



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
P.O. BOX 621
HONOLULU, HAWAII 96809

STAFF SUBMITTAL

COMMISSION ON WATER RESOURCE MANAGEMENT

February 15, 2022
Honolulu, O'ahu

SUMMARY OF REQUEST:

Non-Action Item - Status Update from Red Hill Permitted Interaction Group (The Group) on
Scope of Investigation Approved at January 7, 2022 Meeting

Key recommendations for consideration by Water Commission for future action.

- Initiate a Water Commission process to update permit modifications and special conditions for the three NAVFAC Hawai'i Water Use Permits to protect the waters of Hawaii.
- Recommend the permanent decommission of the Red Hill underground fuel tanks as a special condition of the updated water use permits.
- Prepare for an emergency water shortage, in consultation with the Honolulu Board of Water supply, for the Pearl Harbor and Honolulu aquifers for the upcoming dry season.

BACKGROUND:

At its 1/7/2022 meeting, the Water Commission adopted a position that the Commission would "use its full range of authority and capacity to work with all stakeholders to monitor, evaluate, and enforce both short and long-term efforts and actions to eliminate the threat of the current Red Hill Bulk Storage Facility to Oahu's water resource".

The Commission also:

1) Established a Permitted Interaction Group (Advisory Group) of three Commissioners with the scope of identifying specific actions for the broader Commission to take within its jurisdiction at subsequent meetings. The Commission shall delegate authority to each member of the Advisory Group to carry out all actions necessary to accomplish the Advisory Group's scope of work. The Advisory Group's initial scope of work is as follows:

- a) Recommend potential permit modifications and conditions for the NAVFAC Hawai'i Water Use Permits, including but not limited to:

- i) A required implementation schedule, monitoring protocol, and enforcement of the Drinking Water Sampling Plan approved by the Department of Health.
 - ii) Determine the appropriate ground water monitoring model to be used by the Commission to enforce its Water Use Permits issued to the Navy.
 - iii) Recommend ways for the Commission to be fully represented at the decision-making table concerning the future of the Red Hill Fuel Bulk Storage Facility.
 - iv) Suggest how the Commission can assist in public disclosure of the status of the Red Hill Facility, including the progress of Navy actions to defuel its petroleum fuel storage tanks, with attendance by informed Navy officials at future Water Commission meetings.
 - v) Ensure that agreed upon water-quality and ground water sampling is conducted by the Navy, and that all monitoring results and risks are shared quickly and transparently with the Commission, State Department of Health, and the Honolulu Board of Water Supply.
 - vi) Any other issues related to current and future Navy applications for permits and water usage that address potential short and long-term impacts on the Pearl Harbor and Honolulu Aquifer.
- b) Recommend potential permit modifications and conditions for other Water Use Permits, including the Honolulu Board of Water Supply, to immediately deal with the current water crisis and contamination event at Red Hill.
- c) Investigate whether a water shortage exists in the Pearl Harbor aquifer sector area or Honolulu aquifer sector area pursuant to HRS §174C-62, and whether the Pearl Harbor Water Shortage Plan is activated and should be followed.
- d) Review proposed expansion of monitoring network of wells at Red Hill and propose recommendations as appropriate.
- e) Identify financial and in-kind contributions the Navy can provide to the Ko'olau Watershed Partnership that promote Aquifer recharge to offset groundwater system losses due to the presence or risk of contamination from the Red Hill Fuel Bulk Facility.
- f) Identify additional staff positions needed by CWRM to monitor and mitigate impacts of the Red Hill Fuel Bulk Facility and seek commensurate funding from the Navy
- g) Review the legal options the Commission can pursue

Overall approach of the Advisory Group:

Legal Authority: The Commission's legal authority is stated clearly in the Water Code

The Advisory Group, in review of the State Water Code, believes the Commission has unique and robust regulatory powers to protect the waters of Hawai'i. The fuel releases at the Red Hill Bulk Fuel Storage Facility require the Commission to exercise its full authority and fiduciary responsibility to protect O'ahu's most important drinking water source from further contamination.

- The Commission is specifically charged to provide that no substance be discharged into such waters and that the people of Hawai'i have a substantial interest in the prevention, abatement, and control of both new and existing water pollution and in the maintenance of high standards of water quality. (Exhibit 1 — HRS §174C-2 Declaration of policy).
- The Commission is charged to provide coordination, cooperation, or approval necessary to the effectuation of any plan or project of the federal government in connection with or concerning the waters of the State. The commission shall approve or disapprove any federal plans or projects on behalf of the State. (Exhibit 1 – HRS §174C-5 (12) General Powers and Duties).
- The Commission also has jurisdiction statewide to hear any dispute regarding water resource protection, water permits, or constitutionally protected water interests, or where there is insufficient water to meet competing needs for water. The final decision on any matter shall be made by the commission. (Exhibit 1 – HRS §174C-10 Dispute resolution).
- The Commission may declare a water shortage exists within all or part of an area due to insufficient water availability or to protect water resources from serious harm. If an emergency condition arises due to a water shortage within any area, whether within or outside of a water management area, and if the commission finds that the water shortage restrictions are not sufficient to protect the public health, safety, or welfare, or the health of animals, fish, or aquatic life, or a public water supply, or recreational, municipal, agricultural, or other reasonable uses, the commission may issue an emergency order and require appropriate action including but not limited to apportioning, rotating, limiting, or prohibiting the use of the water resources of the area. [Exhibit 1 – §174C-62 Declaration of water shortage)
- The Commission shall retain and continue to have jurisdiction for the purpose of reviewing and modifying every permit as may be necessary in fulfillment of its duties and obligations under this code. (Exhibit 1 – HAR §13-171-22 Review of water use permit)

Findings of Fact: Department of Health investigations have already established damage to environmental and human health from the Red Hill Facility operations and the persistent risk the facility poses

The Department of Health (DOH) Hearings Officer's Report No.21-UST-EA-02 was submitted on 12/27/2021 and accepted by the DOH on January 3. DOH concluded that the Report accurately and completely states the relevant facts. Exhibit 2 is a compilation, with no edits, of the relevant Findings of Facts for Commission review.

