

**BOARD OF WATER SUPPLY
KA 'OIHANA WAI
CITY AND COUNTY OF HONOLULU**

630 SOUTH BERETANIA STREET • HONOLULU, HAWAII 96843
Phone: (808) 748-5000 • www.boardofwatersupply.com

RICK BLANGIARDI
MAYOR
MEJA

ERNEST Y. W. LAU, P.E.
MANAGER AND CHIEF ENGINEER
MANAKIA A ME KAHU WILIKI

ERWIN KAWATA
DEPUTY MANAGER
HOPE MANAKIA



NĀ'ĀLEHU ANTHONY, Chair
JONATHAN KANESHIRO, Vice Chair
BRYAN P. ANDAYA
LANCE WILHELM
EDWIN H. SNIFFEN, Ex-Officio
GENE C. ALBANO, P.E., Ex-Officio

December 10, 2024

NOTICE

The Board of Water Supply, City and County of Honolulu, Regular Meeting will be held on Monday, December 16, 2024, at 2:00 p.m. in the Boardroom, Public Service Building, 630 South Beretania Street, Honolulu, HI 96843.

Limited seating will be available for in-person testifiers in the Boardroom. The public may also view the livestream of the meeting from the lobby of the Board of Water Supply, Public Service Building, 630 South Beretania Street, Honolulu, HI 96843.

Public parking for this meeting is available in the Public Service Building customer parking lot.

TESTIMONY

Testimony may be submitted as follows:

- **Written testimony** should include the submitter's address, email address, and phone number. Testimony should be received by Monday, December 16, 2024, at noon. Submit written testimony by:
 - Email to board@hbws.org
 - Online at boardofwatersupply.com/testimony
 - Mail to Board of Water Supply, 630 South Beretania Street, Honolulu, HI 96843
 - Fax to (808) 748-5079
- **Oral testimony** will be accepted remotely and in person during the meeting. Pre-registration is encouraged to facilitate as much remote and in-person testimony as reasonably possible during the time allotted. Testifiers should also consider submitting a written version of their oral testimony.
 - To testify remotely by phone or video using the Zoom videoconferencing platform, please submit your request by:
 - Email to board@hbws.org
 - Online at boardofwatersupply.com/testimonyZoom registration instructions, as well as participant guidelines, will be sent to the contact information provided. Once confirmed as registered, testifiers will receive an email containing the links and instructions to join the Zoom session. Submit your request to testify remotely by Friday, December 13, 2024, at noon.
 - To testify in person at the Board of Water Supply, Public Service Building, 630 South Beretania Street, Honolulu, HI 96843, please pre-register by submitting your request by Monday, December 16, 2024:
 - Email to board@hbws.org
 - Online at boardofwatersupply.com/testimony

In-person testifiers should check in with building security and then with testimony staff located in the lobby. Testifiers will be escorted to and from the Board Room. On-site registration will be available for walk-in requests.

Testimony is limited to two (2) minutes and shall be presented by the registered speaker only. Testimony submitted in writing or orally, electronically or in person, for use in the meeting process is public information. All testimony will be included as part of the approved meeting minutes at boardofwatersupply.com/boardmeetings.

MATERIALS AVAILABLE FOR INSPECTION

Meeting materials ("board packet" under HRS §92-7.5) are accessible at www.boardofwatersupply.com/boardmeetings.

VIEWING THE MEETING

The meeting will be viewable via live streaming on the BWS website: www.boardofwatersupply.com/live. Video will appear on screen. You may have to click the arrow on video to start it. You may have to unmute audio, as muted audio tends to be the default setting.

SPECIAL REQUESTS AND ACCOMMODATIONS

If you require special assistance, an auxiliary aid or service, and/or an accommodation due to a disability to participate in this meeting (i.e., sign language interpreter, interpreter for language other than English, or wheelchair accessibility), please call Joy at (808) 748-5172 or email your request to board@hbws.org **at least three business days prior to the meeting date**. If a response is received after the requested three business days before the meeting date deadline, we will try to obtain the auxiliary aid/service or accommodation, but we cannot guarantee that the request will be filled.

Upon request, this notice is available in alternate formats such as large print, Braille, or electronic copy.

