra Club's motion is timely pursuant to HAR § 11-1-35(a).

F. Sierra Club's Intervention Will Not Unduly Delay or Prejudice the Adjudication of the Rights of the Other Parties.

Sierra Club acknowledges that time is of the essence and stands ready, willing, and able to abide by any expedited timeframes and procedures necessary to respond the public health and environmental emergency created by the Navy's leaking fuel storage facility. Given Sierra Club's long history and demonstrated rights and interests in addressing contamination from the Facility, and pursuant to HRS chapter 91, the Hearings Officer should promptly grant Sierra Club intervention before any hearing occurs or final decisions are made. *See Community Ass'ns of Hualalai, Inc. v. Leeward Planning Comm'n. Cnty. of Hawai'i*, No. SCOT-16-0000690, 2021 WL 5711801, at *15 (Haw. Dec. 2, 2021) (holding county planning commission erred in resolving contested case before ruling on intervention request, observing that HRS chapter 91 "contains provisions ensuring *all parties* are afforded a full and fair opportunity to be heard and to develop the record throughout the proceeding") (emphasis added).

V. CONCLUSION

Because Sierra Club's constitutionally protected environmental rights would be directly harmed by an adverse decision in this emergency contested case, Sierra Club respectfully requests that the Hearings Officer grant its motion to intervene.

DATED: Honolulu, Hawai'i, December 13, 2021.

DAVID L. HENKIN
EARTHJUSTICE

Attorneys for Proposed Intervenor Sierra Club

DAVID L. HENKIN #6876
ISAAC H. MORIWAKE #7141
KYLIE W. WAGER CRUZ #10165
EARTHJUSTICE
850 Richards Street, Suite 400
Honolulu, Hawai'i 96813
T: (808) 599-2436
Email: dhenkin@earthjustice.org
imoriwake@earthjustice.org
kwager@earthjustice.org

Attorneys for Proposed Intervenor
Sierra Club

DEPARTMENT OF HEALTH
SOLID AND HAZARDOUS WASTE BRANCH
UNDERGROUND STORAGE TANK SECTION

STATE OF HAWAI'I

In the Matter of	)	Docket No. 21-UST-EA-02
	)	
EMERGENCY CHANGE-IN-SERVICE AND DEFUELING OF 20 UNDERGROUND STORAGE TANKS, RED HILL BULK FUEL STORAGE FACILITY	)	DECLARATION OF WAYNE TANAKA

DECLARATION OF WAYNE TANAKA

I, Wayne Tanaka, declare that if called as a witness in this action I would testify of my own personal knowledge as follows:

1. I serve as the director of the Hawai'i Chapter of the Sierra Club, and I am also a member of the Sierra Club. I submit this declaration in support of the Sierra Club's Motion to Intervene. If called as a witness, I could and would testify competently to the matters set forth herein.

2. The Sierra Club is a national, nonprofit, grassroots organization focused on raising awareness of environmental issues and preserving the environment. The Sierra Club is a 501(c)(4) nonprofit corporation registered to do business in the State of Hawai'i.

3. The Sierra Club has more than 60 chapters and more than 630,000 members nationwide. The Sierra Club's Hawai'i Chapter was founded in 1968. The Sierra Club is a leading public interest organization and the largest public interest environmental membership organization in Hawai'i, with more than 2,700 dues-paying members living on the island of O'ahu.

4. Protecting O'ahu's drinking water from contamination from the Red Hill Facility is one of the Sierra Club's primary campaigns in Hawai'i. The Sierra Club's many years of advocacy on this issue have included: lobbying federal, state, and local government entities and officials to shut down the Red Hill Facility; building public awareness and support through emails, newsletters, social media, public events, and fundraising activities; and actively litigating to require the State of Hawai'i Department of Health ("DOH") to stop the threat to our drinking water posed by the United States Department of the Navy's ("Navy's") Red Hill Facility in agency proceedings and civil lawsuits. In connection with its advocacy, the Sierra Club has invested hundreds of hours researching and documenting factual issues related to the threats posed by the Red Hill Facility.

5. Specifically with respect to litigation regarding the Red Hill Facility, the Sierra Club was or is a party in:

- a contested case regarding the Navy's Application for an underground storage tank ("UST") permit to continue operations at the Red Hill Facility, which is currently pending before DOH, *see In re US Navy's Application for a UST Permit*

for the Red Hill Bulk Storage Facility, Docket No. 19-UST-EA-01 (Dep't of Health);

- a civil suit against DOH to prevent the automatic approval of USTs pursuant to HAR § 11-280.1-327(b), which was settled in the Sierra Club's favor, *see Sierra Club v. Dep't of Health*, Civ. No. 1CCV-19-0002098 (Environmental Court, 1st Cir.);
- a civil suit against DOH to invalidate exemptions from rules regulating pollution from the Red Hill Facility, in which Sierra Club was the prevailing party, *see Sierra Club v. Dep't of Health*, Civ. No. 17-1-1350-08 JPC (Environmental Court, 1st Cir.); and
- a civil suit against DOH to obtain government records relating to a fuel leak from the Red Hill Facility pursuant to HRS chapter 92F, *see Sierra Club v. Dep't of Health*, Civ. No. 1CCV-21-0001307 (Environmental Court, 1st Cir.).

6. The Sierra Club has more than 2,700 dues paying members that live on O'ahu. A substantial portion of those members lives and/or works in the areas between Hālawa and Maunalua and relies upon drinking water from the Southern O'ahu Basal Aquifer for their health and livelihoods. I am one of those members, as I primarily reside in Maunalua, and the Hawai'i Chapter office is in downtown Honolulu.

7. The Sierra Club's mission includes the protection of natural resources, including the purity of groundwater. The Sierra Club and its members seek to preserve and enjoy a clean, healthy and natural environment.

8. The Sierra Club and its members (including myself) are adversely affected when the water that members drink is to be polluted with petroleum from the Red Hill Facility. This

threat is not hypothetical or speculative. The water that Sierra Club members drink has already been poisoned by petroleum that the Navy acknowledges was released from the Red Hill Facility in late November 2021, causing adverse health impacts. The groundwater aquifer that has already been contaminated by the Red Hill Facility's petroleum is also the U.S. Environmental Protection Agency Region IX sole source aquifer, on which the Honolulu Board of Water Supply relies to meet the needs of O'ahu residents and Sierra Club members from Hālawa to Maunalua.

9. Sierra Club members are also adversely affected when the nearshore waters of Pu'uloa are contaminated by leaks from defuel lines that are connected to, and a part of, the Red Hill Facility. Sierra Club members, including myself, fish from the waters of Pu'uloa, into which at least 7,600 gallons of fuel leaked from a defuel line near the Hotel and Kilo Piers in 2020 and 2021.

10. The interests of the Sierra Club and its members are jeopardized by the continued operation of the underground storage tanks at Red Hill. To prevent future fuel releases that would further contaminate the Southern O'ahu Basal Aquifer and the nearshore waters of Pu'uloa, the Sierra Club and its members are committed to securing the orderly defueling and permanent closure of the Red Hill Facility.

I declare under penalty of law that the foregoing is true and correct to the best of my knowledge.

DATED: Honolulu, Hawai'i, December 13, 2021.

Wayne Tanaka

DAVID L. HENKIN #6876
ISAAC H. MORIWAKE #7141
KYLIE W. WAGER CRUZ #10165
EARTHJUSTICE
850 Richards Street, Suite 400
Honolulu, Hawai'i 96813
T: (808) 599-2436
Email: dhenkin@earthjustice.org
imoriwake@earthjustice.org
kwager@earthjustice.org

Attorneys for Proposed Intervenor
Sierra Club

DEPARTMENT OF HEALTH
SOLID AND HAZARDOUS WASTE BRANCH
UNDERGROUND STORAGE TANK SECTION

STATE OF HAWAI'I

In the Matter of	)	Docket No. 21-UST-EA-02
	)	
EMERGENCY CHANGE-IN-SERVICE AND DEFUELING OF 20 UNDERGROUND STORAGE TANKS, RED HILL BULK FUEL STORAGE FACILITY	)	DECLARATION OF KEVIN T. AUBART

DECLARATION OF KEVIN T. AUBART

I, Kevin T. Aubart, declare that if called as a witness in this action I would testify of my own personal knowledge as follows:

1. I am a civilian employee working for the United States Department of the Army. Since late 2016, I have been a resident of Doris Miller Park, a Navy housing community located near Honolulu International Airport. I am a member of the Sierra Club and submit this declaration in support of the Sierra Club's Motion to Intervene.

2. On or about November 28, 2021, my wife came out of the kitchen of our home at Doris Miller Park to tell me that the water coming out of the tap smelled terrible. At first, I told her it was probably chlorine. But when I went into the kitchen, put some water from the faucet into a cup, and smelled it, I immediately recognized the smell as jet fuel.

3. I am very familiar with the smell of jet fuel because, from 1991 to 1995, I was enlisted in the United States Air Force and worked as a security police officer at Kadena Air Base in Okinawa, Japan. I often did security patrols on the flight line, where I would smell jet fuel. In addition, there was an airplane crash during my deployment to South Korea where a lot of jet fuel was spilled. Accordingly, I know jet fuel when I smell it.

4. After smelling jet fuel in the water coming out of our kitchen faucet, I told my wife to stop using the water for cooking. I did not, however, think about the fact that she had already used that water to cook rice, which we subsequently ate. I also did not think about the fact that we had washed our dishes, silverware, and pots with that water, and we continued to eat food from those dishes, silverware, and pots.

5. After smelling the jet fuel in our kitchen water, my wife and I did our best to avoid using our water but found that very difficult to do. We continued to use water to brush our teeth and to shower. We had no other choice. Showering with the water caused red rashes on our skin and irritated our eyes.

6. In the days immediately after smelling jet fuel in our home's water, both my wife and I experienced stomach aches, diarrhea, skin rashes, sore throats, and mild headaches.

7. As soon as I smelled the jet fuel in our water, I went online to see if I could get any information about what was going on. I looked on Facebook and noticed that many people in

military housing on O'ahu were likewise complaining about the smell in their water, as well as ailments similar to the ones my wife and I were experiencing.

8. To avoid further harm from the contaminated water coming out of the tap at our home, my wife and I have been using bottled water—which is supplied by the Army—to wash our hands and brush our teeth. We have been taking showers at a room in an airport hotel, for which the Army is also paying because the water in our house is not safe for that purpose.

9. Now that my wife and I are no longer using the water from our home, our ailments have largely gone away. But we are extremely inconvenienced by not being able to drink from our tap or use tap water to cook, brush our teeth, wash our hands, or shower. Moreover, we are also deeply concerned that, if the Navy is allowed to continue to store fuel in the aged, corroding, leaking tanks at the Red Hill facility, our water will be poisoned in the future. We suffer anxiety about whether we can ever trust our water to be safe.

10. A couple of years ago, many families in Navy military housing, including my wife and me, experienced stomach aches, sore throats, skin irritations, and headaches that were similar to those my wife and I experienced after this latest leak from the Red Hill facility. At the time, we suspected black mold based on the symptoms. Navy housing sent out trained personnel to inspect our housing units, but, to my knowledge, they were unable to locate any mold. I now believe that our ailments were likely due to earlier leaks from the Red Hill facility.

11. In my view, the only way to protect me, my wife, and other O'ahu residents who rely on the aquifer underlying the Red Hill facility for drinking water is to require the Navy to remove all of the fuel that is currently stored in the nearly 80-year old, corroded, leaky Red Hill tanks and move that fuel to a safe, modern, above-ground storage location. I strongly support the Sierra Club's efforts to shut down the Red Hill tanks.

12. The U.S. Navy poisoned thousands of military families with jet fuel, denied it, lied about it, and refused to accept responsibility for it. I am deeply concerned that, if the Navy is not forced to shut down the old, corroded and leaking Red Hill fuel tanks, fuel will leak into our drinking water again and may be more severe and widespread next time. If the Red Hill fuel tanks are not shut down, my wife and I will live in constant fear of our water getting contaminated again, with no way to know it until we can actually smell jet fuel.

13. Being prior military, I understand the importance of stored jet fuel to our national security. But the Navy has known about these Red Hill fuel leaks for decades, and the Navy failed to take the necessary steps to avoid poisoning its own people. It is long past time for the Navy to drain the old tanks and clean up the contamination it has already caused.

I declare under penalty of law that the foregoing is true and correct to the best of my knowledge.

DATED: Honolulu, Hawai'i, December 13, 2021.

Kevin T. Aubart

DAVID L. HENKIN #6876
ISAAC H. MORIWAKE #7141
KYLIE W. WAGER CRUZ #10165
EARTHJUSTICE
850 Richards Street, Suite 400
Honolulu, Hawai'i 96813
T: (808) 599-2436
Email: dhenkin@earthjustice.org
imoriwake@earthjustice.org
kwager@earthjustice.org

Attorneys for Proposed Intervenor
Sierra Club

DEPARTMENT OF HEALTH
SOLID AND HAZARDOUS WASTE BRANCH
UNDERGROUND STORAGE TANK SECTION

STATE OF HAWAI'I

In the Matter of EMERGENCY CHANGE-IN-SERVICE AND DEFUELING OF 20 UNDERGROUND STORAGE TANKS, RED HILL BULK FUEL STORAGE FACILITY	)	Docket No. 21-UST-EA-02 DECLARATION OF DAVID L. HENKIN

DECLARATION OF DAVID L. HENKIN

I, DAVID L. HENKIN, declare that, if called as a witness in this action, I could testify of my own personal knowledge under penalty of perjury that:

1. I am an attorney with the Mid-Pacific (Honolulu) office of Earthjustice, the attorneys of record for proposed intervenor Sierra Club in this action. I am admitted to practice law before all courts of the State of Hawai'i. If called as a witness, I could and would testify

competently to the matters set forth herein. I submit this declaration in support of Sierra Club's Motion to Intervene.

2. Attached hereto as Exhibit "A" is a true and correct copy of the final Administrative Order on Consent in *In re Red Hill Bulk Fuel Storage Facility*, EPA Dkt. No. RCRA 7003-R9-2015-01, DOH Dkt. No. 15-UST-EA-01, which is available at the State of Hawai'i Department of Health's ("DOH's") publicly accessible website: https://health.hawaii.gov/ust/files/2015/09/Red-Hill-AOC_Final_29SEP151.pdf (last visited Dec. 13, 2021).

3. Attached hereto as Exhibit "B" is a true and correct copy of the Report to the Twenty-Eighth Legislature State of Hawai'i 2015, Pursuant to Senate Concurrent Resolution 73 Requesting the Department of Health to Convene a Task Force to Study the Effects of the January 2014 Fuel Tank Leak at the Red Hill Fuel Storage Facility (Dec. 2014), which is available at DOH's publicly accessible website: https://health.hawaii.gov/shwb/files/2015/01/Senate-Concurrent-Resolution-73.pdf (last visited Dec. 13, 2021).

4. Attached hereto as Exhibit "C" is a true and correct copy of the Westlaw version of the U.S. Environmental Protection Agency's Southern O'ahu Basal Aquifer in the Pearl Harbor Area of O'ahu; Principal Source Aquifer Determination, 52 Fed. Reg. 45,496 (Nov. 30, 1987).

5. Attached hereto as Exhibit "D" is a true and correct copy of the DOH Solid and Hazardous Waste Branch Underground Storage Tank Section's Emergency Order against the U.S. Navy regarding the Emergency Change-in-Service and Defueling of 20 Underground Storage Tanks, Red Hill Bulk Fuel Storage Facility (Dec. 6, 2021) ("Emergency Order"), which

is available at DOH's publicly accessible website: https://health.hawaii.gov/about/files/2021/12/Emergency-Order-12.05.2021-signed.pdf (last visited Dec. 13, 2021).

6. The Emergency Order noticed a contested case hearing for December 7, 2021. To my knowledge, no such contested case hearing has occurred or has been officially rescheduled or otherwise publicly noticed.

7. Attached hereto as Exhibit "E" is a true and correct copy of a news article that appeared in the Honolulu Civil Beat ("Civil Beat") on December 10, 2021, entitled "State Finds Red Hill Contamination Far Above Health Thresholds for Drinking Water," which is available at Civil Beat's publicly accessible website: https://www.civilbeat.org/2021/12/state-finds-red-hill-contamination-far-above-state-standards-for-drinking-water/ (last visited Dec. 13, 2021).

8. Attached hereto as Exhibit "F" is a true and correct copy of a December 10, 2021 news release from DOH entitled "Hawai'i Department of Health Confirms High Levels of Petroleum Contamination in Navy's Red Hill Shaft," which is available at DOH's publicly accessible website: https://health.hawaii.gov/news/files/2021/12/21-177-Hawaii-Department-of-Health-confirms-high-levels-of-petroleum-contamination-in-Navys-Red-Hill-Shaft.pdf (last visited Dec. 13, 2021).

9. Attached hereto as Exhibit "G" is a true and correct copy of a December 8, 2021 news release from DOH entitled "Petroleum Contamination Reported in Navy's Aiea Halawa Shaft," which is available at DOH's publicly accessible website, https://health.hawaii.gov/news/files/2021/12/21-174-Petroleum-contamination-reported-in-Navys-Aiea-Halawa-shaft-.pdf (last visited Dec. 13, 2021).

10. Attached hereto as Exhibit "H" is true and correct copy of a December 3, 2021 news release from the Board of Water Supply, City and County of Honolulu ("BWS") entitled

"Board of Water Supply Shuts Down Halawa Shaft in Response to Red Hill Contamination," which is available at BWS's publicly accessible website, https://www.boardofwatersupply.com/news-events/news-releases/2021/halawa-shaft-shutdown (last visited Dec. 13, 2021).

11. Attached hereto as Exhibit "I" is a true and correct copy of a news article that appeared in Civil Beat on December 7, 2021, entitled "Governor's Red Hill Order Raises Question of State Versus Federal Power," which is available at Civil Beat's publicly accessible website: https://www.civilbeat.org/2021/12/navys-opposition-to-governors-red-hill-order-raises-questions-of-state-versus-federal-power/ (last visited Dec. 13, 2021).

I declare under penalty of perjury that I have read the foregoing declaration and know the contents thereof to be true of my own knowledge.

DATED: Honolulu, Hawai'i, December 13, 2021.

DAVID L. HENKIN

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 9

THE DEPARTMENT OF HEALTH
STATE OF HAWAII

IN THE MATTER OF:

THE UNITED STATES DEPARTMENT OF THE NAVY	)	EPA DKT NO. RCRA 7003-R9-2015-01
AND	)	DOH DKT NO. 15-UST-EA-01
DEFENSE LOGISTICS AGENCY	)	
RESPONDENTS	)	
RED HILL BULK FUEL STORAGE FACILITY, OAHU, HAWAII	)	

ADMINISTRATIVE ORDER ON CONSENT

1. INTRODUCTION

(a) This administrative order on consent ("AOC") is entered into voluntarily by the DEPARTMENT OF HEALTH, STATE OF HAWAII ("DOH"); the UNITED STATES ENVIRONMENTAL PROTECTION AGENCY ("EPA") Region 9; the UNITED STATES DEPARTMENT OF THE NAVY ("Navy"), acting by and through the COMMANDER, NAVY REGION HAWAII ("CNRH"); and DEFENSE LOGISTICS AGENCY ("DLA"). DOH, EPA, Navy, and DLA are collectively referred to as the "Parties." DOH and EPA are collectively referred to as the "Regulatory Agencies." This AOC is a joint administrative action taken by the DOH and EPA concurrently and pursuant to their respective state and federal authorities to regulate underground storage tanks ("USTs") and waste and to protect drinking water, natural resources, human health, and the environment.

(b) This AOC provides for the performance by Navy and DLA of a release assessment, response(s) to release(s), and actions to minimize the threat of future releases in

EXHIBIT A

connection with the field-constructed bulk fuel USTs, surge tanks, pumps, and associated piping at the Red Hill Bulk Fuel Storage Facility ("Facility"), located near Pearl Harbor, on the island of Oahu in the State of Hawaii, and on any property that may be affected now or in the future by petroleum or other substances released from the Facility, as specified in Attachment A ("Statement of Work" or "SOW"). The term "Site" as used in this AOC includes the Facility and any area where petroleum or other substances released from the Facility come to be located. The primary objectives of this AOC are to take steps to ensure that the groundwater resource in the vicinity of the Facility is protected and to ensure that the Facility is operated and maintained in an environmentally protective manner.

(c) Navy and DLA's participation in this AOC shall not constitute or be construed as an admission of liability. Navy and DLA neither admit nor deny the factual allegations and legal conclusions set forth in this AOC (Sections 4 and 5, Findings of Fact and Conclusions of Law).

(d) The Parties acknowledge that this AOC has been negotiated in good faith and that this AOC is fair, reasonable, protective of human health and the environment, and is in the public interest.

2. JURISDICTION

(a) The State of Hawaii obtained EPA state program approval, effective on September 30, 2002, for Hawaii's UST program to operate in lieu of EPA's UST program under Subtitle I of the Resource Conservation and Recovery Act of 1976 ("RCRA"), as amended, 42 United States Code ("U.S.C.") § 6901 *et seq.* DOH enters into this AOC in accordance with its authority, vested in the Director of Health, to regulate USTs in conformance with EPA state program approval and the provisions of chapters 340E, 342D and 342L of the Hawaii Revised Statutes ("HRS") and the rules promulgated pursuant thereto.

(b) EPA Region 9 enters into this AOC pursuant to the authority vested in the Administrator of EPA by Section 7003 of RCRA, 42 U.S.C. § 6973, which authority has been delegated to the Regional Administrators of EPA by Delegations 8-22-A and 8-22-C (April 20, 1994), and redelegated to, among others, the Director of the Land Division of EPA Region 9 by Delegations R9-8-22-A (October 10, 2014) and R9-8-22-C (October y 10, 2014).

(c) Navy and DLA agree to undertake and complete all actions required by the terms and conditions of this AOC.

3. PARTIES BOUND

(a) This AOC shall apply to and be binding upon the Parties and their successors and assigns. Navy and DLA are jointly and severally liable under this AOC.

(b) Navy and DLA shall notify the Regulatory Agencies in writing as soon as the decision to transfer or sell any property covered by this AOC is known by Navy or DLA but no later than prior to the sale or transfer. In addition, Navy and DLA shall provide a copy of this AOC to any successor to the Site prior to the effective date of such change. No change in ownership or operation of any property covered by this AOC or in the status of Navy and DLA shall in any way alter, diminish, or otherwise affect Navy and DLA's obligations and responsibilities under this AOC, except by agreement of the Parties in accordance with Section 8 or as required by subsequently enacted legislation pertaining to transfer of the Facility.

(c) Navy and DLA shall provide a copy of the AOC, or a website address for accessing this AOC, to all of its supervisory personnel who work on actions related to this AOC and prime contractors or prime consultants retained to conduct or monitor any portion of work performed pursuant to this AOC within seven (7) days of the date that the last Party signs the AOC as described in Section 25 ("Effective Date") or date of such retention, whichever is later. Navy and DLA shall condition all contracts with the aforementioned on compliance with the terms and conditions of this AOC. Navy and DLA shall instruct all supervisory personnel who work on actions related to this AOC and prime contractors or prime consultants retained to conduct or monitor any portion of work to perform such work in accordance with the requirements of this AOC.

4. FINDINGS OF FACT

(a) CNRH is a division of Navy. CNRH is the command responsible for providing, maintaining, and improving shore infrastructure, service, support, and training to enable fleet operations; CNRH oversees all Navy supporting commands involved in the operation or maintenance of the Facility.

(b) DLA is a combat logistics support agency of the United States Department of Defense ("DoD") providing the military services with the full spectrum of logistics, acquisition, and technical services. As the DoD executive agent for bulk petroleum, DLA executes the integrated materiel management responsibility for bulk petroleum owned by the DoD and is

responsible for bulk petroleum supply management from source of supply to the point of customer acceptance, with emphasis on improving efficiency. In accordance with DoD policy, DLA plans, programs, budgets, and provides funding for the operation, maintenance and repair of the Facility.

(c) Navy and DLA are the operators of the Facility.

(d) The Facility is located near Pearl Harbor on the island of Oahu, State of Hawaii.

(e) The Facility includes twenty (20) field-constructed steel USTs ("Tanks"). The Tanks are constructed of steel, encased by an estimated minimum of 2.5 to 4 feet of concrete surrounded and supported by basalt bedrock.

(f) Each tank has a fuel storage capacity ranging from approximately 12.5 to 12.7 million gallons for a total of approximately 250 million gallons of fuel. However, as of the Effective Date of this AOC, two (2) of the twenty (20) Tanks are not currently in operation.