These Findings of Fact have stark implications for the health and future use of the State's most important fresh water source. For example:

- *There have been numerous reported releases from the Red Hill Facility over the past 80 years or so: at least 76 incidents involving nearly 200,000 gallons of fuel. More likely than not, these figures understate the true number of releases or the total volume of fuel actually released.*
- *The probability of an acute leak of 1,000 to 30,000 gallons of fuel each year is at least 27%, which is likely an understated percentage. The probability of a sudden release of more than 120,000 gallons of fuel in the next 100 years is at least 34%, which is likely an understated percentage. The expected volume of chronic, undetected fuel releases from the Red Hill Facility is at least 5,803 gallons per year.*
- *The weight of the evidence establishes that the Red Hill Facility, as currently situated, is a metaphorical ticking timebomb located 100 feet above the most important aquifer on Hawaii's most populous island. The Red Hill Facility has already damaged human health and the environment and, as currently situated, inevitably threatens to do so into the future. The Navy lacks the ability to control the substantial risks associated with the Red Hill Facility, as currently situated.*

Precautionary Principle: The Commission can simultaneously acknowledge scientific uncertainty while taking action to protect the public trust

The Advisory Group believes the Water Commission must apply the precautionary principle to managing the aquifer and waters affected by the contaminant release(s) from the Red Hill facility due to the critical importance of this aquifer, not only for drinking water but all protected public trust purposes. The precautionary principle is a legal approach, called for in the Water Code and affirmed in case law (Waiāhole I), to proactively address present and potential environmental degradation in order to protect the public despite current scientific uncertainty; it is especially relevant given the critical importance of the waters of this region to southern O'ahu and Honolulu's urban core.

Advisory Group Investigation and Initial Recommendations
CWRM-Initiated Permit Modification Process

Because there is no process set forth in the Water Code (HRS 174C) or rules (HAR 13-171) for Commission-initiated permit modification, the modification would follow the same process that is set out in the rules for a new permit (HAR 13-171-12 through 13-171-22), requiring public notice and public hearing. A proposed timeline of this process and other recommendations will be shared at a follow-up CWRM meeting.

Water Shortage and Water Emergency

The contamination of the aquifer system area caused the Honolulu Board of Water Supply (HBWS) to shut down three of its water sources in the area (Hālawa Shaft, ‘Aiea Well, and Hālawa Well). This was done as a precaution since it is unknown whether the contamination would affect these wells. These wells have a combined water use permit allocation of 13.7 million gallons per day (MGD) supplying water to the HBWS metro water system. The HBWS has developed an emergency response strategy to address the loss of its three sources. This strategy includes reducing customer demands, increasing use of its other sources, monitoring, and new source development. Increasing HBWS withdrawals may have implications for water use permits and withdrawals approaching aquifer sustainable yields in the Pearl Harbor and Honolulu aquifer sector areas.

The Advisory Group is also exploring the Commission’s water shortage legal authorities for declaring a water shortage in the Pearl Harbor aquifer sector area and the urban Honolulu aquifer sector area in anticipation of the upcoming dry season, in collaboration with the Honolulu Board of Water Supply and other affected stakeholders.

Update on 1a) NAVFAC Hawai‘i Water Use Permit Modifications

In establishing the Advisory Group, the Commission identified its initial scope of work was to “recommend potential permit modifications and conditions for the NAVFAC Hawai‘i Water Use Permits”. The water use permits associated with the Joint Base Pearl Harbor-Hickam public water system affected by the Red Hill release were issued prior to the establishment of the State Water Code and have no standard or special conditions attached to them. The Advisory Group, supported by the Deputy AG, established that the Commission has full authority to modify the Navy water permits.

The three Navy permits in question are:

- 3-2255-032 Aiea-Halawa Shaft, constructed in 1937 (Water Use Permit no. 00086 issued in 1980 for 0.697 mgd);
- 3-2254-001 Red Hill Shaft, constructed in 1943 (Water Use Permit no. 00085 issued in 1980 for 4.659 mgd); and
- 3-2558-010 Waiawa Shaft, constructed in 1951 (Water Use Permit no. 00111 issued in 1980 for 14.977 mgd).

Recommendation 1 and rationale: Permanently decommission the Red Hill underground fuel tanks

Given the responsibility of the Commission to protect water- a public trust resource to benefit the people of Hawai‘i- and the established threat the fuel facility presents to the aquifer below, the Advisory Group unanimously recommends that conditions be added to the Navy water use permits that require permanent decommissioning of the underground fuel tanks with appropriate remedial actions to protect the aquifer.

Contamination of the aquifer has already been demonstrated with the historic and current fuel leaks. A wide range of harmful chemicals released in the fuel spills has been identified from data

released by the Navy in the last month. The AOC parties (Navy, DOH, EPA) do not fully understand the extent of spread within the aquifer of the current jet fuel release, nor the 200,000 gallons of fuel from previous leaks. The potential damage from a much larger leak coming from the 180 million gallons of fuel current stored at the facility is catastrophic, and the probabilities of such events is unacceptably high. The leak detection and response plans were clearly inadequate for preventing the current crisis.

Furthermore, the extent of the spread of these chemicals into the larger aquifer is currently poorly understood due to the complexities of the geology, contaminant chemistry, and sparse monitoring wells. The existing network of monitoring wells is insufficient for fully characterizing the contaminant plume and its movement, particularly lateral, cross-valley subsurface transport, and there is still no agreement on the appropriate ground water modeling to use. As part of a corrective action plan handed down the U.S. Environmental Protection Agency and Hawaii Department of Health after the 2014 fuel spill, the Navy was required to complete a modeling study to determine the directions in which groundwater flows in the vicinity of the tanks. While the Navy argued that the study isn't technically due yet, DOH, HBWS, and subject matter experts from other organizations believe the Navy's models overestimate the protective containment functions of rock and soil above the groundwater and underestimate the threat to other wells, springs, and other stakeholders in the region.