The agenda for December 16, 2024, Regular Meeting of the Board of Water Supply is as follows:

ITEMS REQUIRING BOARD ACTION

1. Approval of the Minutes of the Regular Meeting Held on November 25, 2024

ITEMS FOR INFORMATION

1. Update on the Board of Water Supply's Response to the Potential Impacts of the Red Hill Fuel Contamination
2. Status Update of Groundwater Levels at All Index Stations
3. Water Main Repair Report for November 2024

EXECUTIVE SESSION

1. Approval of the Minutes of the Executive Session Meeting Held on September 23, 2024
2. To Consult with the Board's Attorney on Questions and Issues Pertaining To the Board of Water Supply's Proposed Settlement of Claim #24-007G, Relating to Property Damages at 94-1091 Nali'i Street, Waipahu, Hawai'i Following an 8" Polyvinyl Chloride (PVC) Main Break at 94-1091 Nali'i Street, Waipahu, Hawai'i on September 22, 2023 [HRS §92-5(a)(4)]

MINUTES

To watch the recording of this meeting, please click on the following link:
<https://vimeo.com/bwshonolulu/dec-16-2024>. Closed captioning is available.

THE REGULAR MEETING OF THE BOARD OF WATER SUPPLY

December 16, 2024

At 2:00 PM on December 16, 2024, in the Public Service Building Board Room at 630 South Beretania Street, Honolulu, Hawai'i, Board Chair Nā'ālehu Anthony called to order the Regular Meeting.

Present: Nā'ālehu Anthony, Chair
Jonathan Kaneshiro, Vice Chair
Bryan P. Andaya, Board Member via Zoom
Lance Wilhelm, Board Member
Kēhaulani Pu'u, Board Member via Zoom
Gene C. Albano, Ex-Officio via Zoom

Also Present: Ernest Lau, Manager and Chief Engineer
Erwin Kawata, Deputy Manager
Patrick Chun, Acting Program Administrator,
Capital Projects Division
Jennifer Elflein, Program Administrator,
Customer Care Division via Vimeo
Raelynn Nakabayashi, Executive Assistant I,
Executive Support Office
Wayne Tello, Acting Program Administrator,
Field Operations Division
Kaliko Lum Kee, Acting Waterworks Controller,
Finance Division
Michele Thomas, Executive Assistant I,
Human Resources Office via Vimeo
Henderson Nuuhiwa, Program Administrator,
Information Technology Division
Michael Matsuo, Land Administrator, Land Division
Roland Fenstermacher,
Acting Program Administrator, Water
Quality Division
Barry Usagawa, Program Administrator,
Water Resources Division
Kevin Ihu, Program Administrator,
Water System Operations Division
Joyce Lin, Civil Engineer IV, Office of the Manager
and Chief Engineer
Kimberly Kuwaye, Manager Secretary
Joy Cruz-Achiu, Board Secretary

Kathy Mitchell, Administrative Services Officer
via Vimeo

Stella Bernardo, Information Specialist II,
Communications Office via Zoom

Michele Harman, Community Relations Specialist I,
Communications Office via Zoom

Wayne Maria, Information Specialist II,
Communications Office

Others Present: Jeff Lau, Deputy Corporation Counsel
via Zoom
Jessica Wong, Deputy Corporation Counsel
via Zoom

Absent: Edwin H. Sniffen, Ex-Officio

Chair Nā'ālehu Anthony opened the Board meeting with an 'olelo no'eau:

Aloha mai kākou e nā hoa makamaka mai ka lā hiki a ka lā kau. Welina nui me ke aloha!

Mahalo nui no kēia 'ākoakoa 'ana o kākou no ka pono o ka lāhui, no ka pono o ka 'āina, a no ka pono o ka wai nō ho'i. Eia he 'ōlelo no'eau e kālele ana i ke ko'iko'i o ka wai.

Chair Anthony translated the 'olelo no'eau: Aloha from the rising to the setting sun
Thank you all for coming together today for the people, the land and the water. Here is a short Hawaiian Proverb that helps us remember the importance of fresh water and land.

'Ōlelo 1889: **Ku ka lau lama.**

Chair Anthony translated 'ōlelo 1889: There are many lighted bonfires, a signal of joy.

Chair Anthony welcomed everyone to the December 16, 2024, Regular Meeting of the Board of Water Supply (BWS). He stated that the Board of Water Supply is dedicated to providing safe, dependable, and affordable supply of water now and into the future.

Before continuing the meeting, Chair Anthony stated that a recording would play to share reminders for public participation and virtual meeting regulations required by law.