(g) The Facility was constructed and became operational in the 1940s. The Tanks and related components at the Facility are unique.

(h) Federal and State programs for the management of USTs were first published in the 1980s. In January 2000, the State of Hawaii promulgated rules requiring owners and operators of such facilities to report suspected or confirmed releases from USTs. EPA granted final approval for the State of Hawaii's UST program on September 30, 2002, in lieu of Federal rules regarding USTs. On November 18, 2011, EPA proposed revisions to strengthen the 1988 Federal UST regulations including requirements for field-constructed USTs and new requirements for secondary containment and operator training. On April 16, 2012, the public comment period for the proposed regulations closed. Under the proposed rules, most provisions of the proposed regulations would become effective three years after the final rule is issued.

(i) The Tanks at the Facility have been used at various times to store the following fuels: diesel marine fuel, diesel oil, Navy Special Fuel Oil ("NSFO"), Navy distillate ("ND"), aviation gasoline ("AVGAS"), motor gas ("MOGAS"), Jet Propulsion Fuel No. 5 ("JP-5") and Jet Propulsion Fuel No. 8 ("JP-8").

(j) As of the Effective Date of this AOC, Navy stores three types of fuels at the Facility: JP-5, JP-8, and diesel marine fuel.

(k) The Waimalu and Moanalua Aquifers ("Aquifer identification and classification for Oahu: Groundwater protection strategy for Hawaii," February 1990), which are underground sources of drinking water, are located near the Facility. The Waimalu Aquifer covers an area of 15,193 acres and the Moanalua Aquifer covers an area of 4,442 acres.

(l) Navy Well 2254-01 is located west and hydraulically downgradient from the Facility. This well feeds into the Joint Base Pearl Harbor-Hickam Water System.

(m) The Honolulu Board of Water Supply's ("BWS") Halawa Shaft, which is part of a public water system, is near the Facility.

(n) The BWS's Moanalua Well, which is part of a public water system, is near the Facility.

(o) The first report by Navy to DOH of a release from the Facility occurred on November 10, 1998, when petroleum-stained basalt cores were discovered beneath the Tanks.

(p) In the early 2000s, Navy performed transverse cores beneath each tank and discovered evidence of staining beneath nineteen (19) of twenty (20) Tanks.

(q) On December 9, 2013, Navy placed one of the Tanks (Tank #5) at the Facility back into service after it had undergone routine scheduled maintenance. The maintenance work consisted of cleaning, inspecting, and repairing multiple sites within the tank. Upon placing Tank #5 back into service, Navy commenced filling the tank with petroleum.

(r) On January 13, 2014, Navy discovered a loss of fuel from Tank #5 and immediately notified DOH and EPA. On January 13, 2014, Navy began transferring fuel from Tank #5 to other Tanks at the Facility. The transfer of all fuel from Tank #5 was completed on January 18, 2014. On January 16, 2014, Navy verbally notified DOH and EPA of a confirmed release from Tank #5. On January 23, 2014, Navy provided written notification to DOH. Navy estimates the fuel loss at approximately 27,000 gallons.

(s) The total amount released to the environment, both attributable to the January 2014 event and historical releases, is unknown.

(t) Following the January 2014 release, Navy increased the frequency of monitoring and performed additional monitoring of Navy Well 2254-01 and shall continue to monitor Navy Well 2254-01 in accordance with the Groundwater Protection Plan approved by DOH and that will be updated in accordance with the SOW. Current drinking water monitoring results

confirmed compliance with federal and state Maximum Contaminant Levels for drinking water both before and after the January 2014 release.

(u) Marine diesel and jet fuels in general, and Jet Propulsion Fuels 5 and 8 (JP-5 and JP-8) in particular, are composed of a broad, dynamic and heterogeneous mixture of chemical constituents. Chronic exposure to these constituents can be harmful to human health. The rates at which these constituents naturally degrade in the environment are highly variable.

5. CONCLUSIONS OF LAW AND DETERMINATIONS

(a) Hawaii Conclusions of Law and Determinations:

(i) Navy and DLA are "persons" as defined in HRS §342L-1 [40 C.F.R. § 280.12].

(ii) Navy is the "owner" of the Facility as defined in HRS §342L-1 [40 C.F.R. § 280.12].

(iii) Navy and DLA are the "operators" of the Facility as defined in HRS §342L-1 [40 C.F.R. § 280.12].

(iv) The Waimalu and Moanalua Aquifers are "underground sources of drinking water" as that term is used in HRS chapter 340E and are "State Waters" as defined in HRS §342D-1.

(v) BWS's Halawa Shaft and Moanalua Well are parts of a "public water system" as defined in HRS §340E-1 and are "State Waters" as defined in HRS §342D-1.

(vi) There have been "releases" of "regulated substances" into the environment from Tanks at the Facility, as those terms are defined by HRS §342L-1 [40 C.F.R. § 280.12].

(vii) There have been releases of "contaminants" into the environment from Tanks at the Facility, as that term is defined in HRS §340E-1.

(viii) There have been discharges of "wastes" and "water pollutants" as those terms are defined in HRS §342D-1.

(ix) Navy and DLA, as the owner and/or operator of the Facility are subject to requirements regarding response and remediation in HRS chapter 342L and Hawaii Administrative Rules ("HAR") chapter 11-281 [40 C.F.R. § 280 Subpart E] and are subject to orders which may be necessary to protect the health of persons who are or may be users of a public water system as provided in HRS chapter 340E and the rules promulgated pursuant

thereto including, but not limited to, HAR §11-19 and 11-20, and are subject to administrative orders and civil actions which are necessary to address discharges to state waters as provided for in HRS chapter 342D. Additionally, the Facility, which is federally owned and operated, is subject to "all administrative orders and all civil and administrative penalties or fines, regardless of whether such penalties or fines are punitive or coercive in nature or are imposed for isolated, intermittent, or continuing violations in the same manner and to the same extent as any person is subject to such requirements," as codified in 42 U.S.C. § 6991f.

(x) The actions Navy and DLA have agreed to perform in accordance with this AOC are necessary to address potential impacts to human health, safety and the environment, as envisioned by HRS §§ 340E-4, 342D-9, 342D-10, 342D-11, 342L-8, 342L-9 and 342L-52, due to historical, recent and potential future releases at the Facility.

(b) EPA Conclusions of Law and Determinations:

(i) Navy and DLA are "persons" as defined in Section 1004(15) of RCRA, 42 U.S.C. § 6903(15).

(ii) EPA has determined that any fuel released from the Facility would be a "solid waste" within the meaning of Section 1004(27) of RCRA, 42 U.S.C. § 6903(27).

(iii) EPA has determined that Navy and DLA have contributed to or are contributing to the handling, storage, treatment, transportation or disposal of solid waste at the Facility.

(iv) EPA has determined that Navy and DLA's handling, storage, treatment, transportation, or disposal of solid waste may present an imminent and substantial endangerment to health or the environment.

(v) The actions required by this AOC may be necessary to protect health and the environment.

(vi) Navy and DLA are departments, agencies or instrumentalities of the Executive Branch of the federal government, and as such, are persons subject to the requirements of Sections 6001 and 9007 of RCRA, 42 U.S.C. §§ 6961, 6991f.

6. WORK TO BE PERFORMED

(a) Based upon the administrative record for the Site and the Findings of Fact (Section 4) and Conclusions of Law and Determinations (Section 5) set forth above, and in

consideration of the promises set forth herein, it is hereby agreed to and ordered that Navy and DLA comply with all provisions of this AOC, including, the SOW, Attachment A, which is incorporated into and made an enforceable part of this AOC. The term "Work" shall mean all the activities and requirements, including but not limited to all deliverables, specified in the AOC and SOW. A deliverable is any report or other document listed under Section 9 of the SOW or otherwise expressly required to be submitted under this AOC.

(b) The Work undertaken pursuant to this AOC shall be conducted in accordance with all applicable EPA and DOH guidance, policies and procedures, and this AOC, and is subject to approval by the Regulatory Agencies.

(c) Navy and DLA shall undertake and complete all of the Work to the satisfaction of the Regulatory Agencies.

(d) Navy and DLA shall commence performing their obligations under this AOC upon its Effective Date.

(e) The DOH Project Coordinator shall be DOH's designated representative for the Site. As of the Effective Date of this AOC, the DOH Projector Coordinator shall be:

Steven Y.K. Chang, P.E., Chief
Solid and Hazardous Waste Branch
Department of Health
919 Ala Moana Blvd., Room 212
Honolulu, Hawaii 96814
(808) 586-4226
Steven.Chang@doh.hawaii.gov

The EPA Project Coordinator shall be EPA's designated representative for the Site. As of the Effective Date of this AOC, the EPA Project Coordinator shall be:

Bob Pallarino
U.S. EPA Region 9
Underground Storage Tank Program Office
75 Hawthorne Street (LND-4-3)
San Francisco, California 94105
(415) 947-4128
Pallarino.Bob@epa.gov

The Navy and DLA Project Coordinator shall be Navy and DLA's

representative for the Site. As of the Effective Date of this AOC, the Navy and DLA Project Coordinator shall be:

Jimmy Miyamoto
Deputy Operations Officer
NAVFAC Hawaii
400 Marshall Road
JBPHH, HI 96860-3139
(808) 471-0196
james.miyamoto@navy.mil

Any of the Parties may change their Project Coordinators at any time. Any of the Parties making such change will provide the other Parties with written notice within fourteen (14) days of such a change.

(f) Unless otherwise provided in this AOC, all reports, correspondence, notices, or other submittals relating to or required under this AOC shall be in writing and shall be sent to the "Project Coordinators" at the addresses specified above. Unless otherwise specified in the SOW, all reports, correspondence, notices or other submittals related to or required under this AOC may be delivered via email to the addresses above, or if otherwise agreed to by the Parties, by U.S. Postal Service or private courier service to the address above. The Regulatory Agencies may require Navy and DLA to submit a follow-on paper copy of any submission. All correspondence shall include a reference to the "Red Hill Administrative Order on Consent."

7. REGULATORY AGENCIES' APPROVAL OF DELIVERABLES

(a) Deliverables required by this AOC shall be submitted to the Regulatory Agencies for approval or modification pursuant to Subparagraph (b). The Regulatory Agencies must receive all deliverables by the due date specified in this AOC or by schedules developed pursuant to this AOC.

(b) After review of any deliverable that is required pursuant to this AOC, the Regulatory Agencies will: (a) approve, in whole or in part, the submission; (b) approve the submission upon specified conditions; (c) modify the submission to cure the deficiencies; (d) disapprove, in whole or in part, the submission, directing that Navy and DLA modify the submission; or (e) any combination of the above. However, the Regulatory Agencies will not modify a submission without first providing Navy and DLA at least one notice of deficiency and an opportunity to cure within thirty (30) days, except where the Regulatory Agencies determine

that to do so would cause serious disruption to the Work or where the Regulatory Agencies have disapproved previous submission(s) due to material defects and the Regulatory Agencies determine that the deficiencies in the submission under consideration indicate a bad faith lack of effort to submit an acceptable deliverable.

(c) In the event of approval, approval upon conditions, or modification by the Regulatory Agencies, pursuant to Subparagraph (b), Navy and DLA shall proceed to take any action required by the deliverable, as approved or modified by the Regulatory Agencies subject only to Navy and DLA's right to invoke the Dispute Resolution procedures set forth in Section 14 (Dispute Resolution) with respect to the modifications or conditions made by the Regulatory Agencies. In the event that the Regulatory Agencies modify the submission to cure the deficiencies pursuant to Subparagraph (b) and the Regulatory Agencies determine the submission has a material defect, the Regulatory Agencies retain their right to seek stipulated penalties, as provided in Section 15 (Penalties).

(d) Upon receipt of a notice of disapproval, in whole or in part, Navy and DLA shall, within thirty (30) days or such longer time as specified by the Regulatory Agencies in such notice, correct the deficiencies with respect to any disapproved part and resubmit the deliverable for approval. Any stipulated penalties applicable to the submission, as provided in the stipulated penalty provisions of Section 15 (Penalties), shall be stayed during the thirty (30) day opportunity to cure period or other specified period. A written explanation will accompany any disapproval, in whole or in part, by the Regulatory Agencies, including the identification of a material defect.

(e) Notwithstanding the receipt of a notice of disapproval, Navy and DLA shall proceed, at the direction of the Regulatory Agencies, to take any action required by any unrelated non-deficient portion of the submission. Implementation of any unrelated non-deficient portion of a submission shall not relieve Navy and DLA of liability for stipulated penalties for the disapproved portion under Section 15 (Penalties).

(f) In the event that a resubmitted deliverable, or portion thereof, is disapproved by the Regulatory Agencies, the Regulatory Agencies may again require Navy and DLA to correct the deficiencies, in accordance with the preceding Paragraphs. The Regulatory Agencies also retain the right to modify or develop the plan, report or other item, consistent with Subparagraph

(b). Navy and DLA shall implement any action as required in a deliverable which has been modified or developed by the Regulatory Agencies, subject only to Navy and DLA's right to invoke the procedures set forth in Section 14 (Dispute Resolution).

(g) If upon resubmission, a deliverable is disapproved or modified by the Regulatory Agencies due to a material defect previously identified by the Regulatory Agencies in accordance with Subsection 7(d), Navy and DLA shall be deemed to have failed to submit such deliverable timely and adequately unless Navy and DLA invoke the dispute resolution procedures set forth in Section 14 (Dispute Resolution) and the Regulatory Agencies' action to disapprove or modify a deliverable is overturned pursuant to that Section. The provisions of Section 14 (Dispute Resolution) and Section 15 (Penalties) shall govern the implementation of the Work and accrual and payment of any stipulated penalties during Dispute Resolution. If the Regulatory Agencies' disapproval or modification is upheld, stipulated penalties shall accrue for such violation from the date on which the initial submission was originally required, as provided in Section 15 (Penalties).

(h) All deliverables required to be submitted to the Regulatory Agencies under this AOC, shall, upon approval or modification by the Regulatory Agencies, be incorporated into and made enforceable under this AOC. In the event the Regulatory Agencies approve or modify a portion of a deliverable required to be submitted to the Regulatory Agencies under this AOC, the approved or modified portions shall be enforceable under this AOC. Navy and DLA shall implement all deliverables in accordance with the schedule and provisions approved by the Regulatory Agencies.

8. MODIFICATION OF THE SOW AND THIS AOC AND ADDITIONAL WORK

(a) Modification of the Work in the SOW

(i) If at any time during the implementation of the SOW, Navy and DLA identify a need for a compliance date modification or modification of the Work in the SOW, Navy and DLA shall submit a memorandum documenting the need for the modification to the Project Coordinators of the Regulatory Agencies. The Project Coordinators of the Regulatory Agencies will determine if the modification is warranted and will provide written approval or disapproval. If disapproved, the Regulatory Agencies will provide a written explanation of the reason for the disapproval. Any approved, written modification of a compliance date or

modification of Work required by this AOC shall be incorporated by reference into this AOC.

(ii) In the event that during the performance of this AOC, Navy and/or DLA encounters any condition or situation that constitutes an emergency situation or may present an immediate threat to human health or the environment, Navy and DLA shall immediately take all appropriate actions to prevent and/or minimize such emergency or threat, and shall immediately notify the DOH Project Coordinator and the EPA Project Coordinator. Navy and DLA shall take such immediate and appropriate actions in consultation with the DOH Project Coordinator and the EPA Project Coordinator. Navy and DLA shall then submit to DOH and EPA written notification of such emergency or threat at the Site within twenty-four (24) hours of such discovery and, if further action is required, submit a plan to further mitigate the threat within seven (7) days of sending the written notification of the emergency. After approval or approval with modification of the plan by the Regulatory Agencies, Navy and DLA shall implement the plan as approved or modified and the plan shall be incorporated by reference into and made part of this AOC and be enforceable as such. In the event that Navy and DLA fail to take appropriate response action as required by this Paragraph, either or both of the Regulatory Agencies may take a response action consistent with their statutory and regulatory authorities and may require Navy and DLA to reimburse them for their response costs pursuant to those authorities.

(b) Modification of this AOC

(i) This AOC may be modified only by the mutual agreement of the Parties. Any agreed modifications shall be in writing; be signed by all the Parties; have as their effective date the date on which the last Party signs the modification; and be incorporated into and be enforceable under this AOC.

(ii) No informal advice, guidance, suggestion, or comment by the Regulatory Agencies regarding deliverables submitted by Navy and DLA shall relieve Navy and DLA of their obligation to obtain such formal approval as may be required by this AOC, and to comply with all requirements of this AOC unless it is modified as provided under this AOC. Any deliverables, required by this AOC are, upon approval by the Regulatory Agencies, incorporated into and enforceable under this AOC.

(iii) In the event future regulatory requirements for field-constructed USTs are determined by the Regulatory Agencies to conflict with the Work to be performed under this

AOC, such that Navy and DLA could not comply with both this AOC and the regulatory requirements, the Parties will make good faith efforts to promptly resolve such conflict.

(c) Additional Work. The Regulatory Agencies may determine, or Navy and DLA may propose, that certain tasks or activities are necessary in addition to or in lieu of the Work when such additional performance is necessary for protection of human health and the environment. The Regulatory Agencies may determine that Navy and DLA shall perform additional work and the Regulatory Agencies will specify, in writing, the basis for the determination that additional work is necessary. Within thirty (30) days after the receipt of such determination, Navy and DLA shall have the opportunity to meet or confer with the Regulatory Agencies to discuss any additional work. Upon meeting or conferring, the Parties shall agree on a schedule for submitting a work plan for additional work; Navy and DLA shall either invoke dispute resolution or submit the schedule for approval within thirty (30) days from Navy and DLA's meeting or conferring on the additional work, unless otherwise agreed to by the Parties. Upon approval of a work plan, Navy and DLA shall implement the work plan in accordance with the schedule and provisions contained therein. The work plan shall be incorporated by reference into and made a part of this AOC and be enforceable as such.

9. DOCUMENT CERTIFICATION

(a) Any deliverable specifically listed in the SOW and submitted by Navy and DLA pursuant to this AOC shall be certified by the Commander of Navy Region Hawaii or the Regional Engineer for CNRH or designee but no lower than the Deputy Regional Engineer. Certification of additional deliverables may be required, if specified as a requirement in an approved implementation plan.

(b) The certification required by Paragraph 9(a) above, shall be in the following form:

> I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to be the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fines and imprisonment for knowing violation.

Signature:_____

Name:_____

Title:_____

Date:_____

10. SAMPLING, ACCESS AND DOCUMENT AVAILABILITY

(a) Sampling and Analysis

(i) All results of sampling, testing, modeling or other data generated (including raw data, which shall be made available if requested) by Navy and DLA, or on Navy and DLA's behalf, during implementation of this AOC shall be submitted to the Regulatory Agencies within thirty (30) calendar days of Navy and DLA's receipt of the data. Data shall be provided in the same format that it was provided to Navy and DLA unless a different format is otherwise agreed to by the Parties. Upon request, the Regulatory Agencies will make available to Navy and DLA data generated by DOH or EPA for the purposes of oversight of the Work unless it is exempt from disclosure by any federal or state law or regulation. All sampling and analysis shall be subject to a quality assurance and control process as specified in the SOW.

(ii) Navy and DLA shall provide written notice to the Regulatory Agencies at least seven (7) calendar days prior to conducting field sampling, or as otherwise agreed to by the Parties. At the Regulatory Agencies' request, Navy and DLA shall allow split or duplicate samples to be taken by the Regulatory Agencies.

(b) Access to Areas Controlled by Navy and/or DLA

(i) EPA has the authority to enter the Site under federal environmental law and DOH has authority to enter the Site under state law.

(ii) Navy and DLA shall provide the Regulatory Agencies and/or their representatives with access to the Site at all reasonable times for the purposes consistent with the provisions of this AOC. Such access shall include, but not be limited to: inspecting records, logs, contracts, and other documents relevant to implementation of this Agreement; reviewing and monitoring the progress of Navy and DLA, their contractors, and lessees in carrying out the activities under this AOC; conducting tests that the Regulatory Agencies deem necessary;

assessing the need for planning additional response actions at the Site; and verifying data or information submitted to the Regulatory Agencies.

(iii) Navy and DLA shall honor all requests for access to the Site made by the Regulatory Agencies subject to the requirements in Subparagraph (v). Navy and DLA may require presentation of credentials showing the bearer's identification and that he/she is an employee or agent of the Regulatory Agencies, including contractors employed by either of the Regulatory Agencies. Navy and DLA's Project Coordinator or his/her designee shall provide briefing information, coordinate access and escort to restricted or controlled-access areas, arrange for base passes, and coordinate any other access requests that arise. Navy and DLA shall use their best efforts to ensure that conformance with the requirements of this Subsection do not delay access.

(iv) The rights granted in this Section to the Regulatory Agencies regarding access shall be subject to regulations and statutes, as may be necessary to protect national security information ("classified information") as defined in Executive Order 12958. Such requirement shall not be applied so as to unreasonably hinder the Regulatory Agencies from carrying out their responsibilities and authority pursuant to this AOC.

(v) The Facility is a controlled access area and subject to safety and security requirements. Other parts of the Site may be controlled or restricted. Navy and DLA shall provide an escort whenever the Regulatory Agencies require access to controlled or restricted areas for purposes consistent with the provisions of this AOC. The Regulatory Agencies shall provide reasonable notice to the Navy and DLA Project Coordinator, or his or her designee, to request any necessary escorts for such areas. Navy and DLA shall not require an escort to any area of the Site unless it is a restricted or controlled-access area. Upon request of the Regulatory Agencies, Navy and DLA shall promptly provide a written list of current restricted or controlled-access areas of the Site.

(vi) Upon a denial of any aspect of a request of access, Navy and DLA shall provide an immediate explanation of the reason for the denial, including reference to any applicable regulations, and upon request, a copy of such regulations. Within forty-eight (48) hours, Navy and DLA shall provide a written explanation for the denial. To the extent possible,

Navy and DLA shall expeditiously provide a recommendation for accommodating the requested access in an alternate manner.

(vii) Pursuant to this Section, any denial of access contrary to the terms of this AOC at reasonable times to any portion of the Site, where a request for access was made for the purposes of enforcing the requirements of federal or state law, or implementing or enforcing this AOC, shall be construed as a violation of the terms of this AOC subject to the penalty provisions outlined in Section 15 (Penalties) of this AOC.

(c) Access to Areas Not Controlled by Navy and/or DLA

Where action under this AOC is to be performed in areas owned by, or in possession of, someone other than Navy or DLA, Navy and DLA shall use their best efforts to obtain all necessary access agreements in a timely manner. Navy and DLA shall commence efforts to obtain such agreements within thirty (30) days of approval of any Work for which access is necessary. Any such access agreement shall provide for access by the Regulatory Agencies and their representatives to move freely in order to conduct actions that the Regulatory Agencies determine to be necessary. The access agreement shall specify that Navy and DLA are not the Regulatory Agencies' representative(s) with respect to any liabilities associated with activities to be performed. Navy and DLA shall provide DOH's Project Coordinator and EPA's Project Coordinator with copies of any access agreements. Navy and DLA shall immediately notify the Regulatory Agencies if after using Navy and DLA's best efforts, they are unable to obtain such agreements within the time required. Best efforts as used in this Paragraph shall include, at a minimum, a certified letter from Navy and DLA to the present owner of such property requesting access agreements to permit Navy and DLA, the Regulatory Agencies, and the Regulatory Agencies' authorized representatives to enter such property, and the offer of payment of reasonable sums of money in consideration of granting access. Navy and DLA shall, within ten (10) calendar days of receipt of a denial of access, submit in writing, a description of their efforts to obtain access. The Regulatory Agencies may, at their discretion, assist Navy and DLA in obtaining access. Where access on state owned property is needed, DOH will make best efforts to assist Navy and DLA with access.

(d) Document Availability

All data, information, and records created or maintained for purposes of implementation of this AOC, and all records relating to Facility operations and maintenance, or to site conditions, shall be made available to the Regulators upon request unless Navy or DLA assert a claim that such documents are legally privileged from disclosure and meets the burden of demonstrating to the Regulatory Agencies that such a privilege exists. Navy and DLA may assert a claim that certain documents or portions of documents are protected from public disclosure under federal or state law (e.g., documents exempt from disclosure under applicable laws such as FOIA, Procurement Integrity Act, Privacy Act, etc.). Navy and DLA shall clearly mark the material in which such a claim is asserted (e.g., documents shall be marked on each page and shall be reasonably segregated) and cite to the legal authority allowing withholding. If no such claim accompanies the information when it is submitted to the Regulatory Agencies, it may be made available to the public by EPA or DOH without further notice to Navy and DLA. Navy and DLA agree not to assert such claims with respect to any data related to Site conditions, including but not limited to, sampling, analytical, monitoring, hydrogeologic, scientific, chemical or engineering data or any other documents or information evidencing conditions at or around the Site.