Even after the removal of fuel and permanent decommissioning of the tanks, a lengthy and expensive remedial action appears necessary to attempt to minimize the impact of the fuel release(s) into the aquifer. The Honolulu Board of Water Supply (HBWS) has shut down its pumping in the affected region to avoid drawing contaminants into its own distribution system. HBWS anticipates it may take years before it is comfortable turning on its large pumps at Halawa Shaft and other smaller wells in the Aiea-Halawa area. Their timetable will be dependent on a much more extensive system of monitoring wells, transparent groundwater monitoring process, timely data sharing, and scientifically rigorous modeling of groundwater flows and contaminant fate and transport that does not presently exist. If and when pumps are turned on, they will run at partial capacity at first and if contaminants are present, would involve expensive treatment to remove contaminants to much lower thresholds than DOH-defined emergency action levels.

Locating one of the world's largest industrial oil facility, as it has been described by the Navy in a recent Congressional hearing, in 80-year-old underground tanks 100 feet above O'ahu's most valuable water source makes no sense today, over three decades after the US Environmental Protection Agency issued its first underground storage tank (UST) regulations. In California and Washington, the Navy determined its World War II-era underground tanks should be retired and replaced them with above-ground tanks. "When the Point Loma project in California began, most of the existing above-ground and underground tanks had been in service for more than 70 years and were posing safety and environmental hazards," engineers involved with the replacement wrote in [Military Engineer magazine](#). A \$194 million overhaul began in 2005 and was [finished in 2013](#). The Navy said 54 underground and above-ground storage tanks were replaced with eight tanks, all above ground.

The completed project is now serving as a model for the modernization of another fuel depot at Naval Base Kitsap in Washington, which has its own underground fuel storage system dating back to the beginning of World War II. The site in Manchester, a community abutting Puget Sound, experienced two “significant” fuel spills in 1990 totaling up to 50,000 gallons, according to [a Navy report](#). Why is Red Hill a different story, where extensive leaks of a much larger magnitude have been documented into Hawaii’s single-most important drinking water source?

As noted by the DOH hearing officer’s Decision and Order, Finding of Fact #71: “The Navy obviously does not want the Red Hill Facility to release fuel, and the Navy is trying to prevent releases. But despite everything the Navy is attempting to do, it is not enough: the evidence shows that the Red Hill Facility is simply too old, too poorly designed, too difficult to maintain, too difficult to inspect, along with being too large to realistically prevent future releases. It is not just one problem but a combination of many.”

Other recommendations in progress:

The Advisory Group was assigned to investigate other modifications of the permits in question, proposed by CWRM staff. Updates are provided inline below.

1a-i) A required implementation schedule, monitoring protocol, and enforcement of the Drinking Water Sampling Plan approved by the Department of Health.

- Advisory Group submitted letter to DOH on January 19, 2022, requesting participation in enforcement of DOH order (Exhibit 3), but no response received. (The letter did not speak to the Drinking Water Sampling Plan.)
- Take official notice of:
 - o DoH Hearing Officer Final Decision, Order, Findings of Fact, and Conclusions of Law (accessible at <https://health.hawaii.gov/about/files/2022/01/Final-Decision-Docket-No.-21-UST-EA-02.pdf>)
 - o Drinking Water Sampling Plan (accessible at <https://www.cpf.navy.mil/Portals/52/Joint-Drinking-Water-Sampling-Plan-FINAL.pdf>)
 - o Red Hill Shaft Recovery and Monitoring Plan (RHSRMP, accessible at <https://health.hawaii.gov/about/files/2022/01/Final-Signed-Red-Hill-Shaft-Recovery-and-Monitoring-Plan-20220126.pdf>)
 - o Other relevant DOH plans and policies
- Advisory Group is currently researching stakeholder concerns/ questions on DOH Emergency Action Levels (EALs)

1a-ii) Determine the appropriate ground water monitoring model to be used by the Commission to enforce its Water Use Permits issued to the Navy.

- Advisory Group recommends the Navy’s existing groundwater model must be revised to address comments submitted by DOH, EPA, HBWS, USGS, and other subject matter experts.
- Request progress updates on contaminant fate and transport model and support DOH initiated timelines for this.
- Models must be calibrated and validated in a scientifically rigorous process with opportunity for comment from external peer reviewers.

- Data must be shared with all affected in a timely manner given contaminant plume will likely extend beyond Navy property.
- Commission should continue to apply the precautionary principle in decision-making as the development of these models will take time.

1a-iii) Recommend ways for the Commission to be fully represented at the decision-making table concerning the future of the Red Hill Fuel Bulk Storage Facility.

- Advisory Group submitted letter to DOH requesting participation in enforcement of DOH emergency order to defuel (Exhibit 3) but no response received.
- Modify existing water use permits to require permanent removal of contamination potential (decommissioning)
- CWRM already regulates well permitting so will continue to be engaged in registration of new monitoring wells

1a-iv) Suggest how the Commission can assist in public disclosure of the status of the Red Hill Facility, including the progress of Navy actions to defuel its petroleum fuel storage tanks, with attendance by informed Navy officials at future Water Commission meetings.

- Continue monthly Commission updates on Red Hill with Navy, DOH, with participation from HBWS and other affected stakeholders

1a-v) Ensure that agreed upon water-quality and ground water sampling is conducted by the Navy, and that all monitoring results and risks are shared quickly and transparently with the Commission, State Department of Health, and the Honolulu Board of Water Supply.

- Per Commissioner Seto's comments on 1/7/2022, the Interagency Drinking Water System Team (IDWST) has an Electronic Data Management System to share the results with the involved parties. The Commission could potentially join as a "read" access. However, the IDWST works on consensus, so the entire IDWST must register approval before a dataset can be shared with the general public.
- The Advisory Group has yet to follow up with IDWST on whether additional parties can have read access, and the terms/conditions of participating and accessing the Electronic Data Management System.
- Alternatively, modify permits to require compliance with all DOH requests and sharing of data with specified parties (beyond AOC/IDWST)
- Exercise existing CWRM right to access to wells for investigation and enforcement purposes (HRS §174C- (5))

1a-vi) Any other issues related to current and future Navy applications for permits and water usage that address potential short and long-term impacts on the Pearl Harbor and Honolulu Aquifer.