The recording played: Goals for this meeting under Hawai'i Revised Statutes, Section 92-7.5 are accessible at www.boardofwatersupply.com/boardmeeting. The public may attend this meeting in person at the Public Service building located at 630 South Beretania Street. The public may also view a live stream of today's meeting on our website at www.boardofwatersupply.com/live. We have been accepting written or oral testimony for today's meeting. Instructions and an online submittal form are available at boardofwatersupply.com/testimony. The deadline to submit advance written testimony has passed. Testimony received by noon today has been distributed to the board members. We will continue to accept written testimony today through our online form. Oral testimony in person or remotely will be accepted during today's meeting. To facilitate as much in-person and remote testimony as reasonably possible during the time allotted, preregistration and submittal of a written version of testimony at boardofwatersupply.com/testimony is strongly encouraged. To testify in person, please register using our online form or come to the public service building at 630 South Beretania Street. We have a representative in the lobby to provide intake and further instructions. To request to testify remotely, please complete the online form at boardofwatersupply.com/testimony. Requestors will receive an email containing links and instructions to join the Zoom session. Testifiers will have two minutes to state their position. A timekeeper will alert testifiers when there is one minute remaining. Once the two minutes are up, please summarize to allow time for questions from the Board. Then, make room for the next testifier. Board members attending any board meeting remotely must be visible to the public to be considered, present, and meet quorum guidelines. Board members participating remotely must also disclose their location and anyone present at their location during roll call. Meeting participants who are calling or video conferencing in, please mute your microphone when you're not speaking. If you have a question, comment, or wish to enter or second a motion on an action item, please unmute your microphone and identify yourself before continuing to speak. If you encounter technical issues during today's meeting, please use the Zoom chat to send a direct message to our support team. Their names are listed in the message to all participants. To open the chat window, please click the text Bubble icon on the Zoom Toolbar.

Chair Anthony requested a roll call for the Regular Meeting. He asked those participating remotely to give the appropriate disclosures up responding.

Board Member Bryan Andaya joined via Zoom, responded Aloha, and disclosed that he was alone at his location; and Board Member Gene Albano responded Aloha and and disclosed that he was alone at his location. Vice Chair Jonathan Kaneshiro responded here and was present in the Board room; Chair Anthony was in the Boardroom. Board Member Edwin Sniffen was absent.

Chair Anthony introduced those in the Boardroom, Manager Ernest Lau, Deputy Manager Erwin Kawata, Board Secretary Joy L. Cruz-Achiu, Manager Secretary Kimberly Kuwaye, and Information Specialist II Steven Norstrom and Wayne Maria. Deputy Jeff Lau and Deputy Jessica Wong joined via Zoom from the City and County Corporation Counsel.

REGULAR MEETING

APPROVAL OF MINUTES

Approval of the Minutes of the Regular Meeting Held on November 25, 2024.

MOTION TO APPROVE

Lance Wilhelm and Gene Albano motioned and seconded, respectively, to approve the Minutes of the Regular Meeting Held on November 25, 2024.

At 2:06 PM, Chair Anthony recognized Board Member Kēhaulani Pu'u, who joined the meeting via Zoom.

Board Member Pu'u stated that she was alone in her office.

Ms. Cruz-Achui conducted a roll call vote: Vice Chair Jonathan Kaneshiro, abstain; Board Member Bryan Andaya, aye; Board Member Lance Wilhelm, aye; Board Member Kēhaulani Pu'u, abstain; Board Member Gene Albano, aye; and Chair Nā'ālehu Anthony, aye. Ms. Cruz-Achui announced that the motion passed with four ayes and two abstentions. Board Member Edwin Sniffen was absent.

THE MINUTES OF THE REGULAR MEETING HELD ON NOVEMBER 25, 2024, WERE APPROVED AT THE DECEMBER 16, 2024, BOARD MEETING			
	AYE	NO	COMMENT
NĀ'ĀLEHU ANTHONY	X		
JONATHAN KANESHIRO			ABSTAIN
BRYAN P. ANDAYA	X		
LANCE WILHELM	X		
KĒHAULANI PU'U			ABSTAIN
EDWIN H. SNIFFEN			ABSENT
GENE C. ALBANO	X		

ITEM FOR INFORMATION NO. 1

"December 16, 2024

UPDATE ON
THE BOARD OF
WATER SUPPLY'S
RESPONSE TO
THE POTENTIAL
IMPACTS OF
RED HILL FUEL
CONTAMINATION

Chair and Members
Board of Water Supply
City and County of Honolulu
Honolulu, Hawai'i 96843

Chair and Members:

Subject: Update on the Board of Water Supply's Response to the
Potential Impacts of the Red Hill Fuel Contamination

Joyce Lin, Civil Engineer IV, Office of the Manager and Chief Engineer,
will give an Update on the Board of Water Supply's Response to the
Potential Impacts of the Red Hill Fuel Contamination.