(e) Nothing in this AOC shall be construed to limit the Regulatory Agencies' right of access, entry, inspection, and information gathering pursuant to applicable law.

11. COMPLIANCE WITH OTHER LAWS

Navy and DLA shall perform all actions required pursuant to this AOC in accordance with all applicable local, state, and federal laws and regulations. Navy and DLA shall use best efforts to obtain or cause their representatives to obtain all permits and approvals necessary under such laws and regulations in a timely manner so as not to delay the Work required by this AOC.

12. FUNDING OF THE WORK

(a) It is further agreed to and ordered that Navy and DLA shall timely seek sufficient funding through their budgetary processes to finance and perform all the Work. Navy and DLA recognize the requirements of this AOC as necessary actions subject to the provisions of Executive Order 12088 requiring request of sufficient funds in the agency budget. It is the

expectation of the Parties to this AOC that all obligations of Navy and DLA arising under this AOC will be fully funded.

(b) Any requirement for the payment or obligation of funds, including stipulated penalties, by Navy or DLA, established by the terms of this AOC may be subject to the availability of appropriated funds. No provision herein shall be interpreted to require obligation or payment of funds in violation of the Anti-Deficiency Act, 31 U.S.C. § 1341.

(c) If Navy and DLA determine that there are insufficient funds to carry out the Work in accordance with the AOC, Navy and DLA shall notify the Regulatory Agencies within thirty (30) days thereafter and request a meeting to work with the Regulatory Agencies to explore cost-savings or re-scoping measures to off-set the shortfall. The meeting shall be held within thirty (30) days of the request for the meeting, unless otherwise agreed to by the Parties. If re-scoping or cost savings measures are not sufficient to offset the shortfall such that schedules developed pursuant to this AOC should be modified, then Navy and DLA shall submit a modified schedule to the Regulatory Agencies for approval within the time frame agreed to in the meeting. The time frame agreed to in the meeting shall be in writing, signed by the Parties and be enforceable under this AOC. If funds are not available in any year to fulfill Navy and DLA's obligations under this AOC and the Parties are unable to agree on cost-savings or re-scoping measures to offset the shortfall or a modified schedule, DOH and EPA reserve their respective rights to initiate any action against any person(s) or to take any response action which would be appropriate absent this AOC.

13. REIMBURSEMENT OF DOH COSTS

(a) Subject to the provisions of this Paragraph, Navy and DLA agree to pay reasonable service charges incurred by DOH with respect to the Work. Reasonable service charges shall mean reasonable and necessary costs above and beyond normal regulatory responsibilities (i.e., required overtime or contracted effort) that DOH incurs in monitoring Navy's and DLA's performance under this AOC to determine whether such performance is consistent with the requirements of this AOC, including costs incurred in reviewing plans, reports and other documents submitted pursuant to this AOC. Reasonable service charges incurred by DOH shall be limited to no more than fifty thousand dollars ($50,000) per calendar year unless otherwise agreed in writing by Navy and DLA. DOH shall advise Navy and DLA

prior to accruing any costs for which it intends to seek reimbursement pursuant to this section and shall obtain concurrence that such costs are reasonable. Navy and DLA shall make good faith efforts to negotiate a separate cooperative agreement with DOH which will detail the modalities for payment of reasonable service charges incurred by DOH with respect to the Work. If Navy, DLA, and DOH cannot agree on the reasonableness of the proposed costs, they shall attempt to resolve any disputes under this Section amongst themselves. In the event that a separate cooperative agreement is developed, any dispute resolution related to this Paragraph shall be pursuant to that agreement and applicable regulation and shall not be subject to Section 14 (Dispute Resolution).

(b) DOH reserves the right to bring an action against Navy and DLA under any applicable law for recovery of all reasonable service charges incurred by DOH with respect to the Site that have not been reimbursed by Navy and DLA if Navy and DLA and DOH fail to enter into a separate cooperative agreement or make other arrangements for reimbursement of reasonable service charges incurred by DOH with respect to the Work.

14. DISPUTE RESOLUTION

(a) The Parties intend to work cooperatively to avoid disputes in the implementation of the AOC. The Parties shall make reasonable efforts to resolve disputes informally at the lowest level. The process for dispute resolution set forth in this Section shall be the exclusive remedy through which the Parties resolve any and all disputes arising from this AOC and the implementation and execution of the Work. At any point during the dispute resolution process, Navy and DLA may withdraw their dispute and commence or resume the previously disputed Work in accordance with direction from the Regulatory Agencies.

(b) A dispute resolution committee ("DRC") shall serve as the initial forum for resolution of disputes for which agreement has not been reached through informal dispute resolution among the Parties. Each Party shall designate one individual and an alternate to serve on the DRC, and may change those designations at will, with written notice to be provided to the other Parties, but shall at all times have persons so designated and available to participate in the dispute resolution process as needed. The persons designated to serve on the DRC shall be employed at the senior management level (e.g., Senior Executive Service (SES) or equivalent) or be delegated the authority in writing to participate on the DRC by an SES or equivalent level

official, or higher, for the purposes of dispute resolution under this agreement.

(i) Within thirty (30) days after any action which leads to or generates a dispute, the disputing Party shall submit to the DRC a written statement of dispute setting forth the nature of the dispute, the disputing Party's position with respect to the dispute and the technical, legal and factual information the disputing Party is relying upon to support its position.

(ii) Prior to any Party's issuance of a written statement of dispute, the disputing Party shall engage the other Parties in informal dispute resolution among the Project Coordinators and/or their immediate supervisors. During this informal dispute resolution period, the Parties shall meet and/or confer as many times as are necessary to discuss and attempt resolution of the dispute.

(iii) Within twenty (20) calendar days of receipt by the DRC of the disputing Party's written request for formal dispute resolution, unless additional time is provided by the DRC, the other Parties may submit their own statements of position with respect to the dispute to the DRC for its consideration.

(iv) The DRC shall have forty-five (45) calendar days from the date it receives a timely written request from the disputing Party for formal dispute resolution to unanimously resolve the dispute and issue a written decision signed by the designee of each Party then serving on the DRC, except that such designees may agree unanimously to extend the period of time to reach decision if necessary. This decision may include any necessary findings and instructions, as appropriate, to proceed with Work interrupted or delayed by the dispute.

(c) In the event the DRC is unable to unanimously resolve the dispute within the forty-five (45) day period, the written statement of dispute shall be forwarded to the Senior Executive Committee (SEC) for resolution, within ten (10) days after the close of the forty-five (45) day period. EPA's representative on the SEC is the Regional Administrator of EPA Region 9. DOH's representative on the SEC is the Director of Health. Navy's representative on the SEC is the Commander Navy Installations Command. DLA's representative on the SEC is the Chief of Staff of DLA. The SEC members shall, as appropriate, confer, meet, and exert their best efforts to resolve the dispute and issue a unanimous written decision signed by all Parties. If unanimous resolution of the dispute is not reached within thirty (30) days of elevation to the SEC, the Regional Administrator of EPA Region 9 shall issue a written position on the dispute

within forty (40) days of elevation to the SEC. The Assistant Secretary of the Navy for Energy, Installations & Environment, or the Director of DLA, within thirty (30) days of the EPA's Regional Administrator's issuance of the EPA's position, may issue a written notice elevating the dispute to EPA's Assistant Administrator of the Office of Enforcement and Compliance Assurance (EPA Assistant Administrator) for resolution. In the event that Navy, DLA or DOH elects not to elevate the dispute to the EPA Assistant Administrator within the designated thirty (30) day escalation period, the other Parties shall be deemed to have agreed with the EPA's Regional Administrator's written position with respect to the dispute.

(d) Upon elevation of the dispute to the EPA Assistant Administrator pursuant to Paragraph 14(c) above, the EPA Assistant Administrator will review and resolve the dispute. Upon request, and prior to resolving the dispute, the EPA Assistant Administrator will meet and confer with the Assistant Secretary of the Navy for Energy, Installations & Environment, the Director of DLA, and the Governor to discuss the issue(s) under dispute. The EPA Assistant Administrator will resolve the dispute within thirty (30) days of receipt of the dispute, unless the Assistant Secretary of the Navy for Energy, Installations & Environment, the Director of DLA, or the Governor request a meeting with the EPA Assistant Administrator prior to resolving the dispute, in which case the dispute will be resolved within thirty (30) days of such meeting. Upon resolution, the EPA Assistant Administrator will provide the other Parties with a written final decision setting forth resolution of the dispute.

(e) The existence of a dispute and the Regulatory Agencies' consideration of matters placed in dispute shall not excuse, toll, or suspend any compliance obligation or deadline required pursuant to this AOC during the pendency of the dispute resolution process except as agreed by the Regulatory Agencies in writing pursuant to Section 8 of this AOC or determined by the Administrator or his or her designee. In the event that a dispute is resolved in favor of Navy and DLA pursuant to this Section, stipulated penalties incurred with respect to the specific subject of that dispute will not be due and owing.

(f) Within thirty (30) calendar days of receipt of any final decision and instructions with respect to any dispute resolved pursuant to the procedures specified in this Section, unless otherwise specified in the decision, Navy and DLA shall incorporate the final decision and

instructions into the appropriate plan, schedule or procedures and implement this AOC in accordance with such plan, schedule or procedures.

(g) Resolution of a dispute pursuant to this Section constitutes a final resolution of any dispute arising under this AOC. All Parties shall abide by all terms and conditions of any final resolution of dispute obtained pursuant to this Section of the AOC.

15. PENALTIES

(a) In the event that Navy and/or DLA fails to comply with any term, condition or requirement of this AOC, EPA and/or DOH may assess and Navy and DLA shall be liable for stipulated penalties in the amounts set forth in this Section unless a Force Majeure event has occurred as defined in Section 17 (Force Majeure) and the Regulatory Agencies have approved the extension of a deadline as required by that Section. Compliance with this AOC by Navy and DLA shall include completion of any Work in accordance with this AOC and within the specified time schedules approved under this AOC. A stipulated penalty may be assessed in an amount not to exceed $5,000 for the first week (or part thereof) and $10,000 for each additional week (or part thereof) for which a failure set forth in this Subsection occurs.

(b) Stipulated penalties incurred pursuant to this Section shall begin to accrue on the day after complete performance is due or the day the violation occurs and shall continue to accrue until the violation is corrected to the satisfaction of the Regulatory Agencies.

(c) Upon determining that Navy and DLA have failed in a manner set forth in this Subsection, the EPA or the DOH will notify Navy and DLA. Any such notification shall be in writing. If the failure in question is not already subject to dispute resolution at the time such notice is received, Navy and DLA shall have thirty (30) days after receipt of the notice to invoke dispute resolution on the question of whether the failure did in fact occur and whether there is no mitigating reason for the failure. Where dispute resolution is invoked, no assessment of a stipulated penalty shall be final until the conclusion of dispute resolution procedures related to the assessment of the stipulated penalty. Notwithstanding any other provision of this Section, the Regulatory Agencies may, in their unreviewable discretion, waive any portion of stipulated penalties that have accrued pursuant to this AOC.

(d) No later than sixty (60) days after receipt of a written demand for payment from the Regulatory Agencies, unless the dispute resolution provisions of Section 14 (Dispute

Resolution) are invoked, Navy and DLA shall pay the penalty. If the stipulated penalties become payable by Navy and DLA, they shall pay one half (50%) of the total penalty amount by cashier's or certified check payable to the "State of Hawaii Director of Finance" for deposit into the Hawaii's Leaking Underground Storage Tank Fund [HRS § 342L-51] and delivered to the Director's Office, 1250 Punchbowl Street, Honolulu, Hawaii. They shall pay the other half (50%) of the total penalty amount by certified or cashier's check payable to the United States Treasury and delivered to the U.S. Environmental Protection Agency. Cincinnati Finance Center, Box 979077, St. Louis, MO, or other agreed-to method. All payments by Navy and DLA shall reference Navy and DLA's name and address, and the docket number for this action.

(e) This Section shall not affect Navy or DLA's ability to obtain an extension of a timetable, deadline, or schedule pursuant to Section 8 of this AOC.

(f) Nothing in this AOC shall be construed to render any officer or employee Navy or DLA personally liable for the payment of any stipulated penalty assessed pursuant to this Section.

16. ENFORCEABILITY

(a) The Parties agree to exhaust their rights under Section 14 (Dispute Resolution), prior to DOH exercising any rights to pursue a civil action and seek judicial review that it may have.

(b) Subject to the Dispute Resolution Provisions of Section 14 and the Regulatory Agencies' Covenants in Section 19, nothing in this AOC shall preclude the State of Hawaii from seeking to enforce the terms and conditions of this AOC as a final order of DOH against Navy and DLA in a civil action to collect penalties and/or enforce its provisions pursuant to HRS §§ 340E-4, 340E-8, 342D-9, 342D-10, 342D-11, 342L-8, 342L-9, 342L-12, and 342L-52, Section 7002 of RCRA, 42 U.S.C. § 6972, or in a civil action for breach of this AOC and from seeking any other relief as may be necessary to protect the public health, a source of drinking water and the environment. However, DOH will not seek to collect, in a judicial proceeding, civil penalties for a breach of this AOC if it or EPA has already collected such penalties under the penalty provisions of this AOC for the same matter, or if such penalties have been overturned through the dispute resolution process of Section 14.

(c) Failure to diligently conduct the Work may subject Navy and DLA to an action under Section 7002 of RCRA, 42 U.S.C. § 6972.

(d) Navy and DLA waive their opportunity to confer with the Administrator of EPA pursuant to 42 U.S.C. § 6961(b)(2) and any right to further review of the issuance of this AOC pursuant to any provisions of state and federal law.

(e) In any action to enforce the terms of this AOC, all Parties agree to be bound by the terms of the AOC and agree to not contest the validity of this AOC, its terms or conditions, or the procedures underlying or relating to them in any action brought by the Regulatory Agencies to enforce its terms.

17. FORCE MAJEURE

(a) Navy and DLA agree to perform all requirements under this AOC within the time limits established under this AOC, unless the performance is delayed by a force majeure. For purposes of this AOC, a force majeure is defined as any event arising from causes beyond the control of Navy and DLA, or Navy or DLA's contractors, that delays or prevents performance of any obligation under this AOC despite Navy and DLA's best efforts to fulfill the obligation. The requirement that Navy and DLA exercise "best efforts to fulfill the obligation" includes using best efforts to anticipate any potential force majeure event and best efforts to address the effects of any potential force majeure event: (1) as it is occurring, and (2) following the potential force majeure event, such that the delay is minimized to the greatest extent possible. Force majeure does not include financial inability to complete the Work, increased cost of performance, changes in Navy and DLA's business or economic circumstances, or inability to attain media cleanup standards.

(b) If any event occurs or has occurred that may delay the performance of any obligation under this AOC, whether or not caused by a force majeure event, Navy and DLA shall orally notify the Regulatory Agencies within forty-eight (48) hours of when Navy or DLA knew or should have known that the event might cause a delay. Such notice shall: (1) identify the event causing the delay, or anticipated to cause delay, and the anticipated duration of the delay; (2) provide Navy and DLA's rationale for attributing such delay to a force majeure event; (3) state the measures taken or to be taken to prevent or minimize the delay; (4) estimate the timetable for implementation of those measures; and (5) state whether, in the opinion of Navy and DLA, such

event may cause or contribute to an endangerment to public health or the environment. Navy and DLA shall undertake best efforts to avoid and minimize the delay. Failure to comply with the notice provision of this Paragraph and to undertake best efforts to avoid and minimize the delay shall waive any claim of force majeure by Navy and DLA. Navy and DLA shall be deemed to have notice of any circumstances of which their contractors had or should have had notice.

(c) If the Regulatory Agencies determine that a delay in performance or anticipated delay in fulfilling a requirement of this AOC is or was attributable to a force majeure, then the time period for performance of that requirement will be extended as deemed necessary by the Regulatory Agencies. If the Regulatory Agencies determine that the delay or anticipated delay has been or will be caused by a force majeure, then the Regulatory Agencies will notify Navy and DLA, in writing, of the length of the extension, if any, for performance of such obligations affected by the force majeure. Any such extensions shall not alter Navy and DLA's obligation to perform or complete other tasks required by this AOC which are not directly affected by the force majeure.

(d) If the Regulatory Agencies disagree with Navy and DLA's assertion of a force majeure, then Navy and DLA may elect to invoke the dispute resolution provision, and shall follow the procedures set forth in Section 14 (Dispute Resolution). In any such proceeding, Navy and DLA shall have the burden of demonstrating by a preponderance of the evidence that the delay or anticipated delay has been or will be caused by a force majeure, that the duration of the delay or the extension sought was or will be warranted under the circumstances, that Navy and DLA's best efforts were exercised to avoid and mitigate the effects of the delay, and that Navy and DLA complied with the requirements of this Section. If Navy and DLA satisfy this burden, then the Regulatory Agencies will extend the time for performance as the Regulatory Agencies determine is necessary.

18. RESERVATION OF RIGHTS

(a) Notwithstanding any other provisions of this AOC, the Regulatory Agencies retain their authority to take, direct, or order any and all actions necessary to protect public health, any source of drinking water or the environment or to prevent, abate, or minimize an actual or threatened release of hazardous substances, pollutants, or contaminants, or hazardous or solid waste or constituents of such wastes, on, at, or from the Facility, including but not limited

to the right to bring enforcement actions under RCRA, the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA"), the Clean Water Act ("CWA"), the Safe Drinking Water Act ("SDWA"); HRS chapters 340E, 342D and 342L; and any other applicable statutes or regulations. However, unless required on an emergency basis, no such action shall be taken in relation to any activity within the scope of this AOC unless a Party has first made good faith efforts to address the issue through a modification to this AOC and, if necessary, through the Dispute Resolution process set forth in Section 14.

(b) The Regulatory Agencies reserve all of their statutory and regulatory powers, authorities, rights, and remedies, both legal and equitable, which may pertain to Navy and DLA's failure to comply with any of the requirements of this AOC.

(c) Navy and DLA reserve all of their statutory and regulatory rights and defenses both legal and equitable, including but not limited to rights and defenses against third parties. Nothing in this AOC shall be taken as an admission of fact or law in any dispute with a third party or in any dispute outside the context of enforcement of this AOC.

(d) This AOC is not intended to be nor shall it be construed to be a permit. Navy and DLA acknowledge and agree that EPA or DOH's review and approval of the Work does not constitute a warranty or representation that the Work will achieve the required cleanup or performance standards. Compliance by Navy and DLA with the terms of this AOC shall not relieve Navy and DLA of their obligations to comply with applicable local, state, or federal laws and regulations.

19. REGULATORY AGENCIES' COVENANTS

(a) Except as provided in Section 18 (Reservation of Rights), EPA covenants not to take administrative action against Navy or DLA pursuant to Section 7003 of RCRA, 42 U.S.C. § 6973, for the Work. EPA's covenant shall take effect upon the Effective Date of this AOC. EPA's covenant is conditioned upon the satisfactory performance by Navy and DLA of their obligations under this AOC. EPA's covenant extends only to Navy and DLA and does not extend to any other person.

(b) Except as provided in Section 18 (Reservation of Rights), DOH covenants not to take administrative enforcement action against Navy or DLA with respect to any Work on the

condition that the Work is consistent with Navy's and DLA's obligations under this AOC and/or that the Work has been satisfactorily completed and approved by the DOH.

20. OTHER CLAIMS

By issuance of this AOC, the Regulatory Agencies assume no liability for injuries or damages to persons or property resulting from any acts or omissions of Navy and DLA. The Regulatory Agencies shall not be deemed a party to any contract, agreement or other arrangement entered into by Navy and DLA or its officers, directors, employees, agents, successors, assigns, heirs, trustees, receivers, contractors, or consultants in carrying out actions pursuant to this AOC.

21. RECORD RETENTION

(a) Navy and DLA shall preserve all records related to the Facility in accordance with the appropriate federal records retention schedule. In addition, Navy and DLA shall preserve all documents shared with the Regulatory Agencies relating to the Work performed under this AOC, monitoring data, and other raw data generated pursuant to this AOC, for at least ten (10) years following the termination of the AOC. Navy and DLA shall make such records available to DOH or EPA at their request.

(b) All substantive documents exchanged between the Parties relating to the Work performed under this AOC and all monitoring data related to the Facility shall be stored by Navy and DLA in a centralized location at the Site, or an alternative location mutually approved by the Project Coordinators to promote easy access by the Regulatory Agencies or their representatives.

22. PRESIDENTIAL EXEMPTION

The Parties recognize that the President may exempt a solid waste management facility from requirements of RCRA pursuant to 42 U.S.C. § 6961(a) or a UST from the requirements of RCRA pursuant to 42 U.S.C. § 6991f for a period of time not to exceed one (1) year after the President grants the exemption. This exemption may be renewed. Navy and DLA shall obtain access to and perform all actions required by this AOC within all areas inside those portions of the Site, which are not the subject of or subject to any such exemption by the President.

23. PUBLIC COMMENT

(a) Upon signature by Navy and DLA, the Regulatory Agencies shall provide public notice, a public meeting and a reasonable opportunity for public comment on the proposed

settlement. After consideration of any comments submitted during a public comment period of not less than thirty (30) days (which the Regulatory Agencies may extend), the Regulatory Agencies may sign this AOC, or withhold consent, or seek to amend all or part of this AOC if the Regulatory Agencies determine that comments received disclose facts or considerations which indicate that this AOC is inappropriate, improper, or inadequate.

(b) If a modification is necessary, the Regulatory Agencies shall transmit a modified copy of the AOC to Navy and DLA for review and signature, or further negotiations, as appropriate. If the modification is determined by the Regulatory Agencies to be significant, the process for public comment, described in Section 23(a), will repeat.

24. SEVERABILITY

If any provision of this AOC or the application of this AOC to any party or circumstances is held by any judicial authority to be invalid, the remainder of the AOC shall remain in full force and effect.

25. EFFECTIVE DATE

After this AOC is signed by each of the Parties and after the public comment period and review as described in Section 23 (Public Comment), this AOC shall become effective. The undersigned representatives certify that they are fully authorized to enter into the terms and conditions of this AOC and to bind the party they represent to this document.

26. TERMINATION AND SATISFACTION

The provisions of this AOC shall be deemed fully satisfied upon the Regulatory Agencies' execution of a written acknowledgement ("Acknowledgement") specifying that Navy and DLA have demonstrated to the satisfaction of the Regulatory Agencies that the terms and conditions of this AOC have been fully and satisfactorily completed. Prior to termination of this AOC, the Parties shall discuss whether an agreement, or additional regulation, is necessary to ensure continued protection of health and the environment. Termination of this AOC shall not terminate Navy and DLA's obligation to comply with Sections 10 (Sampling and Access) and 21 (Record Retention) of this AOC or the Regulatory Agencies' reservation of rights in Section 18. IN WITNESS WHEREOF, the Parties have duly executed this presents as of the day and year subscribed below.

Agreed this 15 day of September, 2015.

By: _____

John V. Fuller, Rear Admiral
Commander Navy Region Hawaii, U.S. Navy

Agreed this 28 day of SEPTEMBER 2015.

By: _____
Renee L. Roman, Chief of Staff
Defense Logistics Agency

It is so ORDERED and Agreed this 28 day of Sept, 2015.

By: _____
Keith Kawaoka, Deputy Director
Department of Health

APPROVED:
AS TO
FORM

_____
Wade H. Hargrove III, Deputy Attorney General
Hawai'i Department of Attorney General

It is so ORDERED and Agreed this 28 day of Sept, 2015.

By:

Jeff Scott, Director, Land Division
Region 9, U.S. Environmental Protection Agency

EXECUTIVE CHAMBERS

DAVID Y. IGE
GOVERNOR

HONOLULU

GOV. MSG. NO. 106

January 20, 2015

The Honorable Donna Mercado Kim,
President
and Members of the Senate
Twenty-Eighth State Legislature
State Capitol, Room 409
Honolulu, Hawaii 96813

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

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

For your information and consideration, I am transmitting a copy of the Task Force to Study the Effects of the January 2014 Tank Leak at The Red Hill Fuel Storage Facility, pursuant to Senate Concurrent Resolution 73, Session Laws of Hawaii (SLH) 2014. In accordance with section 93-16, Hawaii Revised Statutes, I am also informing you that the report may be viewed electronically at http://co.doh.hawaii.gov/sites/LegRpt/2015/default.aspx.