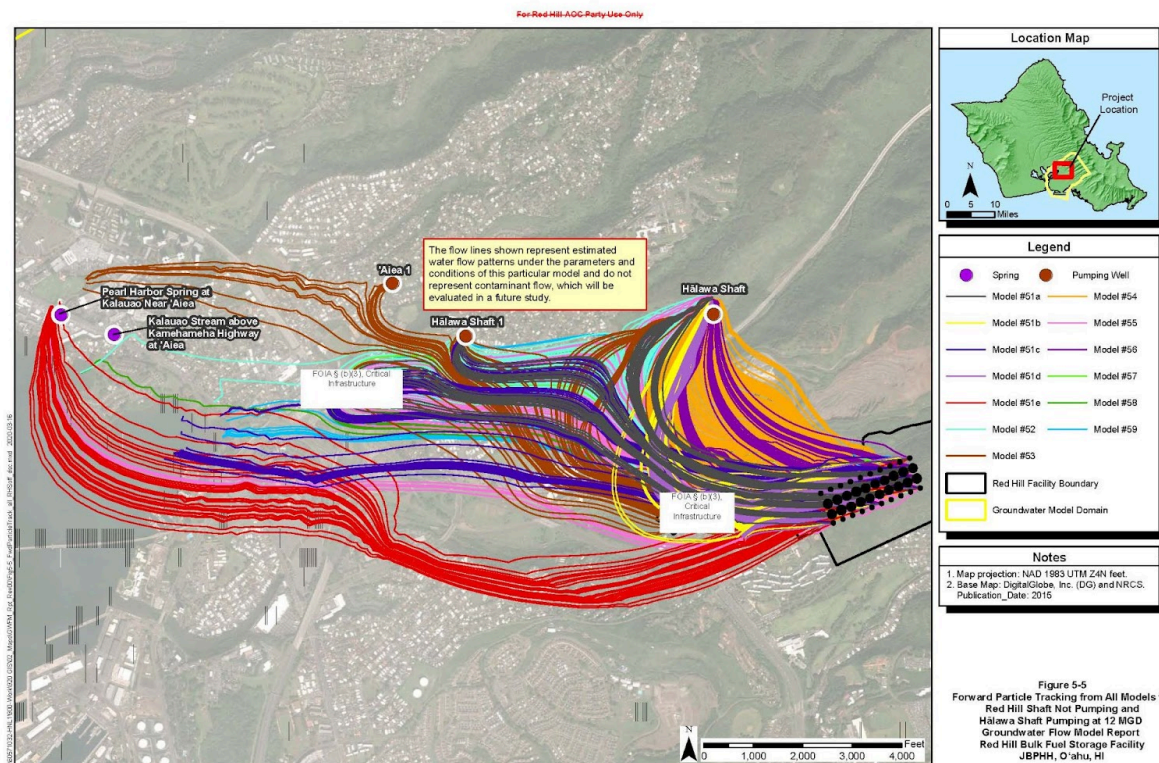
- Requirements for metering and regular water audits,
- Requirements for water reuse and increased efficiency,
- Aquifer remediation extending beyond Red Hill Shaft,
- Expanded monitoring well networks,
- Timely reporting and data sharing,
- Increased public transparency,

- Funding to support watershed management to offset water waste and environmental impact of contamination (addressed in RHSRMP).

The Advisory Group plans to bring these specific permit modifications and conditions to the Commission for their consideration and approval at a following meeting. Proposed implementation schedules and enforcement aspects of potential permit modifications have not yet been developed.

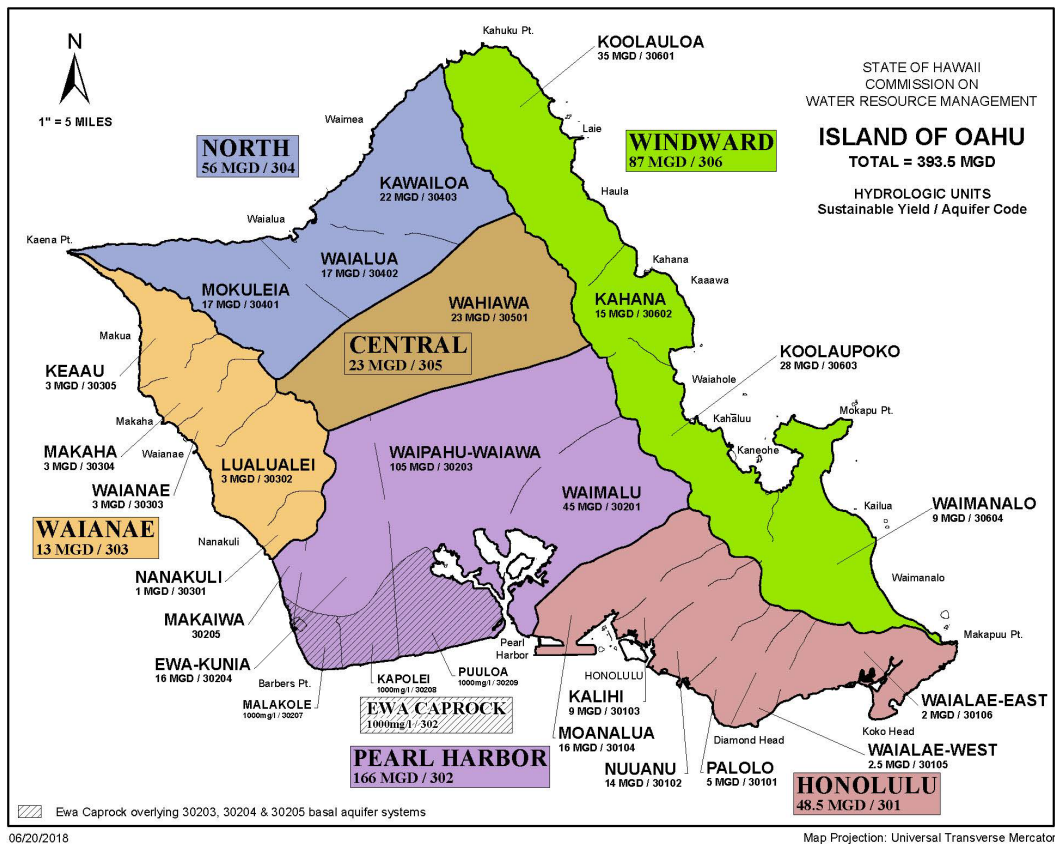
Update on 1b) Modification/conditions of other Water Use Permits including the Honolulu Board of Water Supply to immediately deal with the current water crisis and contamination event at Red Hill.

- Met with HBWS; HBWS suspended pumping of Hālawā shaft and nearby wells due to models indicating flow to these sites and nearby springs when Red Hill shaft is shut off (Figure 1 below: Figure 5-5 from NAVFAC Hawai‘i March 2020 Groundwater Flow Monitoring Report: Forward particle tracking from all models for Red Hill Shaft not pumping and Hālawā Shaft pumping at 12 mgd)

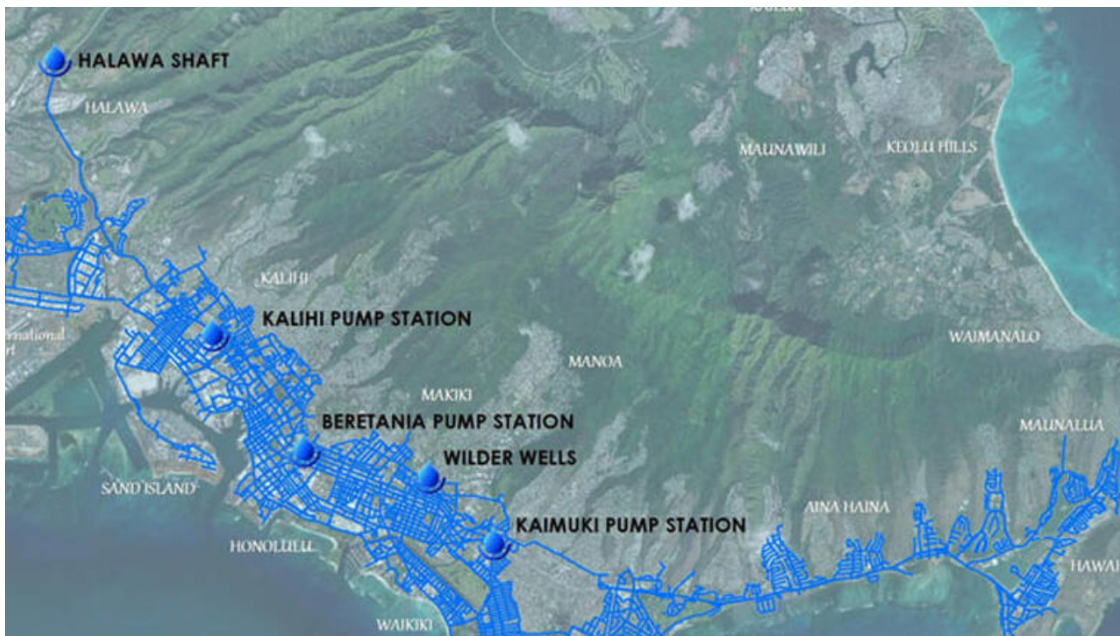


(Figure source: NAVFAC Hawai‘i March 2020 Groundwater Flow Monitoring Report)

- The Commission must take a holistic approach to managing permits and aquifers given
 - 1) subsurface connectivity of groundwater flow across administrative boundaries of aquifer sector areas/hydrologic units (Figure 2: CWRM hydrologic units and sustainable yields) and
 - 2) cross- aquifer sector transfers of pumped groundwater (Figure 3 illustrating HBWS distribution system from Pearl Harbor aquifer sector area to Honolulu).

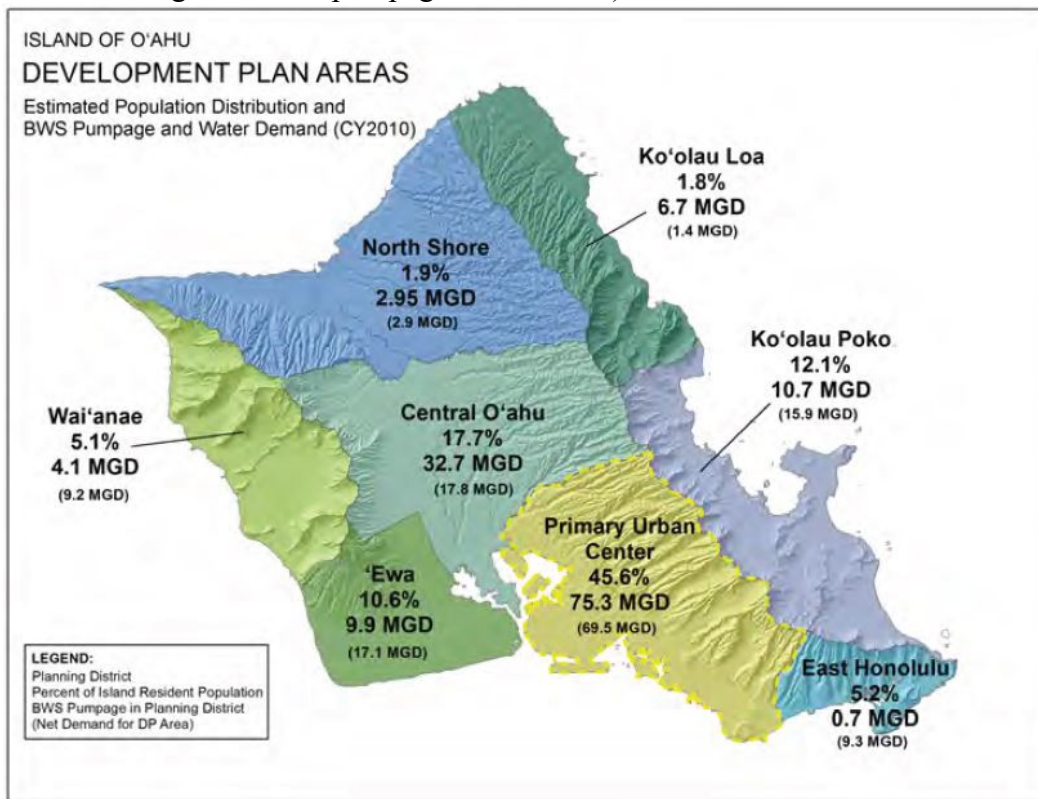


(Figure 2 source: CWRM)