Sincerely,

DAVID Y. IGE
Governor, State of Hawaii

Enclosure

EXHIBIT B

REPORT TO THE TWENTY-EIGHTH LEGISLATURE
STATE OF HAWAII
2015

PURSUANT TO SENATE CONCURRENT RESOLUTION 73
REQUESTING THE DEPARTMENT OF HEALTH
TO CONVENE A TASK FORCE
TO STUDY THE EFFECTS OF THE JANUARY 2014 FUEL TANK LEAK AT
THE RED HILL FUEL STORAGE FACILITY

PREPARED BY:
STATE OF HAWAII
RED HILL FUEL STORAGE FACILITY TASK FORCE
DECEMBER 2014

Introduction

On April 24, 2014, the Hawaii State Legislature adopted Senate Concurrent Resolution (SCR) 73 which requested the Director of Health to convene a Task Force to study the effects of the January 2014 fuel tank leak at the Red Hill Fuel Storage Facility and submit a report of the Task Force's findings and recommendations, including any proposed legislation, to the Legislature no later than 20 days prior to the convening of the Regular Session of 2015.

Under SCR 73, the Task Force is requested to examine:

1. Short-term and long-term effects of the leak at the Red Hill Fuel Storage Facility, including effects relating to the health of residents, safe drinking water, and the environment,
2. Response strategies to mitigate the effects of future leaks at the Red Hill Fuel Storage Facility,
3. Ways to improve communication between the United States Navy, the State, and the public in the event of future leaks at the Red Hill Fuel Storage Facility; and
4. Implications of closing the Red Hill Fuel Storage Facility.

Task Force members include the State of Hawaii Department of Health (DOH), the United States Environmental Protection Agency (EPA), the United States Navy (Navy), one member from the State House of Representatives, one member from the State Senate, the Department of Land and Natural Resources (DLNR), the Honolulu Board of Water Supply (BWS), and two members from the community. **Appendix A** contains a list of all the Task Force participants and alternates.

The Red Hill Fuel Storage Facility (Facility) is the state's largest field constructed underground storage tank (UST) complex, located in the south-central portion of the Island of Oahu, Hawaii. It is owned and operated by the United States Navy.

Background Provided By the Navy

From 1940 to 1943, twenty (20) cylindrical tanks, 250 feet tall and 100 feet in diameter, were built in place along the Red Hill ridgeline. The tanks were constructed using 475,000 cubic yards of concrete around 45,000,000 pounds of 1/4-inch steel plates forming 2.5 to 4-foot concrete encased steel tanks. Each tank was originally built with a leak detection system that consisted of a series of pipes that could potentially collect any released fuel at a central location. The Navy later determined that this initial leak detection system had design flaws which resulted in numerous false reports. This system was subsequently removed. Eighteen (18) tanks are active, and two (2) are presently not in use. Each tank is able to store up to 12.5 million gallons of fuel. The Facility is located 100 feet above a major groundwater aquifer, which is also used as a source of drinking water. Of the 18 in use tanks, three (3) are empty awaiting various stages of a service life extension program. The remaining fifteen (15) tanks are in use, storing over 180 million gallons of fuel at any given time.

The Navy continues to operate and maintain the fuel tanks to support military operations in the Pacific. Modifications were accomplished to extend the service life of the tanks, add protective coatings, install new leak detection systems, and upgrade the facility's fire protection system.

The first major modification to the tanks came in 1960 when four of the tanks were modified to accommodate volatile fuels and to install inventory monitoring equipment. In 1970, a contract was awarded to clean and inspect tanks 5, 6 and 12. In 1978, the Navy made the determination to extend the service life and modernize all 16 non-volatile fuel storage tanks. During this project, the original leak detection system for each tank was removed as described above. In 1994, the Navy cleaned and inspected tanks 6-10, 12-14 and 16. Additional modifications were performed in 1997 for those same tanks to extend their service life.

The inspections and modifications conducted between 1994 and 1997 greatly resembled the same practices used in today's procedures. Since then the Navy has implemented the most stringent tank inspection and repair practices consistent with the American Petroleum Institute's (API) 653 standards that would apply to the Red Hill tanks. After each tank has been thoroughly inspected, improvements are completed to ensure the operability of the tank for an additional twenty years. The Navy has adopted this program as a modified API 653 certification process which was applied to tanks 1, 6, 15 and 16 between 2004 and 2007. Three tanks have been temporarily removed from service to continuously conduct the API 653 certification process on a rotational basis. Since 2008, the Navy has completed service life extension improvements for tanks 2 and 20 and is currently conducting inspections and improvements on tanks 5, 14, and 17.

Since initial construction, the Navy has commissioned a number of projects and studies to modernize the facility and stay abreast of industry standards. Most notably, the Navy has installed and continues to use a highly sophisticated inventory system that provides real time height measurements of the fuel in each tank and flow rates through pipelines. In 1960, the Navy installed an initial automated tank gauging (ATG) system in tanks 17 – 20. Between 1972 and 1973, an identical ATG system was installed on the remaining 16 tanks to provide full visibility of the inventory levels within all 20 tanks. With the emergence of new technology, the Navy installed a Multi-function Tank Gauge (MTG) system in all 20 tanks by the end of 2002. This system has the capability of detecting a variance in fuel levels of 1/16 of an inch and is based on mass and temperature measurements.

Over $156,000,000 was spent between 2006 and 2014 to inspect and improve the pipelines, install ground water and soil vapor monitoring, structurally reinforce the tunnels and passageways, improve the ventilation, upgrade the fire suppression system, and make other improvements. In addition, the Navy is constantly studying the industry's best technologies and practices to incorporate them into the management of this facility. In 2008, over $120,000 was spent researching secondary containment and leak detection technology options to improve the infrastructure. A redacted version of this study is available to the Legislature upon request. A similar study is currently being conducted that will be finalized in March 2015.

Environmental sampling over the years has shown a number of fuel releases dating back to 1947, including an oily waste disposal site. Exact qualities cannot be confirmed.

Installation of Monitoring Wells

After 2005, seven (7) groundwater monitoring wells (RHMW01-RHMW05, RH2254-01 and OWDFMW1) were installed to detect contamination into the groundwater. Upon determination that RH2254-01 (Red Hill Shaft) was also the Navy's Drinking Water Well, drinking water parameters were added to the groundwater list of constituents to be sampled. Refer to **Diagram 1** for the locations of all wells. Additionally, Diagram 1 shows the Commission on Water Resources Management's (CWRM's) Halawa Deep Monitoring Well which is also being monitored by the Navy. The wells are located on the mauka side of the Department of Public Safety's Halawa Correctional Facility. Outside the confines of the Facility are five (5) drinking water wells, (Halawa Shaft, Halawa Wells, Aiea Wells, Aiea Gulch Wells and Moanalua Wells), that are owned and maintained by the Honolulu Board of Water Supply. Only Halawa Shaft is shown in Diagram 1. In this report, there is a distinction made between drinking water samples from the Navy's drinking water well, RH2254-01 and the BWS wells, which are separate from groundwater samples taken at RHMW01-RHMW05 and OWDFMW1.

January 13, 2014 release from Tank No. 5

In the course of refilling Tank 5 following its service life extension work, a suspected fuel release was discovered and verbally reported to DOH on January 13, 2014. A release of Jet Propellant 8, also known as Jet Propulsion fuel, type 8 (JP-8) from Tank 5 was confirmed and reported to the DOH on January 23, 2014. The estimated fuel loss was up to 27,000 gallons. Immediately after the release was detected, the Navy began draining the contents of Tank 5 and collected soil vapor samples from existing vapor monitoring points and groundwater samples from the existing monitoring wells. Results taken in and around Tank 5, indicated a spike in levels of hydrocarbons in soil vapor and groundwater. The elevated groundwater samples came from groundwater monitor well 2 (RHMW02) which is the closest monitor well to Tank 5. However, no free product was detected in the groundwater samples.

In consultation with the EPA and DOH, the Navy is investigating the cause of the reported release from Tank 5 and whether any free product is present outside the tank liner, the concrete surrounding the tank, or in the adjacent basalt rock. In the event that free product is detected, the Navy will remove it to the maximum extent practicable.

Following the reported release, drinking water samples were collected at an increased frequency from the Navy's Drinking Water Well Shaft (2254-01/Red Hill Shaft) and the Honolulu Board of Water Supply (BWS) Halawa Shaft, Halawa Wells, Aiea Wells, Aiea Gulch Wells and Moanalua Wells. Test

results for of the BWS wells and the Navy's Drinking Water Well, were non-detect for petroleum constituents in the months following the release. Laboratory analytical results showed that the water was within applicable safe drinking water standards. Note, there is no drinking water standard for Total Petroleum Hydrocarbons as diesel (TPH(d)) and naphthalene.

In 2008, the Navy developed and implemented a Groundwater Protection Plan (GWPP), which the DOH approved. The plan was updated in 2009 and 2010. A 2014 interim update is under review by DOH. The Navy in consultation with the DOH, and EPA has initiated planning efforts to update the existing Groundwater Flow Model and Contaminant Transport Analysis which will also be incorporated into the GWPP. This Plan and the 2009 and 2010 updates are available online at: http://health.hawaii.gov/shwb/underground-storage-tanks/.

Negotiated Agreement Between EPA, DOH and the Navy

Separate from the Task Force activities, DOH, EPA, and the Navy continue to work together on a negotiated agreement to assess the reported release of petroleum and minimize the threat of future releases.

Senate Concurrent Resolution 73 & Red Hill Task Force

Meetings were held on September 3, October 7, November 6 and December 11, 2014 to discuss the effects of the January 2014 release, results of on-going Navy investigations on the tank leak, Navy response actions since the leak was discovered and recommendations for improving operations to ensure protection of Hawaii's drinking water. These included regulatory requirements, facility improvements and improved communication to the public. Three additional subgroup meetings were held on November 17, November 26, and December 3, 2014 to compile this report. Materials from the four Task Force meetings, and the three subgroup meetings, including attendance lists, minutes and other supportive materials are posted online at: http://health.hawaii.gov/shwb/underground-storage-tanks/.

This report contains the Task Force's findings and recommendations for each of the review topics in accord with SCR 73.

Findings and Recommendations

1. **Short-Term and Long-Term Effects of the leak at the Red Hill Fuel Storage Facility including effects relating to the health of residents, safe drinking water, and the environment**

   Finding of Facts

   Short-term effects

In the 2008 Groundwater Protection Plan, Site-Specific Risk-Based Levels (SSRBLs) were established for this facility and these levels were approved by DOH. These SSRBLs raised the Environmental Action Levels (EALs) from 100 ppb to 4500 ppb for TPH (d), for instance. Justification was made

because of the low solubility of jet fuel in water. Any exceedances of this level would evoke increased monitoring, notification and other actions. Refer to **Appendix F** for more information about SSRBLs for the Facility compared to EALs provided by the DOH.

After the January release, increased groundwater and soil vapor monitoring indicated contamination in the environment outside of Tank 5. Groundwater monitoring in RHMW02, located near tank 5, showed an increase in total petroleum hydrocarbons diesel (TPH(d)) of up to 5000 ppb, 500 ppb higher than the SSRBL approved by DOH. The Navy increased their sampling frequency to every two weeks.

During the same period, soil vapor results increased from 794 ppbv to 204,000 ppbv (parts per billion by volume) under Tank 5. There were also increases in soil vapor beneath the tanks closest to Tank 5. Refer to **Appendix B** for a summary of the maximum groundwater results at the Facility and soil vapor monitoring analysis from Tank 5 in the past and following the release. Refer to **Appendix C** for the Navy's current monitoring plan and an explanation of EALs and Site Specific Risk Based Levels (SSRBLs) from the Navy.

The Navy's sampling and analysis indicated that the increases of soil vapor volatile organic compound (VOC) concentrations beneath Tank 5 and nearby tanks may be attributed to the release of JP-8 from Tank 5 in January 2014. According to the Navy, results of groundwater sampling and analysis indicate the release of JP-8 from Tank 5 has had limited impact on the underlying groundwater and has not impacted any drinking water source. While, there has been detection of low levels of various petroleum chemicals in the RH2254-01 (Red Hill Shaft), there have been no detections from the accelerated and long-term monitoring since the reported January 2014 release.

Drinking water samples were collected from the 5 BWS drinking water sources and the regulatory drinking water distribution point for Navy Drinking Water Well RH2254-01, all samples have been non-detect for petroleum contamination since the January release. Analytical results from the drinking water samples data were within applicable safe drinking water standards or below any Federal maximum contaminant levels (MCLs). Refer to **Table 1 of Appendix B** for a comparison table.

The Task Force finds that the BWS and the Navy have undertaken significant efforts to assess the effects of the reported fuel leak on the environment and to protect drinking water resources. The Task Force acknowledges that the BWS has accelerated sampling at nearby drinking water sources. In addition, the Navy has performed extensive sampling and analysis of the groundwater, drinking water, and soil vapor at or near the Red Hill Fuel Storage Facility. The Navy has reported that their drinking water source remains safe based on analytical monitoring from certified laboratories that have been reviewed by DOH. The BWS has reported that 5 BWS drinking water wells in close proximity to Red Hill to date show no detections of petroleum chemical contaminants.

Long-term effects

According to the most recent groundwater monitoring results dated, July, 21, 2014, levels of TPH(d) still persist in the groundwater beneath Tank 5, above DOH Environmental Action Levels (EALs), but are below the SSRBLs approved by DOH for this facility. The monthly soil vapor results also remain elevated, in the range of 100,000 – 200,000 ppbv, according to the latest report dated September 25, 2014. However, soil vapor results remain below the SSRBL of 280,000 ppbv approved by DOH.

Refer to **Appendix B** for a more details on the soil vapor and groundwater monitoring results and **Appendix C** for the Navy's current monitoring plan and **Appendix F** is an explanation of EALs and SSRBLs provided by the DOH. Additional cumulative groundwater sampling results are posted online at: http://health.hawaii.gov/shwb/underground-storage-tanks/.

BWS will continue periodic monitoring of its drinking water sources for petroleum contamination. The Navy will also continue periodic monitoring of the groundwater, drinking water, and soil vapor at the Red Hill Fuel Storage Facility, in accordance with the Groundwater Protection Plan. The Task Force expects the BWS and the Navy to continue providing reports on those efforts to the DOH and the EPA. The reports are available to the public from the DOH.

DOH and BWS Comments & Recommendations

- Navy must comply with state requirements for investigation of release points within Tank 5 and characterization and delineation of contamination released, including the active remediation of free product to "the maximum extent practicable" to prevent any contamination from extending beyond the current location. The Navy has taken steps to determine where free product, if any, may be located. To date no free product has been found. The Navy is continuing efforts to investigate and recover retrievable free product.
- Request Navy to continue to provide to DOH all water quality data collected at the Facility by monitoring well location and contaminant.
- Continue groundwater modeling studies by the Navy and the BWS. The studies are critical to understanding the rate and direction of groundwater movement in the area to assess potential impacts to neighboring potable water wells. The studies will also complement groundwater monitoring well contaminant data collection to assess the overall condition of the aquifer and validate earlier studies that evaluate the direction of groundwater flow in the area including a northwesterly component towards the BWS Halawa Shaft drinking water source cited in an April 15, 2010 TEC Inc. Tier 3 letter report. The full report is available online: http://health.hawaii.gov/shwb/underground-storage-tanks/. According to the TEC report:

  "In the vicinity of the USTs, as before, the gradient indicates a regional component of groundwater flow to the west northwest and a local component to the southwest."

  "The northwest regional flow places the HBWS Halawa Shaft, a major drinking water source for south Oahu, down gradient from the USTs."

  "The northwest regional component of the groundwater flow may be transporting a petroleum plume or dissolved hydrocarbons in a direction that is not currently being monitored. Currently there are no compliance wells between the Halawa Shaft and the Facility to evaluate this possibility. For the HBWS Halawa Shaft to be threatened by contamination from the Facility a free product plume would have to be present within approximately 1200 ft. of this drinking water source."

- Navy to drill and install additional groundwater monitoring wells north and south of the facility to enable the collection of groundwater data and provide information for the updated area-wide groundwater modeling. This will increase and improve the scientific understanding of the present and long-term quality and condition of the aquifer beneath the Red Hill tanks and beyond its boundaries. Select sites for additional monitoring wells after sampling results are obtained from the two monitoring wells installed in September and October 2014. Obtain relative groundwater elevation data in the Halawa/Red Hill/Moanalua area for proper characterization.
- Devise a financial mechanism in which the Department of Health, the Honolulu Board of Water Supply, and the U.S. EPA may be reimbursed for site investigation activities needed to initiate (e.g. installation of additional monitoring wells, any increased groundwater and drinking water sampling, and any water treatment to remove contamination) within the area, to ensure that contamination is not migrating from the Red Hill facility into neighboring drinking water pump stations.
- Strengthen Hawaii's groundwater protection program by increasing surveillance and identification of potentially contaminating activities from other field constructed tanks to protect and mitigate impacts to groundwater aquifers. At this time there are 46 such facilities statewide with Red Hill being the largest in the State and the United States. See **Appendix E** for a full listing of these tanks, their location and current status and whether the tanks are located over a drinking water source.
- Navy and Department of Health, Safe Drinking Water Branch should monitor the drinking water by collecting and testing duplicate samples for the parameters identified in the existing groundwater and drinking water sampling schedules and others identified by the Honolulu Board of Water Supply. The Groundwater Protection Plan should be updated to include a Quality Assurance Project Plan that specifically identifies sampling methodology, data acceptance criteria and laboratory selection criteria to ensure that all sampling is consistent and replicable. The results should be shared with all interested parties to assure that all Quality Assurance/Quality Control procedures were followed.
- Request Navy to develop a system to continuously monitor the soil vapor probes as a form of leak detection, with alarm set points to alert operator(s) of organic vapors rising above pre-determined concentrations.

BWS Comments

- Mitigate existing contamination beneath the tanks starting with the area adjacent to Red Hill groundwater monitoring well #2, to contain and prevent contamination from extending beyond the current location. The Task Force deems prevention is less expensive than clean up and water treatment of all releases – large and small.
- Graph the Navy monitor well data and analyze for water quality data trends, correlation with past fuel release, interrelationships between wells and groundwater flow. Graphing data provides a pictorial view of trends over time. Comparing the data with other information is standard scientific practice in conducting a thorough analysis of the information collected. The comparisons can show any correlations between data points when compared with past fuel releases and contaminant presence or other monitoring wells.

All of this data analysis enables a better understanding of the "short and long term effects of the leak." in accordance with SCR 73.

- Fund and conduct a health effects study to assess the health significance of low level concentrations of petroleum chemicals in ground water and sources of drinking water in accordance with SCR 73 which requested the Task Force to "consider the short- and long-term effects of the leak at the Red Hill Fuel Storage Facility, including effects relating to the health of residents, safe drinking water, and the environment." Presently there are no drinking water standards that define whether the amounts of petroleum contaminants and frequency being detected are safe to be in groundwater that is used as a source of drinking water. This study will scientifically assess and determine the maximum amount of petroleum contaminants that is safe to be in drinking water and provide the documentation to respond to any questions and concerns about the petroleum contaminants detected to date.

  According to the DOH document, **Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater (Interim Final, May 2005 and updates),** EALs were developed to help assess the risks of environmental contamination and make decisions regarding the need for additional site investigation, remedial action or a more detailed risk assessment. The EALs were developed, among others, to help protect drinking water resources and aquatic habitats (discharges to surface water). The DOH document indicates that "while the presence of chemicals at concentrations above the EALs does not necessarily indicate that a significant risk exists at the site. It does, however, generally indicate that additional investigation and evaluation of potential environmental concerns is warranted." According to DOH, EALs for Total Petroleum Hydrocarbon (TPH) and many non-carcinogenic, petroleum related compounds (e.g., xylenes) are driven by the protection of groundwater quality. EALs therefore appear to be protective of the environment but is not a limit that when exceeded requires remedial action and clean up. This appears to infer an allowance of contamination to exist in the environment possibly for long periods as monitoring and testing continues without any mitigation. The BWS favors mitigating contamination before it travels and affects parts of the aquifer that are not contaminated. Maintaining drinking water quality criteria to the whole aquifer is favored over establishing a "risk based" level that appears to allow contamination at points in the aquifer in contact with a contaminating activity.

- Conduct a scientific peer review and evaluation of the sampling and test methods and detection limits used by the Navy to develop a uniform monitoring protocol. Understanding the short and long term effects of Red Hill leaks needs reliable peer-reviewed and vetted scientific data in order to accurately understand the issues and make sound decisions on those issues. Professional scientific peer-review and auditing is standard practice in all good testing and research studies undertaken to insure data validity, quality and transparency.

- A Red Hill Task Force Technical Subcommittee should be created to evaluate, comprehend and explain all of the complex and voluminous scientific information in support of the Task Force's discussion of issues and decision-making and to provide the Task Force and public with easily understandable technical information on Red Hill.

Navy Comments:

- The Navy will continue to ensure the safety of drinking water resources through implementation of the Groundwater Protection Plan. The Plan was published and approved by DOH in 2008 and has been updated in 2009 and 2010. A 2014 interim update was recently reviewed by DOH. The Plan will continue to be updated as additional information becomes available. The Groundwater Protection Plan and its 2009 and 2010 updates are available online at: http://health.hawaii.gov/shwb/underground-storage-tanks/.

- The Navy is actively investigating for the presence of free product and will remove free product to the maximum extent practicable. The Navy will continue soil vapor and ground water monitoring in accordance with the approved Groundwater Protection Plan.

Recommendations Agreed Upon By Task Force:

- Additional groundwater monitoring wells are warranted to adequately assess groundwater hydrology and to support fate and transport models for a facility of this size and unique geology. The number of additional wells will be based upon a technical discussion using available data, as well as any current and future studies.

- BWS will continue periodic monitoring of its drinking water sources for petroleum contamination. The Navy will also continue periodic monitoring of the groundwater, drinking water, and soil vapor at the Red Hill Fuel Storage Facility, in accordance with the Groundwater Protection Plan. The Task Force expects the BWS and the Navy to continue providing reports on those efforts to the DOH and the EPA. The reports are available to the public from the DOH.

2. Response strategies to mitigate the effects of future leaks at the Red Hill Underground Fuel Storage Facility

Finding of Facts

REGULAR MAINTENANCE

The Red Hill facility consists of field constructed USTs that are currently deferred from Federal and State UST regulations that require other regulated non-field constructed USTs to have secondary containment for all new tanks and piping. It also requires corrosion protection and leak detection for all existing tanks and piping. **Appendix D** shows a summary of regulatory requirements for all other underground storage systems and those provisions for which field constructed tanks (FCTs) are exempt from.

The Navy performs periodic inspection of all petroleum, oil, and lubricant tanks and pipelines to ensure that the Red Hill Bulk Fuel Storage Tank system is properly maintained. Other protective measures include a Mass Technology Measurement System used by the Navy to assess tank tightness for all active Red Hill tanks. The tank tightness testing is performed every two years. In addition, the Navy employs an Automated Fuel Handling System to detect

unscheduled fuel movements which alerts the operators of any potential fuel loss. Inventory levels are also assessed on a regular basis for trends that might reveal any potential fuel losses. Soil vapor monitoring equipment is also installed at the Facility to monitor hydrocarbon levels in the subsurface.

Recent maintenance cycles performed on tanks within Red Hill utilize a modified American Petroleum Institute (API) 653 procedure developed by the Navy, for determining integrity of steel plates and welds. According to the Navy, a general corrosion rate is used to estimate how much of the original steel will be thinned out from corrosion at the end of a 20 year operational cycle. The goal of tank maintenance is to have at least 0.1 inches of steel plate remaining from the original 0.25 inch steel. Regarding Tank 5, the Navy reported over 600 areas where tank thickness did not meet the appropriate standards. The required thickness was restored through additional weld patch plating within Tank 5 during its maintenance cycle that ended December 2013.

SECONDARY CONTAINMENT EVALUATION

In addition to the procedures mentioned above which monitor inventory levels to reveal potential fuel losses, the Navy uses soil vapor monitoring equipment to monitor hydrocarbon levels in the subsurface. However, these systems do not prevent leaks and fuel loss into the environment. A previous study conducted by the Navy in 2008 evaluated secondary containment options for the fuel tanks at Red Hill. The study included two options – a "tank within a tank" and a composite tank system. A redacted version of this report is available to the Legislature upon request. The Navy plans to continue studying secondary containment options as well as advanced leak detection technologies in collaboration with DOH and EPA.

At the October 7, 2014 Task Force meeting, the Navy stated the importance of the Facility and its need to continually maintain the capacity at Red Hill to support its fuel needs. The Task Force finds that the Navy plans to study secondary containment options and advanced leak detection technologies in collaboration with the DOH and EPA.