(Figure 3 source: Honolulu Star Advertiser)

- Ongoing dialogue with HBWS is necessary as they will need to reduce demand through restrictions or find alternative sources to support to crucial infrastructure (see Figure 4 for HBWS management unit pumpage and demand)



Source: HBWS Primary Urban Center Watershed Management Plan

- Commission must also consider public trust purposes that are impacted indirectly by the altered Navy and HBWS pumping patterns due to the contamination at Red Hill. In particular, numerous springs support nearshore ecosystems and traditional and customary practices (lo'i kalo, loko i'a) in the Pu'uoloa region.
- The Advisory Group has not yet discussed with HBWS specific requirements or implementation schedules around anticipated permit modifications/ conditions. A meeting of HBWS, CWRM staff, and the Advisory Group is being planned.

Update on 1c) Investigate whether a water shortage exists in the Pearl Harbor aquifer sector area or Honolulu aquifer sector area pursuant to HRS 174C-62, and whether the Pearl Harbor Water Shortage Plan (PHWSP) is activated and should be followed.

Investigation is ongoing. Report back so far:

- Need a holistic approach founded on solid understanding of aquifer processes, contaminant fate and transport, and water demand/usage, less constrained by administrative boundaries
- Given the transfer of potable water from the Pearl Harbor aquifer to serve users in the Honolulu aquifer sector area, shortcomings of the existing PHWSP and lack of a Honolulu water shortage plan, we can expect to experience an island-wide shortage requiring an island-wide approach and interagency, multi-sector coordination.
- Loss of 20% of the potable resource for the Honolulu area is analogous to an immediate drought, even if households are not yet feeling the impact of restrictions
- A water shortage and emergency may need to be declared sooner to initiate water conservation measures in the wet season and allow for time to prepare for dry season (precautionary principle). In addition to considering HBWS withdrawals, the Commission must also consider all other stakeholders, representing both permitted users and public trust purposes, affected by the Red Hill event and the already over-allocated aquifers of Pearl Harbor and Honolulu, especially given climate change projections of declining rainfall and recharge for this region.

Update on 1d) Review proposed expansion of monitoring network of wells at Red Hill and propose recommendations as appropriate.

- The Aquifer Recovery Working Group led by NAVFAC Hawai'i in collaboration with DOH and with input/participation from CWRM staff, USGS, various contractors, and other entities is currently identifying sentinel well sites.
- CWRM will need to approve monitoring well drilling permits; concerns about legacy contamination in this area
- HBWS is not an active participant but is supportive of many monitoring wells to track the plume
- Time (and proper siting) is of the essence
- Note these focus largely on the Red Hill to Halawa shaft movement and drinking water; little to no emphasis at present to assess impacts to spring-dependent systems

Update on 1e) Identify financial and in-kind contributions the Navy can provide to the Ko‘olau Watershed Partnership that promote Aquifer recharge to offset groundwater system losses due to the presence or risk of contamination from the Red Hill Fuel Bulk Facility.

- CWRM deputy and staff helped develop Section 6: Water Resource Impact Offsets within the Red Hill Shaft Recovery and Monitoring Plan (RHSRMP) that requires that within 60 days of the approval of the RHSRMP (1/26/2022), the Navy shall commission a “Pearl Harbor Water Resources Management Plan (PHWRMP).”

The overall goal of the PHWRMP will be to find at least 20 MGD in implementable water balance solutions in the areas of conservation, water reuse, enhanced recharge, source protection, and production capacity expansion. The output of the stakeholder-inclusive process will be an integrated priority list of projects in each area, ranked by factors such as beneficial volumetric, environmental, and community impacts; feasibility; implementation timeline; and cost.

Potential projects and policies to be considered as part of the PHWRMP may include: Conservation, Water Reuse, Enhanced Recharge, Source Protection, and Production Capacity Expansion.

In addition to conducting the study above, the Navy or other Department of Defense entity shall support and complete the following efforts to begin meeting the study goal of producing 20 MGD in implementable water balance solutions.

1. *Restoration and increase of future drinking water from the Red Hill Shaft through funding and implementation of “Drinking Water Creation” projects.*
 2. *Drinking Water Conservation and Efficiency efforts to reduce the stress on the Waiawa drinking water source and improve drinking water sustainability for JBPHH*
- The Commission may consider incorporating these into water use permit conditions.

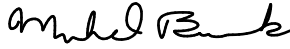
Update on f) Identify additional staff positions needed by CWRM to monitor and mitigate impacts of the Red Hill Fuel Bulk Facility and seek commensurate funding from the Navy

- Advisory group has not yet consulted with CWRM deputy and staff on this matter.

Update on g) Review the legal options the Commission can pursue

- Ongoing

Respectfully submitted,



Michael Buck



Paul Meyer




Aurora Kagawa-Viviani

Ola i ka wai,



M. KALEO MANUEL
Deputy Director

APPROVED FOR SUBMITTAL:



SUZANNE D. CASE
Chairperson

Attachments:

Exhibit 1

Exhibit 2

Exhibit 3

Exhibit 1: STATE WATER CODE (HRS 174C) AND ADMINISTRATIVE RULES (HAR 13-171)

§174C-2 Declaration of policy.

(a) It is recognized that the waters of the State are held for the benefit of the citizens of the State. It is declared that the people of the State are beneficiaries and have a right to have the waters protected for their use.