SITE ASSESSMENT & CONTINGENCY PLANS

In continuing efforts to monitor the groundwater for contamination and to better assess the fate-transport model, the seven (7) groundwater monitoring wells that were previously installed in and around the Facility will continued to be monitored on a regular basis, including the Navy's one drinking water well and the multiple drinking water wells maintained by the BWS. Monitoring of the CWRM Halawa Deep Monitoring Well and the Tripler Army Medical Center Monitoring Well could serve as sentinel well monitoring for any contaminant movement to the south towards BWS' Moanalua Wells.

Subsequent to the January 2014 release, the Navy, in coordination with the DOH and EPA, installed two additional groundwater monitoring wells in October 2014 (RHMW06 and RHMW07). Preliminary results from these two new wells have shown low levels of petroleum contamination 300 feet north of the facility. Refer to **Diagram 1** for locations of all wells.

When available, samplings results will be submitted to the DOH and EPA. DOH will make the data available to the public.

Additional wells may be necessary to adequately determine groundwater hydrology and support contaminant fate and transport models that are underway. **Diagram 1** maps the location of existing wells and the two new wells installed since the reported release from Tank 5.

The Navy has developed contingency plans with other federal agencies to address potential consequences from releases. These plans are periodically reviewed, updated and appropriate actions are taken by the Navy in response to these reviews and updates.

DOH Comments

- All current methods of release detection that the Navy implements at the Facility are reactionary. There is no 'alarm' until contamination has left the steel containment and then enters the environment. Secondary containment would capture fuel released from the inner wall into an interstitial space and alert Navy operators of releases. It could also be designed to allow for product recovery.

- As of December 24, 2014, DOH has not been able to verify the accuracy and precision of any Automatic Tank Gauging (ATG) system, any Automated Fuel Handling System or the "highly sophisticated inventory system" that the Navy is using.

- The Legislature should issue a resolution to encourage Navy to consider enhanced containment and improved leak detection at Red Hill.
- DOH should amend the State's UST regulations to require secondary containment and leak detection for all of Hawaii's field constructed USTs. Refer to **Appendix E** for a listing and maps of these FCTs.

DOH and EPA Comments

- The Navy should evaluate current release detection methods, tank tightness testing protocol, tank inspection and repair procedures, and corrosion and metal fatigue control practices at Red Hill and institute best available technology where feasible and appropriate.

BWS Comments

- Support proposed EPA regulatory changes to cancel the deferral of field constructed USTs from 40 CFR Parts 280 and 281. The changes will regulate field constructed tanks (FCTs) and require compliance with existing release detection, spill and overfill control protection, and cathodic corrosion protection requirements.
- The Legislature is urged to issue a resolution encouraging the President of the United States to pass the proposed changes out of the Office of Management and Budget as originally published.
- Revise the DOH UST leak response requirements to specify the Resource Conservation and Recovery Act (RCRA) methodology for characterizing the nature and extent of

contamination. The RCRA site characterization approach is a comprehensive data collection method for producing a clear understanding of the current contamination problem and its extent in the environment. From there, targeted measures can be developed to mitigate the situation that can lead to developing strategies to mitigate the effects of future leaks at Red Hill.

The major elements of the RCRA methodology are:

- Identify and determine the velocity of contaminant movement in the groundwater (saturated zone), amounts present, factors influencing plume movement and extrapolation of future movement (modeling).
- Examine the contamination in vadose zone (unsaturated zone), amounts present, factors influencing plume movement and extrapolation of future movement (modeling).
- Employ contaminant characterization presentation tools to create three-dimensional data plots to show lateral and vertical extent of contaminant plumes.
- Examine impacts to potential receptors such as potentially affected human populations, environmental systems, ecology, biota and endangered/threatened species.

- Release and use EPA Drinking Water State Revolving Fund (DWSRF) set-aside grants to fund the drilling and installation of additional monitor wells in the Red Hill area. The use of DWSRF set asides describes a specific funding source and strategy to mitigate the effects of future leaks at Red Hill. The installation of additional sentinel wells provides long range surveillance and advance planning information to mitigate the effects of past and future leaks. The number of additional monitor wells to drill should be based on sound science data generated through the RCRA site characterization process.

The Board of Water Supply believes the Hawaii State Legislature will expect the Task Force's report to contain specific targeted action steps, strategies and recommendations that are based on sound science and the most state-of-the-art technical approaches for characterizing and mitigating the short and long term effects of leaking Red Hill underground fuel tanks.

Department of Land and Natural Resources Comments & Recommendations

- Provide an update on the wells which have been surveyed by US Geological Survey.
- Provide the date of distribution of the final USGS survey data.
- To effectively monitor the groundwater beneath a facility as large as Red Hill, with the complexities inherent in the fractured and porous basalts that underlie the facility, monitoring wells must be placed based upon a careful and thorough evaluation of the groundwater flow regime under and around the facility. Groundwater modeling will provide some insight and flow direction predictions, however, modeling and any other groundwater flow evaluation is dependent upon accurate water level data collected from monitoring wells with screened casings across the water table, and in locations that allow flow directions to be calculated. The linear locations of wells RH MW01, 02, 03, and 05, along the ridge, are too linear and too closely spaced to evaluate groundwater gradients.
- At this time, the CWRM recommends that two additional monitoring wells be installed and sampled: one monitoring well on the south side of the Facility (e.g. near the west end of Ala

Iolani Street), and one monitoring well on Icarus Way, west/northwest of RHMW01, near the entrance of the upper tunnel. These new wells, and all others associated with the Facility, should be surveyed to a common benchmark. A water level survey of all wells should then be conducted. Based on upon water levels, and sampling results, groundwater gradient/flow direction can be evaluated, and then if needed, additional monitoring well(s) can be installed and sampled.

Navy Comments

- The Navy will continue a service life extension program for the 12 remaining tanks.

- The Navy will explore additional containment protection solutions and seek funds to implement those that are likely to be effective in providing additional protection to the drinking water resources.

DOH, BWS and DLNR Comment

- Although the Navy has done, and continues to do, extensive repair work and improvements to this Facility, the best solution is some type of secondary containment. More research needs to be completed in regards to what technologies are available and if and how it can be successfully integrated.

3. **Improve communications between the United States Navy, the State, and the public in the event of future leaks at the Red Hill Underground Fuel Storage Facility**

Finding of Facts

The technical information on Red Hill is primarily communicated between the Navy and the DOH and EPA as required by state and federal regulations. Regulatory monitoring data is available to the public and other agencies through DOH.

DOH and BWS Comments

- DOH continue to maintain a public website containing all information from the Task Force, Navy, DOH, BWS, and other agencies (e.g., meeting notices, notes of meetings, reports, data, trend graphs, laboratory analysis, etc.) to provide easy access to information and improve transparency.

- Continue the work of the Red Hill Task Force to ensure the long-term management, information access and decision making on issues related to leaks at Red Hill and the protection of Oahu's ground water aquifer, environment and public health.

- Continue to utilize notification systems to communicate future leaks and incidences at Red Hill or other underground storage tanks located above or in the vicinity of drinking water aquifers. The alert system should be targeted to specific persons for first response action.

Department of Land and Natural Resources Comments

- To share a timeline for the distribution of any sampling results to the Task Force and/or involved parties (e.g. distribute results within 2 weeks of receipts of results).

Comments Agreed Upon by the Task Force

- The Task Force also finds that all parties have demonstrated and continue to be fully committed to communicating with the public for any matters of public interest regarding the Red Hill Fuel Storage Facility. The Task Force acknowledges that the DOH, EPA, BWS and the Navy have made significant efforts to keep the public informed on the reported fuel leak. This began with a joint press conference by the DOH, BWS and Navy immediately following the January 2014 release, and continued with participation in community outreach events, publication of numerous media releases, and active coordination between and among appropriate State and Federal agencies to remediate any potential contamination and prevent future leaks at the Facility. The Task Force expects that all parties will continue to keep the public informed of any events at the Red Hill Storage Facility that would impact the public or the environment.

4. Implications of Closing the Red Hill Underground Fuel Storage Facility

Finding of Facts

The Task Force finds that the Navy operates and maintains the Red Hill Fuel Storage Facility as a strategic petroleum facility that provides critical fuel to operating forces in the Pacific region. The Task Force acknowledges that the Navy has no plans to close the Facility. The Task Force expects that the Navy will inform the public should those plans change.

The Navy indicated at the October 7, 2014 meeting that assessments are underway to explore alternative fuel storage solutions in lieu of either continued full or partial use of the Red Hill Facility.

DOH & BWS Comments

- The Department of Health does not have information regarding implications of shutting down this facility. DOH's priority is the protection of the environment and it views the storage of up to 187 million gallons of fuel, 100 feet above a drinking water resource, is inherently dangerous. Therefore, the operation of this facility should only exist on the condition that the facility be upgraded with secondary containment and state-of-the-art leak detection to ensure safe operations and prevent adverse impact to the environment.

- Any secondary containment feasibility study should include a comparison with the creation of a new fuel farm consisting of above ground tanks (ASTs) or the use of other available fuel storage options (i.e. closed refineries, fuel tankers, etc...) that already have secondary containment.

- The Navy should have facility-wide implementation of secondary containment by December 31, 2024. DOH recommendations on this point may be altered through the negotiation of an enforceable agreement with the Navy.

- In the interim, while the Navy studies available technologies increased protection and monitoring must be applied until secondary containment can be implemented.

BWS Comments

- Given the age and condition of the Red Hill Fuel Storage Facility, and with its history of leaks dating back to 1947 to the present, the Navy should disclose all studies or reports conducted including possible catastrophic release scenarios (e.g. seismic related, accidents, etc.).

Navy Recommendations and Opinions

- The Navy has above described the actions taken to continually upgrade and modernize the Red Hill Bulk Fuel Storage Facility and intends to continue to implement a sound systematic phased approach using continual improvement processes to continue those upgrades. The initial phase consists of ongoing evaluation of additional containment protection solutions. The second phase would involve planning, programming and implementing those solutions that are likely to be effective in providing additional protection to drinking water resources.

- The Navy will continue a service life extension program for the 12 remaining tanks.

Legislative Recommendations from the DOH

- Passage of a resolution that would request owners and operators of the 46 field constructed tanks (FCTs) in Hawaii to update the Legislature and the Department of Health on the status and condition of each of their 70+ year old tanks (e.g. construction and operational history, past leaks, monitoring and water quality test data, leak detection and liner upgrades, visual inspections, maintenance procedures, etc…). This is currently not required of FCTs in the current UST rules. Refer to **Appendix E** for a listing and maps of the field constructed tanks in Hawaii.

- To increase DOH's portion of the current allocation of the Environmental Response, Energy, and Food Security Tax ("Barrel Tax"). The Barrel Tax places $1.05 levy on every barrel of oil imported into the State. Five cents of that tax goes to DOH's Environmental Response Revolving Fund (ERRF), which has not increased since the tax was created in 1993. As Hawaii undergoes its forward-looking transition to renewable energy and imports fewer barrels of oil, this also means that there is reduced funding available for the ERRF. An increase from 5 cents to 15 cents out of the $1.05 is needed to support current personnel and increase resources to the Solid & Hazardous Waste Branch, the Safe Drinking Water Branch, among other branches, to regulate Red Hill and manage other complex environmental issues. DOH recommends that an additional 10 cent contribution into the ERRF come from the 60 cents that currently goes into the general fund.

- Support adoption of revisions to existing DOH UST rules requiring increased protection from Hawaii's 46 field constructed tanks (FCTs), of which Red Hill tanks make up 24 (4 of Red Hill's surge tanks are also FCTs). All of these tanks are 70 years or older.

Legislative Recommendations from the BWS

- Provide additional resources to DOH to adequately monitor, study and regulate this Facility.

- Legislature issue resolution continuing the work of the Task Force until DOH is satisfied with progress and outcome on issues related to this Facility and will recommend suspension of the Task Force.

Task Force Recommendations to the Legislature

- Encourage the DOH, EPA, BWS, and the Navy to continue efforts to protect Hawaii's groundwater and drinking water sources.

- Encourage the DOH, EPA, BWS, and the Navy to keep the public informed on matters of public interest regarding the Red Hill Fuel Storage Facility.

- The Task Force further recommends that the Legislature encourage the DOH, EPA, and Navy to finalize a negotiated agreement for the Red Hill Fuel Storage Facility that protects drinking water resources, appropriately responds to the reported release of petroleum, and minimizes the threat of potential future releases.

Appendices, Tables and Diagram

Glossary
Appendix A: List of Red Hill Task Force Members and Alternates
Appendix B: DOH and BWS Summary of Releases at Red Hill Facility
Table 1: Petroleum Contaminants Detected in Navy Red Hill Groundwater Monitoring Wells 2005-2014
Table 2: Soil Vapor Results from SV05
Figure 1: Soil Vapor Measurements SV05
Appendix C: Navy Data, including Monitoring Plan, Laboratory Numerical Levels, Groundwater Data Beyond Tank 5, Soil Vapor Results, Free Product Floating on the Surface of the Groundwater
Table 1: Data on Other Wells For Petroleum Contaminants of Concern
Appendix D: Hawaii UST Regulations and Exemptions for Field Constructed Tanks
Appendix E: List of Field Constructed Tanks in Hawaii and Maps
Appendix F: How Red Hill Facility Site-Specific Risk-Based Levels Were Established
Diagram 1: Location of the seven monitoring wells routinely tested by the Navy in green, and the two new sentinel wells north installed in Sept/Oct 2014

GLOSSARY

API – American Petroleum Institute
API 653- American Petroleum Institute 653 repair standard for above ground tanks that was modified to be applied to the Red Hill underground storage tanks.
AST- above ground tanks
ATG- Automatic Tank Gauging system
BWS – Honolulu Board of Water Supply
CWRM- Commission for Water Resource Management, a division of the Department of Land and Natural Resources
DLNR- Department of Land and Natural Resources
DOH – State of Hawaii Department of Health
DWSRF- EPA Drinking Water State Revolving Fund
EALs – Tier 1 Environmental Action Levels
EPA – United States Environmental Protection Agency
ERRF- Environmental Response Revolving Fund
FCT – field constructed tank
GWPP- Groundwater Protection Plan 2008, updates in 2009 and 2010. An interim 2014 update is being reviewed by DOH at this time. This plan is available online at: http://health.hawaii.gov/shwb/underground-storage-tanks/,
HEER- DOH's Hazard Evaluation & Emergency Response Office
JP-8- Jet Propulsion fuel, type 8
MCL – maximum contaminant levels, federal drinking water standards
MTG – Multi-function Tank Gauge
PID- photo ionization detector
POU- permanently out of use
ppb- parts per billion
ppbv- parts per billion by volume (as a measure of soil vapor)
ppm- parts per million
RH2254-01 – The Navy's drinking water well, also known as the Red Hill Shaft
RHMW02 – Groundwater monitoring well No.2, which is located closest to Tank 5 and has the highest groundwater contamination concentrations
RHMW06 and RHMW07- two additional monitoring wells installed north of the Facility after the January release
RCRA- Resource Conservation and Recovery Act
SCR – Senate Concurrent Resolution
SSRBLs- Site-Specific Risk-Based Levels
TOU- temporarily out of use
TPH(d) – Total Petroleum Hydrocarbons, diesel range
ug/L – micrograms per Liter (also parts per billion)
USGS – United States Geological Survey
UST – underground storage tanks
VOC- volatile organic compound

APPENDIX A

Red Hill Task Force Members

1. Gary Gill, Deputy Director, Department of Health
2. Aaron Poentis, NAVFAC Hawaii
    a. Capt. Mike Williamson
3. Senator Mike Gabbard, Chair, Energy/Environment Committee
4. Representative Chris Lee, Energy/Environmental Committee
5. Steven Linder, EPA Region IX
    a. Dean Higuchi, Hawaii EPA representative
6. Ernest Y.W. Lau, P.E., Honolulu Board of Water Supply (HBWS)
    a. Erwin Kawata, - HBWS
7. Patrick N. Casey, P.G., CHG, Geologist, Commission on Water Resource Management
    a. Robert Chenet, alternate
8. Steven Y. Onoue, President, Moanalua Valley Community Association
9. David Yomes, Chair Aliamanu/Salt Lake Neighborhood Board

APPENDIX B

DOH and BWS Summary of Releases at Red Hill Facility

Navy studies and test reports show the Red Hill tanks have a history of fuel releases dating back to 1947 and the presence of fuel contaminants in groundwater and fractured rock beneath the tanks. Soil vapor and groundwater monitoring well data consistently show petroleum detections from 2005 to the present.

Samples from Red Hill groundwater monitoring well 2 (RHMW02), located in the tunnel near Tank 5 and Tank 6, contain the highest levels of total petroleum hydrocarbons as diesel (TPH-d) at 12 to 50 times above the DOH environmental action levels (EALs) of 100 µg/L (parts per billion) from 2005 to the present. The latest groundwater sampling event occurred on July 21, 2014 with 1,300 ppb of TPH-d (1.3 ppm). Based on Navy monitoring well test results submitted to DOH, the range of petroleum chemical contaminants detected and EPA health advisories, DOH Hazard Evaluation & Emergency Response Office Environmental Action Levels (DOH HEER EALs) and EPA safe drinking water Maximum Contaminant Levels (MCLs) are summarized in **Table 1.**

Soil Vapor sampling points were installed by the Navy beneath each of the 18 operational tanks at Red Hill. Tank 1 & Tank 19 were removed from service in the 1980s and lack soil vapor sampling points. The Navy has collected and reported monthly soil vapor for volatile organic compounds (VOCs) by photo ionization detector (PID) beneath each tank from 2008 to present.

Soil vapor VOCs spiked to 225,000 ppbv (parts per billion by volume) beneath Tank 5 in the sampling event of January 15, 2014. The prior event on December 23, 2013 showed 794 ppbv. The Navy increased SV monitoring to a weekly basis from Feb 2014 to July 2014. Maximum SV VOCs beneath Tank 5 increased to 450,000 ppbv on May 1, 2014 and have since declined to 208,000 ppbv on September 25, 2014.

Soil vapor sampling beneath the adjacent Tank 6 showed maximum VOCs of 43,600 ppbv on May 21, 2014 and 18,700 ppbv on September 25, 2014. Similar results were seen in the direction of Tanks 6-10 and sporadic high readings beneath Tanks 2, 3, 4 indicating air pathways thru the fractured basalt surrounding the tanks within the complex.

Monthly data from the Navy's soil vapor sampling report for Tank 5 is shown in **Table 2.** **Figure 1** illustrates this information in graphical form (Navy report, Oct 2014).

Table 1 of Appendix B Petroleum Contaminants Detected in Navy Red Hill Groundwater Monitoring Wells 2005 to 2014
(values that exceed DOH/EPA levels in Bold)

#	Contaminant	DOH EAL drinking water threatened > 150 m to surface water (ppb)	EPA drinking water MCL** (ppb)	EPA health advisory (ppb)	Minimum value reported (ppb)	Maximum value reported (ppb)
1	TPH-d (diesel)	100	None	None	<20	**6,300**
2	TPH-g (gasoline)	100	None	None	13.2	**660**
3	Xylene	20	10,000	None	0.37	1.1
4	Benzene	5	5	None	0.14	0.92
5	Toluene	40	1,000	None	0.5	2.5
6	Acenaphthene	20	None	None	0.02	0.86
7	Fluorene	240	None	None	0.03	16
8	1-methylnaphthalene	4.7	None	None	0.02	**109**
9	2-methylnaphthalene	10	None	None	0.007	**88.5**
10	Naphthalene	17	None	100	0.03	**180**
11	Ethyl benzene	300	700	None	0.15	1.3
12	Lead (dissolved)	15	15	None	0.14	11.9
13	Pyrene	68	None	None	0.03	0.11
14	Chrysene	1	None	None	0.0159	0.062
15	Phenanthrene	240	None	None	0.02	0.14
16	Fluoranthene	130	None	None	0.026	0.24
17	Benzo[k]fluoranthene	0.4	None	None	0.0068	0.051
18	Benzo[a]anthracene	0.092	None	None	0.077	0.071
19	Indeno[1,2,3-c,d]pyrene	0.092	None	None	0.0075	0.037
20	Benzo[a]pyrene	0.2	0.2	None	0.0086	0.045
21	Benzo[g,h,i]perylene	0.13	None	None	0.0057	0.034
22	1,2-dibromoethane (EDB)	0.04	None	0.05	ND*	ND*
23	1,2-dichloroethane (1,2 DCA)	0.15	None	5	ND*	ND*

ppb = parts per billion or micrograms per liter
MCL = maximum contaminant level (EPA safe drinking water standard)
*Non-Detectable however, minimum detection limits were higher than DOH HEER EALs
NOTE: Additional constituents have been analyzed but have not shown significant detections

Table 2 of Appendix B
Soil Vapor Results from SV05
Soil Vapor Monitoring Letter Report
Red Hill Bulk Fuel Storage Facility

Date	SV05S	SV05M	SV05D
3/24/2008	1295	716	697
5/6/2008	5441	4214	4012
5/29/2008	6523	4636	3984
7/3/2008	5195	4218	3957
7/31/2008	5190	3785	2894
9/2/2008	6905	5581	3681
9/29/2008	7149	6405	3960
10/23/2008	3497	3690	2518
11/25/2008	3750	5221	3741
1/14/2009	9519	20567	12473
2/5/2009	1744	1824	1638
2/26/2009	7015	2820	1616
4/1/2009	1178	996	1179
4/20/2009	1209	1146	1326
5/27/2009	1120	1054	1123
6/29/2009	1055	1061	1131
7/20/2009	1237	1296	1582
8/28/2009	1776	1314	1457
9/24/2009	1901	1722	1906
10/29/2009	1430	1507	1724
11/19/2009	780	2100	2715
12/16/2009	210	2068	3418
1/28/2010	818	976	1227
2/22/2010	487	1453	2234
3/25/2010	1028	1473	1484
4/28/2010	398	1417	1532
5/26/2010	1002	980	1147
6/28/2010	64900	42100	25600
7/28/2010	38167	46633	59433
9/29/2010	NC1	NC1	NC1
10/18/2010	NC1	NC1	NC1
11/16/2010	NC1	NC1	NC1
12/14/2010	NC1	NC1	NC1
1/13/2011	NC1	NC1	NC1
2/15/2011	NC1	NC1	NC1
3/15/2011	NC1	NC1	NC1
4/18/2011	NC1	NC1	NC1
5/18/2011	NC1	NC1	NC1
6/22/2011	NC1	NC1	NC1
7/27/2011	NC1	NC1	NC1
8/26/2011	NC1	NC1	NC1
9/22/2011	NC1	NC1	NC1
10/27/2011	NC1	NC1	NC1
11/22/2011	NC1	NC1	NC1
12/16/2011	NC1	NC1	NC1
1/20/2012	NC1	NC1	NC1

Date	SV05S	SV05M	SV05D
2/23/2012	NC1	NC1	NC
3/13/2012	NC1	NC1	NC1
4/16/2012	NC1	NC1	NC1
5/15/2012	NC1	NC1	NC1
6/19/2012	NC1	NC1	NC1
7/10/2012	NC1	NC1	NC1
8/14/2012	NC1	NC1	NC1
10/24/2012	NC1	NC1	NC1
11/26/2012	NC1	NC1	NC1
12/18/2012	NC1	NC1	NC1
1/31/2013	NC1	NC1	NC1
2/28/2013	NC1	NC1	NC1
3/28/2013	NC1	NC1	NC1
4/25/2013	NC1	NC1	NC1
5/30/2013	215	221	184
6/27/2013	115	233	232
7/25/2013	208	218	322
8/29/2013	63	68	161
9/26/2013	14	29	114
10/24/2013	229	250	201
11/21/2013	94	120	109
12/23/2013	50	622	794
1/15/2014	96	225000	204000
1/30/2014	818	150000	176000
2/24/2014	597	68200	100000
3/5/2014	492	96800	217000
3/10/2014	308	111000	204000
3/21/2014	593	99600	182000
3/25/2014	3144	271000	209000
4/3/2014	43700	384000	426000
4/7/2014	76100	413000	401000
4/16/2014	106000	437000	398000
4/22/2014	105000	383000	381000
5/1/2014	159000	450000	426000
5/8/2014	130000	377000	327000
5/15/2014	165000	401000	337000
5/21/2014	131000	415000	380000
5/27/2014	125000	369000	349000
6/3/2014	134000	341000	359000
6/11/2014	105000	268000	279000
6/19/2014	173000	284000	309000
6/23/2014	34500	45600	78700
7/9/2014	39700	277000	267000
7/21/2014	111000	234000	237000
8/27/2014	148000	205000	222000
9/25/2014	94500	208000	195000