(d) The state water code shall be liberally interpreted to protect and improve the quality of waters of the State and to provide that no substance be discharged into such waters without first receiving the necessary treatment or other corrective action. The people of Hawaii have a substantial interest in the prevention, abatement, and control of both new and existing water pollution and in the maintenance of high standards of water quality.

§174C-5 General powers and duties. The general administration of the state water code shall rest with the commission on water resource management. In addition to its other powers and duties, the commission:

- (12) Shall provide coordination, cooperation, or approval necessary to the effectuation of any plan or project of the federal government in connection with or concerning the waters of the State. The commission shall approve or disapprove any federal plans or projects on behalf of the State. No other agency or department of the State shall assume the duties delegated to the commission under this paragraph, except that the department of health shall continue to exercise the powers vested in it with respect to water quality, and except that the department of business, economic development, and tourism shall continue to carry out its duties and responsibilities under chapter 205A;

§174C-10] Dispute resolution. The commission shall have jurisdiction statewide to hear any dispute regarding water resource protection, water permits, or constitutionally protected water interests, or where there is insufficient water to meet competing needs for water, whether or not the area involved has been designated as a water management area under this chapter. The final decision on any matter shall be made by the commission.

[§174C-62] Declaration of water shortage.

(a) The commission shall formulate a plan for implementation during periods of water shortage. As a part of the plan, the commission shall adopt a reasonable system of permit classification according to source of water supply, method of extraction or diversion, use of water, or a combination thereof.

(b) The commission, by rule, may declare that a water shortage exists within all or part of an area when insufficient water is available to meet the requirements of the permit system or when conditions are such as to require a temporary reduction in total water use within the area to protect water resources from serious harm. The commission shall publish a set of criteria for determining when a water shortage exists.

(c) In accordance with the plan adopted under subsection(a), the commission may impose such restrictions on one or more classes of permits as may be necessary to protect the water resources of the area from serious harm and to restore them to their previous condition.

(d) A declaration of water shortage and any measures adopted pursuant thereto may be rescinded by rule by the commission.

(e) When a water shortage is declared, the commission shall cause a notice thereof to be published in a prominent place in a newspaper of general circulation throughout the area. The notice shall be published each day for the first week of the shortage and once a week thereafter until the declaration is rescinded. Publication of such notice shall serve as notice to all water users in the area of the condition of water shortage.

(f) The commission shall cause each permittee in the area to be notified by regular mail of any change in the conditions of the permittee's permit, any suspension thereof, or of any other restriction on the use of water for the duration of the water shortage.

(g) If an emergency condition arises due to a water shortage within any area, whether within or outside of a water management area, and if the commission finds that the restrictions imposed under subsection (c) are not sufficient to protect the public health, safety, or welfare, or the health of animals, fish, or aquatic life, or a public water supply, or recreational, municipal, agricultural, or other reasonable uses, the commission may issue orders reciting the existence of such an emergency and requiring that such actions as the commission deems necessary to meet the emergency be taken, including but not limited to apportioning, rotating, limiting, or prohibiting the use of the water resources of the area. Any party to whom an emergency order is directed may challenge such an order but shall immediately comply with the order, pending disposition of the party's challenge. The commission shall give precedence to a hearing on such challenge over all other pending matters.

CHAPTER 167 - RULES OF PRACTICE AND PROCEDURE FOR THE COMMISSION ON WATER RESOURCE MANAGEMENT

§13-171-13 Conditions for a water use permit. (a) To obtain a permit pursuant to this part, the applicant shall establish that the proposed use of water:

- (1) Can be accommodated with the available water source;
- (2) Is a reasonable-beneficial use as defined in section 13-171-2;
- (3) Will not interfere with any existing legal use of water;
- (4) Is consistent with the public interest;

§13-171-22 Review of water use permit. (a) The commission shall retain and continue to have jurisdiction for the purpose of reviewing and modifying every permit as may be necessary in fulfillment of its duties and obligations under this code.

Exhibit 2: HEARINGS OFFICER'S PROPOSED FINDINGS OF FACT

This is compiled with no edits from Docket No.21-UST-EA-02 12/27/2021 (Accessible at <https://health.hawaii.gov/about/files/2022/01/Final-Decision-Docket-No.-21-UST-EA-02.pdf>) On January 3, The Department of Health concluded that the Proposal filed on December 27, 2021 accurately and completely states the relevant facts and adopts it as the final decision, order, and findings of fact.

Findings of Fact (FoF):

- The Red Hill Facility sits directly above O‘ahu’s federally designated sole source groundwater aquifer, which is irreplaceable and the principal source of drinking water for the island. (FoF #16-19)
- Seventy-seven percent of the total island-wide water supply comes from the aquifer. The BWS draws on the same aquifer that underlies the Red Hill Facility to supply drinking water to residents from Moanalua to Hawai‘i Kai. There is no demonstrated available alternative future source capable of supplying the area’s drinking water needs. (#20-22)
- There have been numerous reported releases from the Red Hill Facility over the past 80 years or so: at least 76 incidents involving nearly 200,000 gallons of fuel. More likely than not, these figures understate the true number of releases or the total volume of fuel actually released. Fuel releases have been a constant threat since the Red Hill Facility became operational during the 1940s and have continued to occur.(#25-26)
- Historical releases have adversely impacted the environment as is evidenced by detection of fuel and fuel constituents in the Navy’s drinking water supply, the groundwater under the Red Hill Facility, and the soil vapor monitoring probes in the rocks beneath the facility. (#30)
- The Navy does not know the exact long-term consequences of the November 2021 Release to humans or the environment. (#57)
- Continued operation of the Red Hill Facility, as it is currently configured and operated, poses an imminent threat to human health and safety or the environment (#59)
- The facts established by David M. Norfleet’s expert report and testimony and borne out by the other evidence presented are:
 - a. More releases of fuel from the Red Hill facility are basically inevitable.
 - b. The Red Hill USTs have a history of leaking and will continue to leak.
 - c. The probability of an acute leak of 1,000 to 30,000 gallons of fuel each year is at least 27%, which is likely an understated percentage