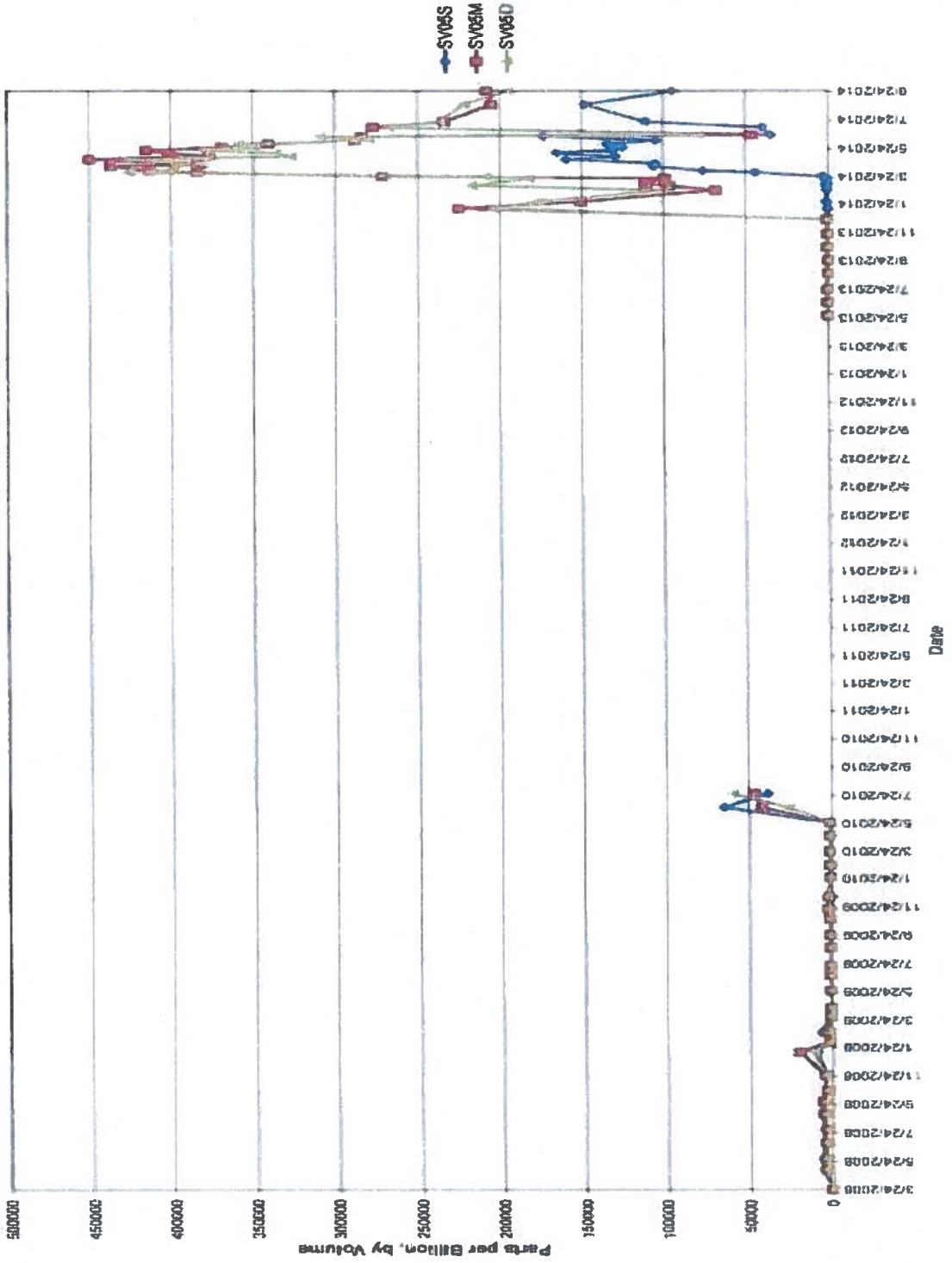
ppbv: parts per billion by volume
NC1: Not collected due to maintenance work

Date	SV05S	SV05M	SV05D
3/24/2008	1295	716	697
5/6/2008	5441	4214	4012
5/29/2008	6523	4636	3984
7/3/2008	5195	4218	3957
7/31/2008	5190	3785	2894
9/2/2008	6905	5581	3681
9/29/2008	7149	6405	3960
10/23/2008	3497	3690	2516
11/25/2008	3750	5221	3741
1/14/2009	9519	20567	12473
2/5/2009	1744	1824	1638
2/26/2009	7015	2820	1616
4/1/2009	1178	996	1179
4/20/2009	1209	1146	1326
5/27/2009	1120	1054	1123
6/29/2009	1055	1061	1131
7/20/2009	1237	1296	1582
8/28/2009	1776	1314	1457
9/24/2009	1901	1722	1906
10/29/2009	1430	1507	1724
11/19/2009	780	2100	2715
12/16/2009	210	2068	3418
1/28/2010	818	976	1227
2/22/2010	487	1453	2234
3/25/2010	1028	1473	1484
4/28/2010	398	1417	1532
5/26/2010	1002	980	1147
6/28/2010	64900	42100	25600
7/28/2010	38167	46633	59433
9/29/2010	NC[1]	NC[1]	NC[1]
10/18/2010	NC[1]	NC[1]	NC[1]
11/16/2010	NC[1]	NC[1]	NC[1]
12/14/2010	NC[1]	NC[1]	NC[1]
1/13/2011	NC[1]	NC[1]	NC[1]
2/15/2011	NC1	NC1	NC1
3/15/2011	NC[1]	NC[1]	NC[1]
4/18/2011	NC[1]	NC[1]	NC[1]
5/18/2011	NC[1]	NC[1]	NC[1]
6/22/2011	NC[1]	NC[1]	NC[1]
7/27/2011	NC[1]	NC[1]	NC[1]
8/26/2011	NC[1]	NC[1]	NC[1]
9/22/2011	NC[1]	NC[1]	NC[1]
10/27/2011	NC[1]	NC[1]	NC[1]
11/22/2011	NC[1]	NC[1]	NC[1]
12/16/2011	NC[1]	NC[1]	NC[1]
1/20/2012	NC[1]	NC[1]	NC[1]

Date	SV05S	SV05M	SV05D
2/23/2012	NC[1]	NC[1]	NC[1]
3/13/2012	NC[1]	NC[1]	NC[1]
4/16/2012	NC[1]	NC[1]	NC[1]
5/15/2012	NC[1]	NC[1]	NC[1]
6/19/2012	NC[1]	NC[1]	NC[1]
7/10/2012	NC[1]	NC[1]	NC[1]
8/14/2012	NC[1]	NC[1]	NC[1]
10/24/2012	NC[1]	NC[1]	NC[1]
11/26/2012	NC[1]	NC[1]	NC[1]
12/18/2012	NC[1]	NC[1]	NC
1/31/2013	NC[1]	NC[1]	NC[1]
2/28/2013	NC[1]	NC[1]	NC[1]
3/28/2013	NC[1]	NC[1]	NC[1]
4/25/2013	NC[1]	NC[1]	NC[1]
5/30/2013	215	221	184
6/27/2013	115	233	232
7/25/2013	208	218	322
8/29/2013	63	68	161
9/26/2013	14	29	114
10/24/2013	229	250	201
11/21/2013	94	120	109
12/23/2013	50	622	794
1/15/2014	96	225000	204000
1/30/2014	818	150000	176000
2/24/2014	597	68200	100000
3/5/2014	492	96600	217000
3/10/2014	308	111000	204000
3/21/2014	593	99600	182000
3/25/2014	3144	271000	209000
4/3/2014	43700	384000	426000
4/7/2014	76100	413000	401000
4/16/2014	106000	437000	398000
4/22/2014	105000	383000	381000
5/1/2014	159000	450000	426000
5/8/2014	130000	377000	327000
5/15/2014	165000	401000	337000
5/21/2014	131000	415000	380000
5/27/2014	125000	369000	349000
6/3/2014	134000	341000	359000
6/11/2014	105000	288000	279000
6/19/2014	173000	284000	309000
6/23/2014	34500	45600	78700
7/9/2014	39700	277000	267000
7/21/2014	111000	234000	237000
8/27/2014	148000	205000	222000
9/25/2014	94500	208000	195000

ppbv parts per billion by volume
NC[1]. Not collected due to maintenance work

Figure 1 of Appendix B
Soil Vapor Measurements
SV05



APPENDIX C

Navy Data

Current Red Hill Monitoring Plan

This data is provided in addition to the information provided by DOH and BWS in Appendix B. The Navy monitors at many wells and tanks. The current regulatory approved monitoring plan includes:

- 50 soil vapor monitoring points (2 to 3 monitors beneath the 18 tanks) –measures volatile organic compounds (VOC) vapors in the soil/rock beneath the tanks. The data is collected monthly.
- 7 groundwater monitoring wells and 2 new wells – groundwater samples are analyzed for chemical contaminants at least quarterly and the groundwater is also monitored for free product monthly.
- Drinking water monitoring at Red Hill Water Shaft – samples are routinely analyzed according to Safe Drinking Water standards. Additional analyses are performed to check for petroleum products.

All monitoring plans and sampling results are provided to the Department of Health.

Laboratory Numerical Levels

The results from the drinking water wells are compared against ***Maximum Contaminant Levels (MCLs)*** under the Safe Drinking Water Act. These MCLs were established considering human health risk, technology for testing and treatment and several other factors. The MCLs are the specified standard appropriate for source wells used for drinking water distribution.

The results from the ground water monitoring wells are compared against the ***Environmental Action Levels (EALs)*** and ***Site Specific Risk Based Levels (SSRBLs)***. The EALs were established by the DOH based on the most conservative risk-based exposure assumptions to the environment (including humans and aquatic life) as well as other factors such as taste, color, etc (that may not necessarily be harmful to humans). EALs can be used as screening levels and evaluation starting points to be put into context of the specific site and other contamination found.

The Department of Health's guidance, "Evaluation of Environmental Hazards at Sites with Contaminated Soil and Groundwater" describes how to use and interpret EALs:

- ***"Exceeding the Tier 1 EAL for a specific chemical does not necessarily indicate that the contamination poses significant environmental concerns, only that additional evaluation is warranted."***
- ***"The Tier 1 EALs presented in the lookup tables are NOT regulatory "cleanup standards"."***

When additional evaluation is warranted as specified above, the risks at the specific site are studied and Site Specific Risk Based Levels (SSRBLs) developed and submitted to the regulators. Data from a

particular site should also be compared against the SSRBLs approved for the site. For Red Hill, the following SSRBLs were approved:

- SSRBL for TPH-d = 4,500 ug/l in groundwater
- SSRBL for benzene = 750 ug/l in groundwater
- SSRBL for JP8/5 = 280,000 ppb per volume in soil vapors
- SSRBL for diesel = 14,000 ppb per volume in soil vapors

As the derivation of EALs did not incorporate technology and are the most conservative levels based on numerical assessments, a consistent detection level can be a challenge for laboratories. When testing for drinking water consumption, there is normally an expectation of the range of results (usually near the MCL.) However when testing for groundwater for possible contamination, the range of concentration is less defined and, due to the exploratory nature of the investigation, could be very wide.

Groundwater Data Beyond Tank 5

Contaminant concentrations detected in wells RHMW01 and RHMW05, which are down-gradient of Tank 5 and up-gradient of the Red Hill Shaft, are below the SSRBLs for TPH-d and below the DOH EALs for other chemicals. Similarly, the data from the well between Tank 5 and the Halawa Shaft are below the DOH EALs. The data for the contaminants marked as a concern in the BWS table in Appendix B are summarized for the other relevant wells below. (60+ other low level chemical results are not listed in table.) Values are displayed in in parts per billion (ppb).

Table 1 of Appendix C – Data on Other Wells
For Petroleum Contaminants of Concern in Listed Appendix B
Navy Red Hill Groundwater Monitoring Wells 2005 to 2014
(values that exceed SSRBLs or DOH EALs in Bold)

#	Contaminant	DOH EAL (ppb)	EPA drinking water MCL (ppb)	EPA health advisory (ppb)	Min. value reported (ppb)	Max value reported (ppb)	SSRBL (ppb)
RHMW02 (nearest to Tank 5)							
1	TPH-d (diesel)	100	None	None	<20	**6,300**	4,500
2	TPH-g (gasoline)	100	None	None	13.2	**660**	
8	1-methylnaphthalene	4.7	None	None	0.02	**109**	
9	2-methylnaphthalene	10	None	None	0.007	**88.5**	
10	Naphthalene	17	None	100	0.03	**180**	
RHMW01 (down-gradient of Tank 5)							
1	TPH-d (diesel)	100	None	None	<80.8	**1500**	4500
2	TPH-g (gasoline)	100	None	None	<13	16.6	
8	1-methylnaphthalene	4.7	None	None	<.05	0.101[a]	
9	2-methylnaphthalene	10	None	None	<0.015	3.07	
10	Naphthalene	17	None	100	<.050	5.61	

RHMW05 (down-gradient of Tank 5, up-gradient of Red Hill Shaft)							
1	TPH-d (diesel)	100	None	None	<10	**673**[b]	4500
2	TPH-g (gasoline)	100	None	None	<30	13.2	
8	1-methylnaphthalene	4.7	None	None	<0.0158*	0.0335*	
9	2-methylnaphthalene	10	None	None	<0.0158*	0.0246*	
10	Naphthalene	17	None	100	<0.0326*	0.17*	
****RHMW04** (between Tank 5 and Halawa Shaft)							
1	TPH-d (diesel)	100	None	None	new	17	
2	TPH-g (gasoline)	100	None	None	new	<60	
8	1-methylnaphthalene	4.7	None	None	<0.0162 *	<0.052*	
9	2-methylnaphthalene	10	None	None	<0.0162 *	<0.052*	
10	Naphthalene	17	None	100	<0.0335 *	<0.073*	

* Concentration is below the DOH EAL

** Data for RHMW04 represents the re-start of testing in July 2014. HDMW2253-03 tested and levels also below DOH EALs and SSRBLs, but well suitability for groundwater testing is questionable. Data from new monitoring wells are not yet available.

a – The max value reported was 9.44 ppb; however, previous and subsequent analytical results were non-detect and the consultant indicated that the outlier is likely not representative of the true groundwater condition at the site. The next highest value reported was 0.101 ppb.

b – The max value reported was 2060 ppb; however, the laboratory indicated that this value may have included compounds unrelated to Facility stored fuels (specifically, caprolactam and DEET). The analytical method quantifies the total concentration of all compounds within the diesel fuel range. The next highest value reported was 673 ppb.

Soil Vapor Results

Soil vapor results at Tank 5 are represented in the graph in Appendix B. The comparison to the SSRBL of 280,000 ppbv prompted more frequent monitoring. Increases at neighboring tanks were also detected.

Free Product Floating on the Surface of the Groundwater

Monthly monitoring using an oil/water interface probe has not detected any measurable product at the well nearest to Tank 5 or any of the other groundwater monitoring wells.

APPENDIX D

Hawaii UST Regulations and Exemptions for Field Constructed Tanks

1. Design, construction, and installation
2. Notification, permits, and variances
3. General operating requirements (i.e. spill & overfill protection, repairs, recordkeeping)
4. Release detection
5. **Release reporting, investigation & confirmation***
6. **Release response action***
7. **Closure***
8. Financial Responsibility
9. **Enforcement***

*Hawaii UST regulations require Field Constructed USTs to comply with only 5, 6, 7 and 9.

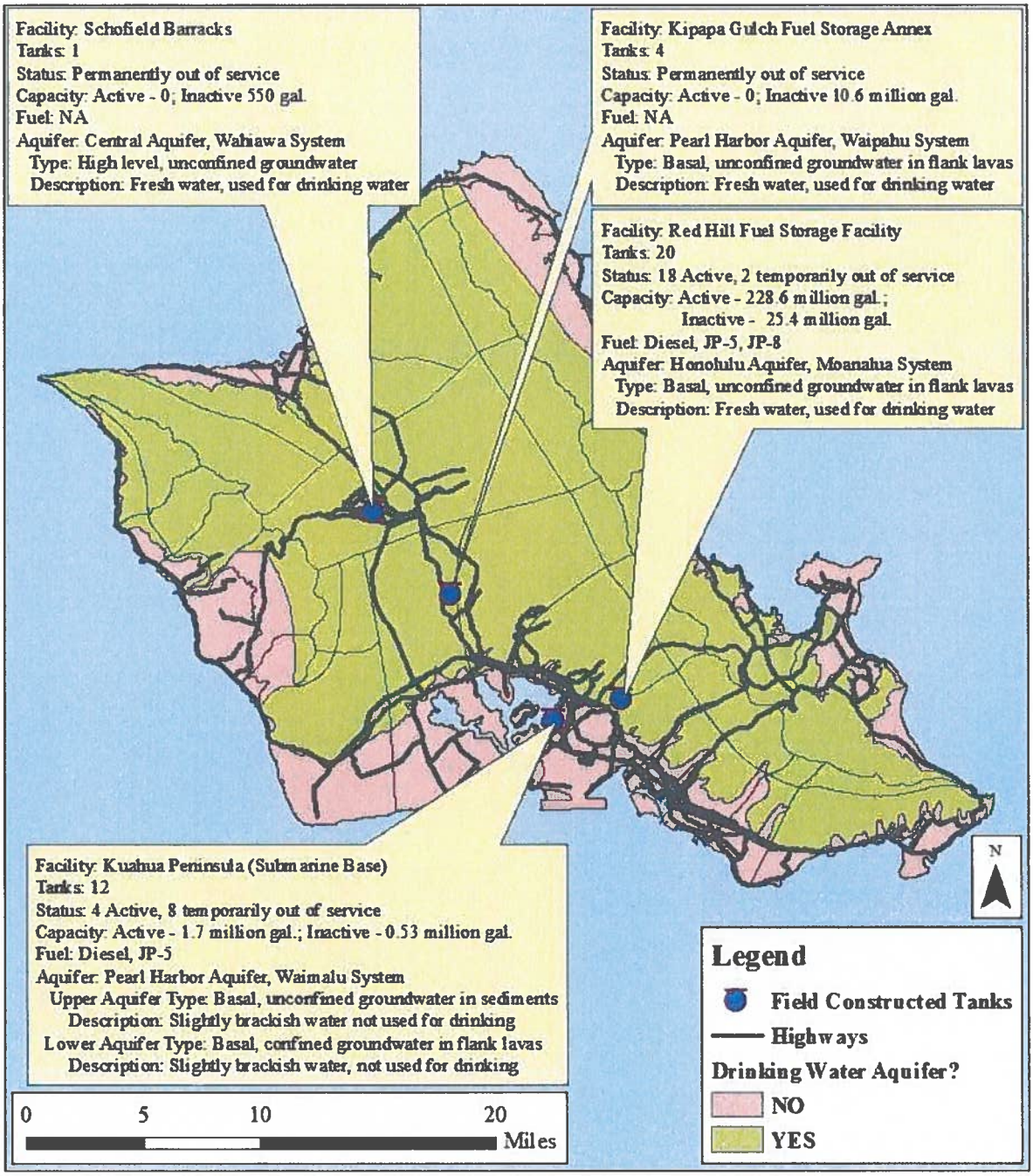
APPENDIX E

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 Pennisula – Submarine Base Pearl Harbor	**TOU*** In 1990	**3**	**20,000**	Concrete	May 1943	No	
Kuahua Pennisula – Submarine Base Pearl Harbor	**TOU*** In 1990	**5**	**94,000**	Concrete	May 1943	No	
Kuahua Pennisula – 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					

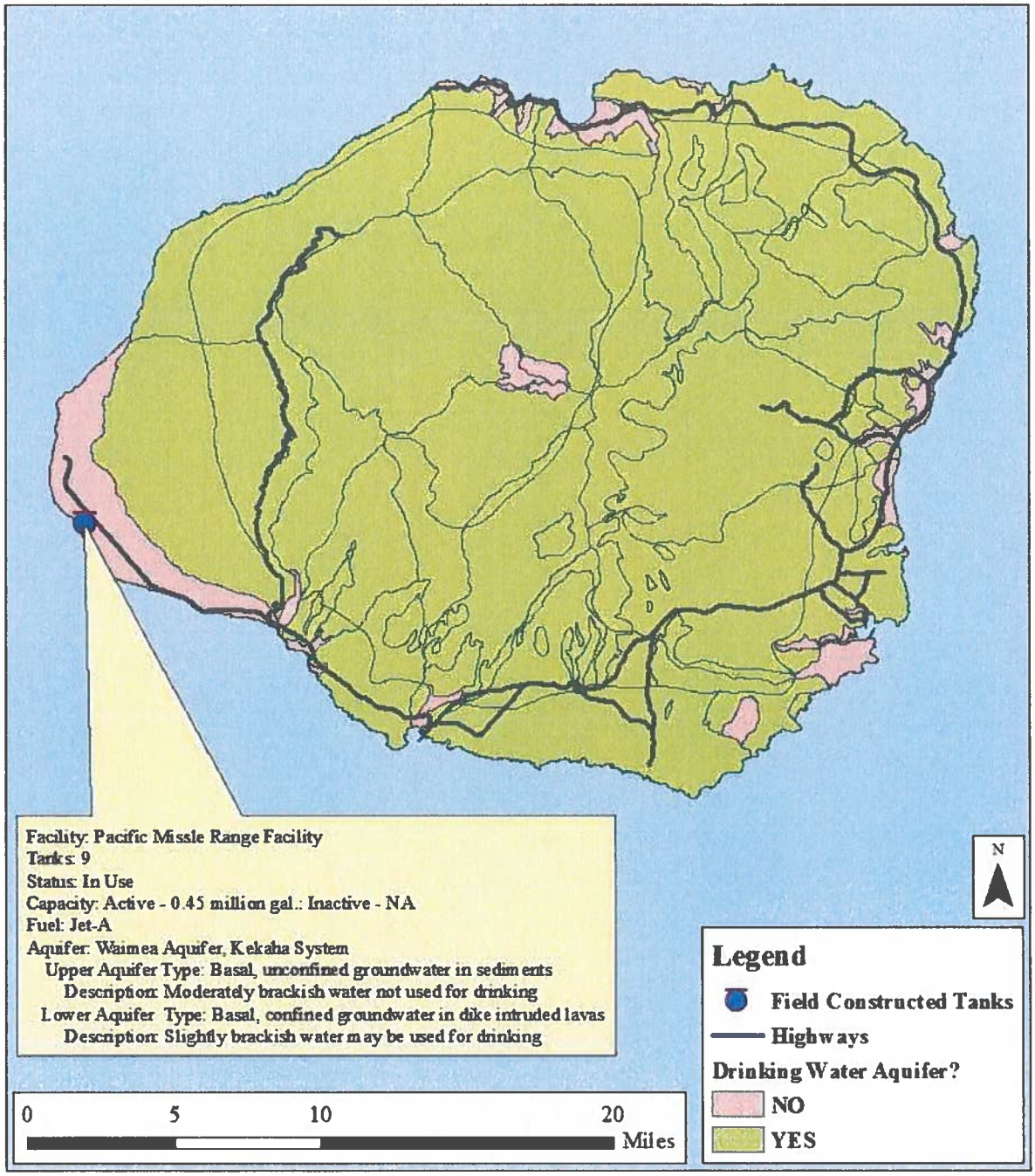
*TOU – temporarily out of use, subject to additional information from the tank owners
*POU – permanently out of use/closed

NOTE: Safe Drinking Water Branch has mapped out these tanks on the following pages.



There are 5 fuel storage facilities that utilize field constructed tanks. Four of these facilities are located on Oahu and shown in the map above. Labels for the each facility list the name, number of tanks, fuel capacity, fuel type, and describe the aquifer below the tanks. The map also shows those aquifers that are sources of fresh drinking water. In most areas of Oahu, freshwater resides in single aquifer. However, in areas with extensive caprock such as the Kuahua Peninsula (Submarine Base, Pearl Harbor), groundwater in the sedimentary formations overlies groundwater in the lava formations

below. The sediments confine the groundwater in the lava formations providing it with protection from contamination. Where the layered aquifers do not exist there is no natural hydraulic protection from fuel leaks.



The Pacific Missile Range Facility is the only Hawaii location outside of Oahu where field constructed tanks are in service. The 9 tanks for this facility are located over a sedimentary aquifer that is not used for drinking water due to excessive salinity and low productivity. Below this sedimentary aquifer is confined groundwater that could potentially be used for drinking water. The potential drinking water aquifer is protected from contamination by the overlying sedimentary aquifer.

APPENDIX F

How Red Hill Facility Site-Specific Risk-Based Levels Were Established

In setting Tier 1 Environmental Action Levels (EALs), DOH assumes that components of each TPH mixture consist of the most toxic fraction. These levels then serve as a screening method or an indicator that a health or environmental threat may exist and should be addressed or evaluated further.

In the case of Red Hill, after Tier 1 levels were exceeded, indicating that groundwater under the facility did not meet criteria for potable water need, a Tier 2 assessment was completed. The Tier 2 evaluation looks at migration pathways for contaminants. It determined that no seepage of leachate was occurring to the water table and that soil vapor pathways were not a significant concern. A Tier 3 assessment was then conducted to evaluate the future risk to the potable water production well, the Navy's drinking water pump station (Red Hill Shaft) that is the nearest and most vulnerable to contamination from Red Hill.

During the Tier 3 assessment, Site-Specific Risk-Based Levels (SSRBLs) were established for TPH, benzene and soil vapor at the Red Hill facility, the basis of which were made through modeling efforts, groundwater elevation studies and pump tests. In these models, certain assumptions were made.

- Concentrations of dissolved hydrocarbons measured with EPA Method 8015 is limited to 4500 ug/L – the computed maximum solubility of JP-5 in direct contact with the aquifer.
- Groundwater flows "mauka to makai" and updated with a slight northwesterly component, but assumes that Red Hill Shaft is still down-gradient and the most vulnerable receptor
- The dissolved fuel hydrocarbons will degrade at a Bulk Degradation Rate of 0.009% per day. In other words, half-life = 0.693/[rate constant] = 0.693/0.009 = 77 days. The initial concentration of TPH in groundwater is assumed to be reduced by half every 77 days due to biodegradation and attenuation as groundwater migrates away from the release area. This allows down-gradient concentrations of TPH in groundwater to be predicted based on the concentration in groundwater immediately under the tank and the estimated groundwater flow rate.
- It also looked at the maximum pumping rate at the Red Hill Shaft that could be sustained for five days (approximately 4.6 million gallons per day).

The Tier 3 assessment also recommended that groundwater samples be treated to remove petroleum-related breakdown products using "silica gel" prior to analysis. This would reduce the reported amount of contamination in the samples. The DOH recently clarified that this method is not acceptable for sample data that will be used to evaluate the threat to human health or the environment. Data from untreated samples are still required to make this evaluation.

It is estimated that the Navy's drinking water well, 2254-01, is approximately 3,000 feet down-gradient from the Red Hill facility. The upper entrance of the infiltration gallery is located approximately 1,600 feet from Tank 1 and 2. According to the Navy's 2007 petroleum fate and transport model, releases from the tank farm would be unlikely to migrate more than approximately 1,100 feet away from the release location above levels of potential concern for impacts to drinking water.

Using this data, SSRBLs were established based on distance of the Facility to the eastern end of the infiltration to the Navy's drinking water well, 2254-01. These SSRBLs were based upon the assumption that free product would be present in the groundwater at the Facility monitoring wells and correspond to the solubility limit of TPH from JP-5 and benzene. Soil Vapor SSRBL was also set.

TPH is the risk driver because modeling indicates that it would be the first contaminant of concern to reach unacceptable concentrations in this scenario. Other, individual compounds, including benzene, naphthalene and methylnaphthalene, have also been reported in groundwater samples collected beneath the Red Hill tanks but are less likely to reach the infiltration gallery and drinking water well above drinking water action levels due to their initially very low concentration.

Action Level Table

	Drinking Water EAL	Tank Farm SSRBL	Soil Vapor
TPH(d)	100 (µg/L)	4,500 (µg/L)	280,000 µg/m^3
Benzene	5 (µg/L)	750 (µg/L)	NA

DOH has examined these studies and accepts appropriateness and applicability of these SSRBLs, provided that they be reviewed as additional data are collected from the site.

The SSRBLs were incorporated into the Red Hill Groundwater Protection Plan. This plan was developed to mitigate the risk associated with inadvertent releases of fuel from Red Hill and to provide an overview of actions (or contingency plans) that would be required for detections below but approaching the SSRBLs as well as actions to mitigate large releases if they were to migrate to the water table. For instance if RHMW02 exceeds 1/2x SSRBL or 2,250 ppb then reporting, monitoring and immediate evaluation of tanks for leaks would be required.

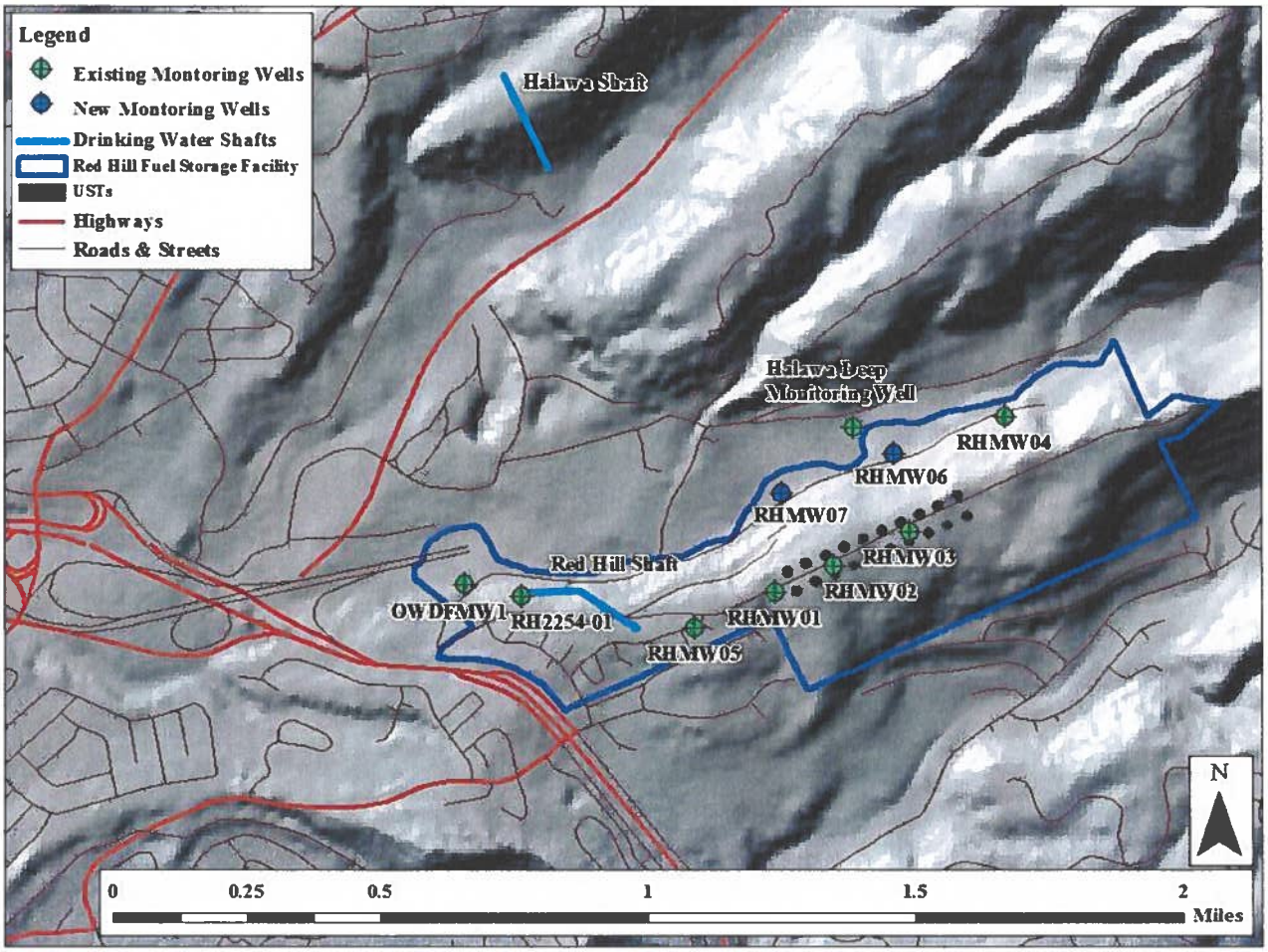
It also includes quality assurance project plans for sampling and analysis.

This plan is updated periodically and submitted to DOH for approval.
These plans are available online at: http://health.hawaii.gov/shwb/underground-storage-tanks/.

- 2008 Red Hill Groundwater Protection Plan: 2008GWprot.pdf
- 2010 Re-evaluation of the Tier III Risk Assessment: 2010RedHillTierIII

Diagram 1

Locations of the seven monitoring wells routinely tested by the Navy in green, and the two new sentinel wells north installed in Sep/Oct 2014 in blue.



52 FR 45496-01, 1987 WL 135572(F.R.)
NOTICES
[FRL-3296-4]

Southern Oahu Basal Aquifer in the Pearl Harbor Area of Oahu; Principal Source Aquifer Determination

Monday, November 30, 1987

***45496** AGENCY: Environmental Protection Agency.

ACTION: Final determination.

SUMMARY: Pursuant to section 1424(e) of the Safe Drinking Water Act, the ***45497** Regional Administrator in Region IX of the U.S. Environmental Protection Agency (EPA) has determined that the Southern Oahu Basal Aquifer is the sole or principal source of drinking water for the entire Districts of Wahiawa and Ewa, and the portion of the Honolulu District west of the Manoa Stream channel and this aquifer, if contaminated, would create a significant hazard to public health. As a result of this action, Federal financially assisted projects constructed anywhere in the Pearl Harbor area mentioned above will be subject to EPA review to ensure that these projects are designed and constructed so that they do not create a significant hazard to public health.

ADDRESSES: The data on which these findings are based are available to the public any may be inspected during normal business hours at the U.S. Environmental Protection Agency, Region IX, Water Management Division, Fifth Floor, 214 Fremont Street, San Francisco, CA 94105.

FOR FURTHER INFORMATION CONTACT: Chris Wohlers, Office of Groundwater Protection, Water Management Division, Environmental Protection Agency, Region 9, at (415) 974-0830.

SUPPLEMENTARY INFORMATION: Notice is hereby given that pursuant to section 1424(e) of the Safe Drinking Water Act (42 U.S.C. 300h-3(e), Pub. L. 93-523) the Regional Administrator of the U.S. Environmental Protection Agency (EPA) has determined that the Southern Oahu Basal Aquifer of Oahu is the sole or principal source of drinking water for the Wahiawa District, the Ewa District, and the portion of the Honolulu District west of the Manoa Stream channel. Pursuant to section 1424(e), Federal financially assisted projects, constructed anywhere in the Pearl Harbor area mentioned above, will be subject to EPA review.

I. Background

Section 1423(e) of the Safe Drinking Water Act states:

If the Administrator determines, on his own initiative or upon petition, that an area has an aquifer which is the sole or principal drinking water source for the area and which, if contaminated, would create a significant hazard to public health, he shall publish notice of that determination in the Federal Register. After the publication of any such notice, no commitment for Federal financial assistance (through a grant, contract, loan guarantee, or otherwise) may be entered into for any project guarantee, or otherwise) may be entered into for any project which the Administrator determines may contaminate such aquifer through a recharge zone so as to create a significant hazard to public health, but a commitment for Federal financial assistance may, if authorized under another provision of the law, be entered into to plan or design the project to assure that it will not so contaminate the aquifer.

On May 3, 1983, Hazel Cunningham of Honolulu, Hawaii, petitioned the EPA to designate groundwater resources of the Pearl Harbor area as a principal source of drinking water. In response to this petition, EPA published a notice in the Federal Register on July 17, 1984, announcing receipt of the petition and requesting public comment. EPA prepared a draft technical document summarizing available information and proposing a sole or principal source aquifer designation. A public comment period,

EXHIBIT C

including a hearing on the proposed designation, was public noticed in the Federal Register on February 9, 1987. A public hearing was conducted on April 2, 1987, and the public was allowed to submit comments until April 16, 1987.

II. Basis for Determination

Among the factors to be considered by the Regional Administrator in connection with the designation of an area under section 1424(e) are: (1) Whether the aquifer is the area's sole or principal source of drinking water, and (2) whether contamination of the aquifer would create a significant hazard to public health.

On the basis of information available to this Agency, the Regional Administrator has made the following findings, which are the bases for the determination noted above:

1. The Southern Oahu Basal Aquifer currenty serves as the "principal source" of drinking water for approximately 763,000 permanent residents within the Pearl Harbor area.

2. There is no existing alternative drinking water source, or combination of sources, which provides fifty percent or more of the drinking water to the designated area, nor is there any demonstrated available alternative future source capable of supplying the area's drinking water needs.

3. Although the water quality over most of the study area is satisfactory for domestic use, widespread potential exists for degradation. The main threats to the quality of the basal aquifer include salt water intrusion; recharge from excess irrigation; industrial, military and urban sources; landfills; chemical spills; poorly situated injection wells; and cesspools.

III. Description of the Southern Oahu Basal Aquifer

The aquifer is composed of a basal fresh water lens floating on sea water. The basal fresh water lens is a continuous, but compartmental aquifer situated in the coastal plain of southern Oahu. The aquifer is very thick, exceeding 1000 feet in some areas. Recharge is ultimately from rainfall as well as from excess irrigation. Total domestic water use in 1978 consisted of 68% groundwater resources from this system.

IV. Information Utilized in Determination

The information utilized in this determination includes the petition from Hazel Cunningham of Honolulu, Hawaii, research of available literature on the groundwater resources of Oahu, and written and verbal comments submitted by the public. This data is available to the public, and may be inspected during normal business hours at the Environmental Protection Agency, Region IX, 215 Fremont Street, San Francisco, CA 94105.

V. Project Review

EPA Region IX will work with the Federal agencies that may in the future provide financial assistance to projects in the area of concern. Interagency procedures will be developed in which EPA will be notified of proposed commitments by federal agencies for projects which could contaminate the aquifer. EPA will evaluate such projects and, where necessary, conduct an in-depth review, including soliciting public comments where appropriate. Should the Regional Administrator determine that a project may contaminate the aquifer through its recharge zone so as to create a significant hazard to public health, no commitment for Federal financial assistance may be entered into. However, a commitment for Federal assistance may, if authorized under another provision of law, be entered into to plan or design the project to assure that it will not contaminate the aquifer.

Although the project review process cannot be delegated, the U.S. EPA will rely upon, to the maximum extent possible any existing or future state and local control mechanisms in protecting the groundwater quality of the aquifer. Included in the review of any Federal financially assisted project will be the coordination with the state and local agencies. Their comments will

be given full consideration and the federal review process will attempt to complement and *45498 support state and local groundwater mechanisms.

VI. Summary and Discussion of Public Comments

Overall, commentors at the public hearing favored designation by a margin of 18 to 8. EPA received several comments concerning whether the technical document implies that groundwater in Sourthern Oahu occurs in only one aquifer. EPA responded by referring to the technical document which defines the sole or principal source aquifer as being composed os semi-independent reservoirs.

One comment concerned the inference that irrigation return flow is a potential source of contamination without stating clearly the importance of irrigation return as a source of recharge. It was pointed out that the techncial document does identify irrigation return flow as a source of recharge as well as a potential source of contamination.

EPA received several comments stating that the designation is unnecessary because the Honolulu Board of Water Supply maintains a distribution system which interconnects the island's other sources of drinking water. EPA responded by recognizing the suitability of using this distribution system as a possible emergency source of drinking water. EPA also noted that no demonstration has been made concerning the long-term capability of the system to meet the entire island's needs.

EPA received several comments doubting the reliability and applicability of the references cited in the technical document. EPA responded by taking into account any new information and corrections, and setting aside any new data whch did not substantially differ from existing data or significantly affect its interpretation.

VII. Economic and Regulatory Impact

Pursuant to provisions of the Regulatory Flexibility Act (RFA), 5 U.S.C. 605(b), I hereby certify that the attached rule will not have a significant impact on a substantial number of small entities. For purposes of this Certification, the term "small entity" shall have the same meaning as given in Section 601 of the RFA. This action is only applicable to the Pearl Harbor area. The only affected entities will be those businesses, organizations, or governmental jurisdictions that request Federal financial assistance for projects which have the potential for contaminating the aquifer so as to create a significant hazard to public health. EPA does not expect to be reviewing small isolated commitments of financial assistance on an individual basis, unless a cumulative impact on the aquifer is anticipated; accordingly, the number of affected small entities will be minimal.

For those small entities which are subject to review, the impact of today's action will not be significant. Most projects subject to this review will be preceded by a groundwater impact assessment required pursuant to other federal laws, such as the National Environmental Policy Act, as amended (NEPA), 42 U.S.C. 4321, et seq. Integration of those related review procedures with sole source aquifer review will allow EPA and other federal agencies to avoid delay or duplication of effort in approving financial assistance, thus minimizing any adverse effect on those small entities which are affected. Finally, today's action does not prevent grants of Federal financial assistance which may be available to any affected small entity in order to pay for the redesign of the project to assure protection of the aquifer.

Under Executive Order 12291, EPA must judge whether a regulation is "major" and therefore subject to the requirement of a Regulatory Impact Analysis. This regulation is not major because it will not have an annual effect of $100 million or more on the economy, will not cause any major increase in costs or prices, and will not have significant adverse effects on competition, employment, investment, productivity, innovation, or the ability of United States enterprises to compete in domestic or export markets. Today's action only affects the Pearl Harbor area. It provides additional reviews of groundwater protection measures, whenever possible, for only those projects which request Federal financial assistance. This regulation was submitted to OMB for review under EO 12291.

Dated: November 2, 1987.

Judith E. Ayres,

Regional Administrator.

[FR Doc. 87-27418 Filed 11-27-87; 8:45 am]

BILLING CODE 6560-50-M

End of Document

STATE OF HAWAII
DEPARTMENT OF HEALTH
SOLID AND HAZARDOUS WASTE BRANCH
UNDERGROUND STORAGE TANK SECTION

EMERGENCY ORDER

TO: THE UNITED STATES DEPARTMENT OF THE NAVY, c/o REAR ADMIRAL TIMOTHY KOTT, COMMANDER NAVY REGION HAWAII, 850 Ticonderoga St., Suite 110 JBPHH, Hawaii 96860-5101, Respondent.	**Docket No. 21-UST-EA-02** Re: Emergency Change-In-Service and Defueling of 20 Underground Storage Tanks, Red Hill Bulk Fuel Storage Facility

This Emergency Order ("EO") is an administrative action initiated pursuant to chapters 91 and 342L of the Hawaii Revised Statutes (HRS) and chapters 11-1 and 11-280.1 of the Hawaii Administrative Rules (HAR) by the DEPARTMENT OF HEALTH (the "Department") against THE UNITED STATES DEPARTMENT OF THE NAVY, c/o ADMIRAL TIMOTHY KOTT, COMMANDER NAVY REGION HAWAII (the "Respondent") and is based upon recent impacts on the Respondent's drinking water system incident to the operation of the Red Hill Bulk Fuel Storage Facility (the "Facility"). Respondent is the owner and operator of the Facility. This EO concerns only the issues identified herein and does not function to preclude or limit actions by any public agency or private party. The Department reserves the right to bring other actions as may be necessary to protect public health and the environment.

I. AUTHORITY AND BACKGROUND

Statutes/Rules	**Section 342L-9, HRS,** states that: "§342L-9 Emergency powers; procedures. (a) Notwithstanding any other law to the contrary, if the governor or the director determines that an imminent peril to human health and safety or the environment is or will be caused by: (1) A release; (2) Any action taken in response to a release from an underground storage tank or tank system; or (3) The installation or operation of an underground storage tank or tank system; that requires immediate action, the governor or the director, without a public hearing, may order any person causing or contributing to the peril to immediately reduce or stop the release or activity, and may take any and all other actions as may be necessary. The order shall fix a place and time, not later than twenty-four hours thereafter, for a hearing to be held before the director. (b) Nothing in this section shall be construed to limit any power which the governor or any other officer may have to declare an emergency and act on the basis of such declaration, if such power is conferred by statute or constitutional provision, or inheres in the office."

EXHIBIT D

Situation	On or about November 28, 2021, the Respondent began receiving complaints from water users from the Respondent's water system regarding a gas or fuel odor from their drinking water. On or about December 2, 2021, the Respondent identified the source of fuel contamination to be the Red Hill Shaft, one of the drinking water sources that services the Respondent's water system. As of December 3, 2021, the Department received nearly 500 complaints, mostly from residents or customers serviced by the Respondent's water system complaining of fuel or chemical smell from their drinking water. The are no on-site remedies available to treat the water prior to distribution.
Background	On January 13, 2014, the Respondent discovered a loss of fuel from Tank #5 of its twenty (20) bulk fuel storage tanks (the "Bulk Fuel Storage Tanks") at the Facility and immediately notified the Department and the United States Environmental Protection Agency ("EPA") (collectively the "Regulatory Agencies"). On January 16, 2014, the Respondent verbally notified the Department and EPA of a confirmed release of a regulated substance from Tank 5. On January 23, 2014, the Respondent provided written notification to the Department. The Respondent estimated the fuel loss at approximately 27,000 gallons. On 2015, the Respondent, the Defense Logistics Agency and the Regulatory Agencies entered into an Administrative Order on Consent (the "AOC") to take steps to ensure that the groundwater resource in the vicinity of the Facility is protected and to ensure that the Facility is operated and maintained in an environmentally protective manner. On March 17, 2020 and June 2, 2020, the Respondent notified Department of a release of a regulated substance to surface water at Hotel Pier. In a letter dated June 30, 2021, the Department made the determination that a release occurred from the Facility. On May 7, 2021, the Respondent reported a pipeline release of a regulated substance that occurred on May 6, 2021 that released approximately 1,000 gallons of fuel, which a significant portion was recovered. Based on the Respondent's report of Root Cause Analysis of the JP-5 Pipeline Damage, dated September 7, 2021, the pipeline releases near Tanks #18 and #20 were due to a dynamic transient surge resulting from the Control Room Operator failure to follow the valve opening and closing sequence. The Respondent estimated the amount of JP-5 released in the lower Red Hill Tunnel was 1,618 gallons, of which 1,580 gallons were recovered. The Respondent reported that 38 gallons were unaccounted for and, therefore, released into the environment. On July 23, 2021, the Respondent submitted a confirmed release notification form that indicated that approximately 150 gallons of a regulated substance was released at Kilo Pier in a boomed area of the surface water. Approximately 110 gallons were recovered. On November 9, 2021, the Department was informed by the media of another surge event that occurred on September 29, 2021. After an inquiry by the Department, on November 12, 2021, the Respondent asserted on November 17, 2021 that no release occurred during the event. On November 20-21, 2021, the Respondent reported a release of water and fuel from a crack in a valve in the fire suppression drain line and at the time about 9,000 gallons were recovered. According to the Respondent's press release,

	approximately 14,000 gallons of water and fuel were contained and recovered. The incident occurred ¼ mile downhill from the bulk fuel storage tanks. The Respondent's investigation regarding the release is ongoing. On November 29, 2021, Admiral Samuel Paparo, Commander, U.S. Pacific Fleet ordered a command investigation into the November 20, 2021, incident and reopened the investigation on the May 6 incident. On December 5, 2021, the Respondent submitted to the Department a Confirmed Release Notification Form, for the November 20, 2021 release of approximately 14,000 gallons of a mix of water and fuel from a fire suppression drain line in the tunnel downhill of the Bulk Fuel Storage Tanks.
Additional justification	The Respondent has consistently been unable to submit AOC deliverables to the satisfaction of the Department. The 2021 incidences directly refute the Respondent's claims in the Tank Upgrade Alternatives Decision Document that the Red Hill "system of systems" is protective of groundwater. The Respondent's tank upgrade proposal recommends continuing current design and operation. The Regulatory Agencies disapproved the Respondent's submission in 2020 and the Respondent's resubmission is significantly flawed and fails to adequately address key regulatory concerns. The Respondent's Groundwater Flow Model outputs do not match important field conditions, and therefore are unreliable for decision-making. Beginning no later than 2018, the Regulatory Agencies have repeatedly and consistently provided, and Respondent has consistently rejected, significant technical corrective comment on the Respondent's Conceptual Site Model, the purpose of which is to describe the hydrogeologic site conditions, and Respondent's preliminary Groundwater Flow Models, the purpose of which is to determine groundwater movement as may be related to contaminant transport. The deficiencies in both models have not been adequately addressed. The Investigation and Remediation of Releases report is based on the Respondent's groundwater flow model and therefore cannot be accepted as an appropriate long-term remedy for all types of future releases. Thus, significant progress to mitigate the risk of future releases has not been made. In addition, water quality data show significant increases in total petroleum hydrocarbon as oil detections at Red Hill Shaft and relative increases around the Bulk Fuel Storage Tanks. While the May 6 incident is a possible cause of the increase, the size of the impact area shown in the well data does not appear to correlate with the Respondent's description of the incident (release of 38 gallons to the environment—far less than would be expected given the increased concentrations observed in the well field since the May 6 event). This type of uncertainty diminishes timely and accurate identification of risk and associated response measures. This uncertainty, together with delays in receiving laboratory data, limits the Respondent's ability to activate appropriate spill response actions and opportunities for rapid response. The November 20, 2021 incident may have also released a mixture of water and fuel into the environment. The incident location is significantly closer to the Red Hill Shaft. This additional uncertainty without in-place recovery and remedial measures increases risk. The Facility does not provide necessary environmental protection to rapidly identify and remediate fuel leaks. The Facility lacks infrastructure and procedures to rapidly identify and contain subterranean fuel spills and treat drinking water to ensure safe

	and clean drinking water is continuously available to Respondent's water customers. Given the number of incidences that have occurred at the Facility within the last year, and in view of the current drinking water contamination, the Respondent has not demonstrated that immediate and appropriate response actions are available, and therefore cannot ensure that immediate and appropriate response actions will be available should another release occurs in the future. The risk of any additional contaminants in the aquifer or lack of immediate action now may exacerbate the current situation and further jeopardize our aquifer system.