- d. The probability of a sudden release of more than 120,000 gallons of fuel in the next 100 years is at least 34%, which is likely an understated percentage.
- e. The expected volume of chronic, undetected fuel releases from the Red Hill Facility is at least 5,803 gallons per year.
- f. The Navy cannot prevent future releases at the Red Hill Facility.
- g. Breaches will continue to occur at the Red Hill Facility.
- h. The Red Hill Facility is nearing the end of its life and has reached the “end-of-life” phase. (#61-62)
- Among the additional facts established by Mr. Norfleet and the record evidence are:
 - a. The 76 reported fuel releases are more likely than not only a portion of the true number of releases.
 - b. The size and scope of the Red Hill USTs are unprecedented in the oil and gas industry.
 - c. The Red Hill USTs have a serious corrosion problem that the Navy will be unable to address over time.
 - d. Leaked fuel can reach the environment at large and cause harm
 - e. Some USTs have gone too long without inspection
 - f. The combination of the manual nature of inspections, the dependence on the ability/competence of individual inspectors, the presence of an internal coating on the steel liner, the difficult working conditions, and the sheer size of the facility are detrimental to adequate, consistent, and reliable inspections and inspection results, which are required to prevent releases from the USTs. (#64)
- The history of releases, notwithstanding the Navy’s best efforts to prevent them, is damning. The November 2021 Release is in a way unique like all releases are in their way unique. But taking a larger view, the November 2021 Release is simply another datapoint along the Red Hill Facility’s track record establishing that the problems with the Red Hill Facility, as it is currently situated, are beyond the Navy’s ability to control. (#65-66)
- The Navy obviously does not want the Red Hill Facility to release fuel, and the Navy is trying to prevent releases. But despite everything the Navy is attempting to do, it is not enough: the evidence shows that the Red Hill Facility is simply too old, too poorly designed, too difficult to maintain, too difficult to inspect, along with being too large to realistically prevent future releases. It is not just one problem but a combination of many. In sum, the situation is beyond the Navy’s ability to adequately mitigate the threats posed

by the continued operation of the Red Hill Facility, with USTs filled with fuel, at this time. (#71-72)

- The threat of future releases poses an imminent peril to human health and safety or the environment at large. Not only does the year-to-year probability of a significant release make a future release basically inevitable, the contamination of the Red Hill Shaft and its effect on O‘ahu residents in just the past month is incontrovertible evidence of the peril. It could be much worse. An unprecedentedly large UST system 100 feet containing a massive volume of fuel located directly above a major aquifer is dangerous. (#74-76)
- The weight of the evidence establishes that the Red Hill Facility, as currently situated, is a metaphorical ticking timebomb located 100 feet above the most important aquifer on Hawaii’s most populous island. The Red Hill Facility has already damaged human health and the environment and, as currently situated, inevitably threatens to do so into the future. The Navy lacks the ability to control the substantial risks associated with the Red Hill Facility, as currently situated. (#105)
- The State of Hawai‘i, DOH, BWS, and the public at large all have a strong interest in ensuring that the threats posed by the Red Hill Facility do not come to pass. They have a strong interest in being protected in accordance with the directives of the DOH in the Emergency Order, which were legally authorized and appropriate. That the Red Hill Facility, as currently constituted, poses an imminent peril to human health and safety or the environment is a fact established by a preponderance of the evidence. (#106)

Exhibit 3: CWRM PIG LETTER TO DOH RE: EMERGENCY ORDER (01/19/2022)

January 19, 2022

TO: Director Elizabeth A.
Char, M.D. Department
of Health

FROM: Michael G. Buck
Aurora Kagawa-
Viviani, Ph.D. Paul J.
Meyer
Permitted Interaction Group (P.I.G.)
Commission on Water Resource
Management

SUBJECT: Approval Process of Department of Health's Emergency Order to
the U.S. Department of the Navy

We are requesting your consent for the Commission on Water Resource Management (Commission) to be an active participant in your review process outlined in the Emergency Order (EO).

We understand that the U.S. Department of the Navy (Navy) has agreed, as per the EO, to

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.

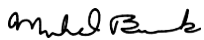
These actions are necessary and designed to reduce or stop the peril caused by continuing operations at the Red Hill Facility as currently configured and operated.

At its January 7, 2022, meeting, the Commission adopted a position that the Commission would, *"use its full range of authority and capacity to work with all stakeholders to monitor, evaluate, and enforce both short and long-term efforts and actions to eliminate the threat of the current Red Hill Bulk Fuel Storage Facility to O'ahu's water resource."* It also initiated a process to determine potential modifications to the Navy's water permits, which were established before the enactment of the Water Code and currently have no special conditions.

The Red Hill Bulk Fuel Storage Facility has been a looming threat for many years, despite consistent concerns expressed by Hawai'i's citizens, various organizations, State agencies and this Commission. These concerns are now a reality resulting in harm to the aquifer and citizens. In light of this, we offer not only our shared concerns as trustees of Hawai'i's water resources, but also offer areas of expertise (e.g. monitoring wells, groundwater models, public transparency, water shortage planning, data sharing), and fiduciary responsibilities that could assist and strengthen the DOH evaluation process for the Navy work plan and implementation schedule. In particular, the contamination of the Red Hill Shaft and Hālawā aquifer has reduced the present availability of (clean) water for the Honolulu region and created substantial public anxiety. This in turn affects how we regulate groundwater withdrawals across the southern Ko'olau for the foreseeable future. We view our involvement in the review process as fulfilling the duties under the Water Code (HRS §174C).

We look forward to your agreement to work together and our active participation in the review process and coordinating logistics with our respective staff.

Ola i ka wai,



MICHAEL G. BUCK
Commissioner



AURORA KAGAWA-VIVIANI, PH.D.
Commissioner



PAUL J. MEYER
Commissioner

Cc: Chairperson Suzanne D. Case
Deputy M. Kaleo Manuel
Deputy Kathleen S. Ho