II. ORDER

Respondent is hereby ordered to:

1. Immediately suspend operations including, but not limited to, fuel transfers at the Bulk Fuel Storage Tanks at the Facility. Respondent shall, however, maintain environmental controls, release detection and release response protocols, and compliance with applicable regulations.

2. Take immediate steps to install a drinking water treatment system or systems at Red Hill Shaft to ensure distribution of drinking water conforms to the standards prescribed by the Safe Drinking Water Act and applicable regulations and minimize movement of the contaminant plume(s). The treatment system(s) shall be reviewed and approved by the Department prior to installation and shall be installed as expeditiously as practicable.

3. Within 30 days of receipt of this EO, submit a workplan and implementation schedule, prepared by a qualified independent third party approved by the Department, to assess the Facility operations and system integrity to safely defuel the Bulk Fuel Storage Tanks. Upon the Department's approval of the assessment, workplan and implementation schedule, conduct necessary repairs and make necessary changes in operations to address any deficiencies identified in the assessment and workplan. Corrective actions shall be performed as expeditiously as possible.

4. Within 30 days of completion of required corrective actions under Item 3, defuel the Bulk Fuel Storage Tanks at the Facility. Any refueling shall be subject to a determination by the Department that it is protective of human health and the environment.

5. Within 30 days of receipt of this EO submit a workplan and implementation schedule, prepared by a qualified independent third party approved by the Department, to assess operations and system integrity of the Facility to determine design and operational deficiencies that may impact the environment and develop recommendations for corrective action. Submit the assessment, proposed work and recommendations for corrective action to the Department with an implementation schedule. Upon the Department's approval, perform work and implement corrective actions. Corrective actions shall be performed as expeditiously as possible.

This EO becomes final and enforceable after a hearing which is currently scheduled for December 7, 2021, at 1:00 p.m. with the Department's Hearings Officer via Zoom, or other similar electronic platform (with links to be provided to both Respondent and the public for their participation). If you wish to waive your right to contest this EO at a hearing, you may communicate this intention to the Hearings Officer, c/o Director of Health, Department of Health, 1250 Punchbowl Street, Third Floor, Honolulu, HI 96813 and to the Solid and Hazardous Waste Branch, Department of Health, 2827 Waimano Home Road #100, Pearl City, Hawaii 96782. Waiver of the hearing will obligate you to comply with this EO.

At the hearing, you may seek to avoid any obligations prescribed in this EO, and the Department may seek to impose any additional obligations necessary to protect public health and the environment. Parties may present evidence and witnesses on their behalf, and may examine and cross-examine all witnesses

and evidence presented by the Department. Parties may be represented by attorneys at their own expense, or they may represent themselves. Any hearing will be in accordance with chapter 91, HRS, and chapter 11-1, HAR. The final administrative decision will be made at the conclusion of the hearing and will be based upon all the evidence presented during the hearing.

If you have questions, please call Lene Ichinotsubo, P.E., Acting Chief of the Solid and Hazardous Waste Branch at (808) 586-4226. If you have special needs due to a disability and require accommodation to aid you in participating in the hearing or pre-hearing conference, please contact the Hearings Officer at (808) 586-4409 (voice) or through the Telecommunications Relay Service (711), at least ten (10) working days before the hearing or pre-hearing conference date.

DATED: Honolulu, Hawaii Dec 6, 2021

DEPARTMENT OF HEALTH
STATE OF HAWAII

Kathleen Ho

KATHLEEN S. HO
Deputy Director for Environmental Health

APPROVED AS TO FORM:

Wade H. Hargrove III
Deputy Attorney General

Honolulu

State Finds Red Hill Contamination Far Above Health Thresholds For Drinking Water

The Board of Water Supply's Halawa shaft isn't contaminated but could be closed for years, if not permanently.

18

By Anita Hofschneider / December 10, 2021

Reading time: 6 minutes.

EXHIBIT E

State testing of the Navy's Red Hill shaft found levels of gasoline and diesel-range hydrocarbons as much as 350 times higher than state approved levels for drinking water, the state Department of Health announced Friday.

The Honolulu Board of Water Supply separately revealed test results indicating that the city's Halawa shaft isn't contaminated, but said that its shutdown of the well as a precaution could extend years or even become permanent.

The samples taken by the health department from the Navy water system tested positive for "gasoline range organics," also known as TPH-g, at levels more than 66 times the state's limit for drinking water.

Eurofins Laboratory in California found 20,000 parts per billion were present in the samples, compared to the state limit of 300 parts per billion.

The same testing found "petroleum hydrocarbons diesel range organics," also known as TPH-d, at 350 times above the state's environmental limits.

The California lab found 140,000 parts per billion of TPH-d were present in the samples compared with the state's environmental action level of 400 parts per billion.

The state tests also found trace amounts of "petroleum hydrocarbons oil range organics" in water from the Aliamanu Child Development Center that were below the state's drinking water thresholds.

The Navy earlier had confirmed that its Red Hill shaft tested positive for high levels of petroleum, announcing the results on Dec. 2. The city shut down its Halawa shaft within hours as a precautionary measure, closing off 20% of the supply of water for residents stretching from Moanalua to Hawaii Kai.

The health department has ordered the Navy to empty fuel from the Red Hill underground storage facility, which holds over 180 million gallons of jet fuel about 100 feet above the city's aquifer. The facility has the capacity to hold

250 million gallons of jet fuel across 20 tanks that are 78 years old and have a history of leaks.

Board of Water Supply Manager and Chief Engineer Ernie Lau said the board's Halawa well may have to stay out of commission for years or be closed for good.

"The longer that fuel stays there, the risk to our aquifer continues and I believe it's growing," Ernie Lau, chief engineer at the Honolulu Board of Water Supply, said on the Honolulu Star-Advertiser's Spotlight program Friday.

The Navy is contesting the health department's order. Navy officials have apologized for the contaminated water and promised to pay for alternate housing for all of the 93,000 affected residents.

Lau said that the city has been testing five of its wells that are closest to the Navy's water supply system for the past eight years and never detected fuel contamination. The city is now testing those wells weekly in response to the Navy water crisis and requests from concerned Honolulu residents.

Although the tests of the bureau's Halawa well came back clean, Lau estimates it would take six months to a year for fuel to travel through the aquifer across the valley if the city continued pumping from the Halawa well while the Navy's Red Hill well wasn't pumping.

"We can't take that chance," he said.

Need for Water Conservation

The Navy is still figuring out how exactly its Red Hill shaft became contaminated. But Lau said if the level of contamination is high, the city probably won't be able to start using the Halawa well for years — if ever.

If Honolulu's Halawa well stays out of commission, the Board of Water Supply would have to try to make up the difference by pumping from its remaining wells. Voluntary water conservation could become mandatory, he said, including measures such as allowing irrigation only on alternate days or barring car washing with a hose.

"I hope we don't have to do that," he said.

He added, "We think it's going to be very difficult and could take awhile" for the Navy to clean up the contamination.

Red Hill

Civil Beat has been reporting on the leaking tanks, water contamination and political debate over Red Hill since 2014. Read our coverage here. Click on "full archive" for the complete list of stories.

Lau stressed the need to identify the source of the contamination as soon as possible.

The Navy has three sources of water from the aquifer, and now two of them are out of commission, raising questions about how it will meet demand from Navy customers who use 18-22 million gallons per day. Hundreds of families have moved into temporary housing in hotels as the water crisis continues.

Lau expressed skepticism about the Navy's promises to protect the drinking water and anger at the Navy's opposition to the Department of Health order to empty the fuel tanks.

"Their actions are not consistent with their words," he said. The crisis, has left him "deeply saddened. This is all avoidable."

Filtering The Water

During a lengthy legislative hearing Friday afternoon, Admiral Samuel Paparo, commander of the U.S. Pacific Fleet said he's been empowered to bring the full resources of the Navy to fix this problem and that he's accountable for the fix.

Paparo said that he's requested the initiation of planning for defueling the tanks, including how and where to store the fuel and what the risks of transferring it might be.

He said moving the tanks themselves is a nonstarter in part because it would be a "Herculean effort" given that each of the 20 tanks are 60 feet wide and 200 feet tall, taller than Aloha Tower.

"I couldn't tell you where we would move the fuel but we are moving prudently in planning where that would be," Paparo told legislators.

Rear Admiral Dean VanderLey, commander of the Naval Facilities Engineering Systems Command Pacific, said his organization awarded a contract Thursday evening "for two granulated activated carbon water filtration units capable of filtering up to 10 million gallons of water per day."

He said the filters are currently on the mainland.

"We are coordinating military airlift to bring them here as soon as possible," VanderLey said, adding the eight to 10 planes will be needed to transport

them to Hawaii and once they're here, a large effort to assemble and get them operational.

His goal is to have them ready in two to three weeks. He said he is working with the Department of Health to figure out where to send the water once it's filtered.

"It will be clean filtered water that will be safe for the environment," VanderLey said.

About the Author

Anita Hofschneider

Anita Hofschneider is a reporter for Civil Beat. You can reach her by email at anita@civilbeat.org or follow her on Twitter at @ahofschneider.

DEPARTMENT OF HEALTH

DAVID Y. IGE
GOVERNOR

ELIZABETH A. CHAR, MD
DIRECTOR

FOR IMMEDIATE RELEASE
December 10, 2021 21-177

Hawai'i Department of Health confirms high levels of petroleum contamination in Navy's Red Hill Shaft

Trace contamination detected at Aliamanu Child Development Center, private residences

HONOLULU – Samples collected from the Navy's Red Hill drinking water shaft on Sunday December 5 tested positive for high levels of gasoline and diesel range hydrocarbons. This is consistent with visual observations and odors detected by Hawai'i Department of Health (DOH) staff when the samples were collected.

DOH received the detailed lab reports late last night. The reports were immediately analyzed by DOH staff.

Samples from the Navy's Red Hill Shaft contained total petroleum hydrocarbons diesel range organics (TPH-d) 350 times the DOH Environmental Action Level (EAL) for drinking water. The Red Hill Shaft samples also tested positive for gasoline range organics more than 66 times the DOH EAL.

The DOH samples were analyzed by Eurofins Laboratory in California. Eurofins found 140,000 parts per billion (ppb) of TPH-d. The DOH EAL for TPH-d is 400 ppb. Eurofins found total petroleum hydrocarbons gasoline range organics (TPH-g) at 20,000 ppb. The EAL for TPH-g is 300 ppb.

Click here to download laboratory results from the Navy's Red Hill Shaft.

Trace levels of petroleum were also found in samples collected at the Aliamanu Child Development Center and private residences on the Navy's water system.

EXHIBIT F

Samples collected from Aliamanu Child Development Center on Friday December 3 tested positive for trace levels of oil range organics below the drinking water threshold. A level of 52 ppb of total petroleum hydrocarbons oil range organics (TPH-o) was detected in a sample from the Aliamanu Child Development Center. A level around 50 ppb of product consistent with petroleum was detected in samples from the Eagle Circle at Red Hill and Milo Lane in Aliamanu Military Reservation.

Click here to download laboratory results from the Aliamanu Child Development Center.

Click here to download laboratory results from the Eagle Circle and Milo Lane residences.

Sampling only captures contaminant levels at a point in time. DOH will discuss the results further at the 1:30 PM briefing before the Hawaii State Legislature.

DOH recommends Navy water system users should avoid using the water for drinking, cooking or oral hygiene. This includes consumption by pets. Navy water system users who detect a fuel-like odor from their water should avoid using the water for drinking, cooking, bathing, dishwashing, laundry or oral hygiene. This recommendation applies to users of the Navy's Joint Base Pearl Harbor-Hickam (JBPHH) water system, including the Aliamanu Military Reservation, Red Hill and Nimitz Elementary Schools and military housing.

###

DEPARTMENT OF HEALTH

DAVID Y. IGE
GOVERNOR

ELIZABETH A. CHAR, MD
DIRECTOR

FOR IMMEDIATE RELEASE
December 8, 2021 21-174

Petroleum contamination reported in Navy's Aiea Halawa shaft

HONOLULU – Diesel fuel levels more than double the Hawaii Department of Health (DOH) limits for drinking water were reported by the Navy today in water samples collected at the Navy's Aiea Halawa Shaft. The shaft is one of three ground water sources that provides drinking water to the Joint Base Pearl Harbor-Hickam (JBPHH) water system.

The Navy reported that the sample was drawn on Sunday, December 5. The Navy's Aiea Halawa Shaft and the Honolulu Board of Water Supply's Halawa Shaft are different water systems. The Board of Water Supply's Halawa Shaft is located approximately 1.5 miles northeast of the Navy's Aiea Halawa shaft. The Navy reported to DOH that its Aiea Halawa shaft has been offline since Friday, December 3.

"The level of this contaminant poses a public health threat, and is considered unsafe to drink," said Kathleen Ho, Deputy Director for Environmental Health. "This news is concerning—especially as the cause of the petroleum release into the Navy's water system remains unknown. We will continue to take all possible action to protect public health and the environment."

A level of 920 parts per billion (ppb) of total petroleum hydrocarbons diesel range organics (TPH-d) was reported by the Navy. The DOH Environmental Action Level (EAL) for TPH-d is 400 ppb. An EAL is a risk-based level below which no human health effects are expected. DOH staff will collect samples from the Aiea Halawa shaft Thursday.

DOH recommends all Navy water system users should avoid using the water for drinking, cooking, or oral hygiene. This includes consumption by pets. Navy water system users who detect a fuel-like odor from their water should also avoid using the water for bathing, dishwashing or laundry. This recommendation applies to users of the Navy's Joint Base Pearl

EXHIBIT G

Harbor-Hickam (JBPHH) water system, including the Aliamanu Military Reservation, Red Hill and Nimitz Elementary Schools and military housing.

###

Board of Water Supply

NEWS RELEASE

For Immediate Release
December 3, 2021

BOARD OF WATER SUPPLY SHUTS DOWN HALAWA SHAFT IN RESPONSE TO RED HILL CONTAMINATION

HONOLULU – Last night, the Board of Water Supply (BWS) completely shut down its largest water source on Oahu, Halawa Shaft, due to reports from the Navy regarding contamination at their Red Hill well. On Tuesday, November 30, when the BWS heard about Red Hill well being shut down on Sunday night, they immediately reduced pumping capacity by 50%: 10 million gallons per day to 5 million gallons per day. While this reduction did not impact customers' use, it did signal serious concerns from the utility.

"We are deeply concerned that we were not notified immediately by the Navy regarding the shut down of their Red Hill water source," stated Manager and Chief Engineer Ernest Lau. "We have data that shows when they stop pumping at Red Hill, water starts moving in the direction of our Halawa Shaft due to our pumping. In an abundance of caution, we must shut down Halawa Shaft until further notice."

The BWS will make up the 20% supplied by Halawa Shaft by upping pumpage from other resources. They do not anticipate any major impact at this time and, as always ask customers to implement good water conservation practices. They will monitor water consumption closely and if anything should change, they will alert the public immediately.

EXHIBIT H

If there are any questions, please call (808) 748-5041 or email contactus@hbws.org.

###

Contact:

Kathleen Elliott-Pahiinui
Information Officer
Honolulu Board of Water Supply
(808) 748-5319

About the Board of Water Supply

The Board of Water Supply (BWS), a semi-autonomous agency of the City and County of Honolulu, manages Oahu's municipal water resources and distribution system. As the largest water utility in the State, the BWS serves approximately one million customers on Oahu. The BWS embraces its mission of "Water for Life – Ka Wai Ola" – to provide a safe, dependable, and affordable water supply, now and into the future. Uwē ka lani, ola ka honua – "When the heavens weep, the earth lives."

Select Language ▼

Honolulu

Navy's Opposition To Governor's Red Hill Order Raises Question Of State Versus Federal Power

The Department of Health's director declined to say whether the state is willing to get into a legal fight with the Navy over Gov. Ige's order to stop operating tanks suspected of contaminating drinking water.

55

EXHIBIT I

By Christina Jedra / December 7, 2021

Reading time: 6 minutes.

The U.S. Navy is opposing an order Gov. David Ige issued on Monday to suspend all operations at its Red Hill fuel facility and start formulating a plan to empty its tanks, a dispute that may test the legal and political firepower of both sides.

Ige's emergency order requires the Navy to submit a plan within 30 days to "assess the operations and system integrity to safely defuel the Bulk Fuel Storage Tanks." It also requires the Navy to install a drinking water treatment system at the Red Hill well.

The order stated that it would become "final and enforceable" after a hearing that was scheduled for Tuesday at 1 p.m. with a state Department of Health hearing officer via Zoom. However, DOH issued a statement on Tuesday afternoon saying that the hearing would not occur.

Secretary of the Navy Carlos Del Toro spoke to affected residents during his visit this week.

"This morning, the Navy informed the Department of Health of its intent to contest the emergency order on Red Hill operations," DOH spokeswoman Kaitlin Arita-Chang said via email.

"However, the Navy requested a continuance. The 1:00 p.m. contested case hearing is postponed. The Department of Health and Navy are negotiating the terms of a continuance and we will provide an update when one is available."

No further details were provided. In an email, Navy spokesman Capt. J. Dorsey said that Ige's order is currently under legal review.

Navy Secretary Carlos Del Toro said during a press conference yesterday afternoon, after meeting with Ige, that he would view any demand from the governor to shut down the Navy's fuel facility to be a request.

"It's not an order," he said. "It's a request that's being made."

Hawaii Health Director Libby Char said she hopes the state and Navy can work together to resolve the water contamination issue related to Red Hill.

DOH Director Libby Char declined to comment yesterday on whether the state is willing to take the military to court to enforce its order. Instead, Char expressed her hope that the Navy would comply.

"We all have the same goal, and that is that we have safe drinking water for everybody and we have a safe environment for our community," she said.

Marti Townsend, an attorney and the former director of the Sierra Club of Hawaii, said she was "flabbergasted" by the Navy's response.

Hawaii has a right to regulate the Navy's underground storage tanks, Townsend said. Under federal law, the federal government regulates underground storage tanks but can delegate permitting and enforcement authority to states, she said.

"In exchange for taking on that responsibility, the federal government voluntarily subjects itself to state oversight," Townsend said. "They have to listen to the state."

Because of Hawaii's regulatory authority, the Navy has been seeking the approval of a DOH permit application since 2019. However, the Navy's pursuit of that permit was delayed after a whistleblower accused the Navy of providing false testimony during hearings and withholding information about corrosion at Red Hill, including "holes in tanks."

The Navy's objection to Ige's order could set the state and military up for years of litigation, Townsend said.

She noted that New Mexico sued the U.S. Air Force in 2019 after it was discovered that firefighting foam had contaminated groundwater there. Two years later, the "legal wrangling," continues, the Associated Press reported in October.

Townsend acknowledged there is an exemption to the underground storage regulation for tanks that are of "paramount interest of the United States." However, that exemption would have to be personally approved on an annual basis by the president, she said.

There is also a legal concept called federal preemption which means that when state and federal laws are in conflict, the federal legislation trumps the state law. However, Townsend said she doesn't believe that is applicable here.

Lance Collins, a lawyer with a history of pursuing "good government" and environmental cases, agreed that the governor is within his authority to demand that Red Hill be drained of fuel.

Protests against the Navy's Red Hill fuel operations have gained momentum in recent weeks.

Court cases can drag on for years, and judges can be reticent to use their powers when the federal government invokes national security, according to Collins. But that argument has its limits, he said.

"If there is an imminent threat to health, safety and welfare of the public, the national security or defense interest has to be relatively great for them to say: Well, it's OK to basically poison the water supply for half a million people while this case goes through years and years of litigation," he said.

Another solution may be political, Collins said. For instance, Congress could pass a law that forces Red Hill to shut down. Calls to shut down Red Hill have gained significant political momentum in recent days.

In an unprecedented show of unity on the subject, Hawaii House Speaker Speaker Scott K. Saiki and 45 members of the Hawaii House of Representatives called on the Navy on Monday to prepare a plan to decommission the Red Hill Bulk Fuel Storage Facility and store its fuel at an alternate location.

On Tuesday, Carmen "Hulu" Lindsey, chair of the board of the Office of Hawaiian Affairs, released a statement supporting Ige's emergency order.

"The Navy's abysmal failure to address this major, ongoing environmental issue has already drastically impacted military families affected by the latest Red Hill fuel leak," she said.

"The wellbeing of all Hawaii residents that depend on the Southern Oahu aquifer are being severely jeopardized by the Navy's egregious negligence. The Navy can no longer brush aside public concerns."

And last week, Honolulu City Council members introduced a bill that would prohibit the operation of large fuel tanks on Oahu if the operator cannot demonstrate that it "will not leak any regulated substance into the environment during its operating life." In the past, the council only passed resolutions to proclaim its stance on Red Hill matters but did not seek to regulate it or shut it down.

About the Author

Christina Jedra

Christina Jedra is a reporter covering the City and County of Honolulu for Civil Beat. You can reach her by email at

cjedra@civilbeat.org or follow her on Twitter at @christinajedra.

Use the RSS feed to subscribe to Christina Jedra's posts today

Comments

Join the conversation REGISTER SIGN IN

Aloha, Civil Beat readers. We appreciate your thoughtful comments. But in order to make commenting an engaging experience for as many readers as possible, a few rules: Please limit the number of times you comment per story so everyone has a chance to participate without feeling like they are in the middle of an argument between just a few people. Be civil and respectful of others even if you disagree. Language and words are important so please avoid snark and put-downs. Name calling and mocking of people's names is specifically prohibited; so are personal attacks. General nastiness and stereotyping also will be rejected. DO NOT WRITE IN ALL CAPS; that comes across as yelling, don't you think? Stay on the topic of the story, please, and not turn everything into a screed on Trump or Biden. Not every comment may get posted. We may suspend or ban commenters who overstep at our sole discretion.

No links, please.

Be patient. We read every comment but we also need to sleep, spend time with our families and do our other work so there may sometimes be a considerable lag between when you write your comment and when it appears on the story. Weekends and evenings in particular.

Click on "Sign In". Your old account should still work. If you don't already have an account you need to create one (click on "Register").

Need help? Email membership@civilbeat.org.

Post a comment

CERTIFICATE OF SERVICE

I hereby certify that on this date and by the methods of service noted below, a true and correct copy of the foregoing was served on the following:

Hearings Officer
c/o Director of Health
Department of Health
State of Hawai'i
1250 Punchbowl Street, 3rd Floor
Honolulu, Hawai'i 96813

Via Hand Delivery

Kathleen S. Ho
Deputy Director for Environmental Health
Environmental Health Administration
Department of Health
State of Hawai'i
1250 Punchbowl Street, Room 256
Honolulu, Hawai'i 96813

Via Hand Delivery

Solid and Hazardous Waste Branch
Department of Health
State of Hawai'i
2827 Waimano Home Road, #100
Pearl City, Hawai'i 96782

Via U.S. Mail

Wade H. Hargrove III
Deputy Attorney General
Department of the Attorney General, Health Division
State of Hawai'i
465 South King Street, Room 200
Honolulu, Hawaii 96813

Via Hand Delivery

The United States Department of the Navy
c/o Rear Admiral Timothy Kott
Commander Navy Region Hawai'i
850 Ticonderoga Street, Suite 110
JBPHH, Hawai'i 96860-5101

Via U.S. Mail

DATED: Honolulu, Hawai'i, December 13, 2021.

DAVID L. HENKIN
EARTHJUSTICE
Attorneys for Proposed Intervenor
Sierra Club