Respectfully Submitted,

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

Attachment"

The foregoing was for information only.

DISCUSSION: Joyce Lin, Civil Engineer IV, Office of the Manager and Chief Engineer,
gave the report.

Board Member Bryan Andaya inquired about the December 10, 2024,
Special Meeting that the BWS was working to host, which would include
the Navy's Swarm team, the Department of Health (DOH), and the
Environmental Protection Agency (EPA).

Manager Ernest Lau shared that the Navy invited the BWS and it's Board
Members to the Swarm meeting via email. However, the Sunshine Law
forbids two or more Board Members to meet if the meeting is not properly
noticed or made public. He responded to the Navy's email and informed
them that if they intend to have all BWS Board Members attend the
meeting, the meeting would need to be held at the BWS Board room,
must be open to the public, and a Notice and Agenday would need to be
posted to the City Clerk's website. The Navy agreed. However, days
before the BWS was to post the Notice and Agenda, the Navy decided
that the meeting was not intended for the public to engage but amongst
the Navy, BWS, DOH, and EPA.

Manager Lau also shared that the Swarm meeting was held at the Navy's
facility from 9 AM to 11:30 AM. The Navy shared a PowerPoint filled with
information not included in the original Swarm Technical Memorandum,
which the BWS experts reviewed and commented on. The BWS
requested copies of the information presented.

Chair Anthony commented that the technical nature of the situation continues to escalate due to the specificity of the information being measured. The challenges of understanding what is happening with our water resources and the environment will continue to persist due to the lack of willingness to share crucial information from the beginning to the present.

Manager Lau shared that at the December 10th Swarm meeting, the Navy stated that the 8,000 petroleum hydrocarbon tests performed as part of the long-term monitoring plan are valid. However, the information available to the BWS and the public is limited, which makes it challenging to understand what may be happening to the water and the environment. The Navy states that the BWS is sharing misinformation; however, the BWS is speaking only on the information made available to them and the public without agreeing to sign a nondisclosure agreement. Manager Lau said he will continue to resist signing a nondisclosure agreement because the issue is important and affects the community. Therefore, the Navy should be transparent.

Chair Anthony shared that an admiral from Washington, D.C., told him on two different occasions, once with Congressional Staff in the room, that the 8,000 tests would be cast out.

Manager Lau asked Chair Anthony if the Chief of Naval Operations told him the 8,000 tests would be discarded.

Chair Anthony stated that the Chief of Naval Operations said it to him twice, in two different instances.

Manager Lau commented that it is a constant challenge when what is said is changed, and crucial information is withheld. He requests that the Navy be completely transparent.

Board Member Andaya agreed that transparency is important. He commented that being able to view all Swarm meetings would be helpful.

Manager Lau commented that opening the Swarm meeting to the public is a step toward being more transparent.

Board Member Andaya stated that although the special meeting didn't occur, he appreciated the invitation.

Manager Lau responded that there is a list of Swarm and Red Hill Community Representation Initiative (CRI) meetings in the upcoming months. He suggested that the Board Secretary and Members coordinate on which meetings are of interest to each to ensure that the Sunshine Law is not violated. Manager Lau shared that a Restoration Advisory Board meeting for Pearl Harbor Joint Base Pearl Harbor-Hickam (JBPHH) and Kalaeloa will be held in April 2025. The discussion will be about the whole base as a Superfund Site, including the Red Hill Bulk

Fuel Storage Facility, and investigating and remediating the contamination in Kalaeloa, the former Barbers Point Naval Air Station. Other Restoration Advisory Boards will be created for the Leeward Coast and Central Oahu. These advisory boards help put our community and Aina's challenges into perspective.

Ms. Joyce Lin shared that the Navy Closure Task Force meeting recordings are available on the BWS website and YouTube.

Manager Lau added to Ms. Lin's update. He mentioned that the Navy submitted a request to the DOH, Safe Drinking Water Branch, an application for authorization to activate their Aiea Halawa Shaft water treatment system to begin supplying treated water to JBPHH.

Chair Anthony commented that the Navy seems to have more information than the BWS. The Navy is installing a 12-tank granulated activated carbon system to prevent per- and polyfluoroalkyl substances (PFAS) into its system. What changes or precautionary steps is the BWS taking with its PFAS testing regimen?

Manager Lau shared that in mid-2024, the Navy and the EPA performed joint sampling and detected PFAS chemicals in their samples; some were above the maximum contaminant level (MCL) for drinking water. The EPA has since adopted a new MCL of four parts per trillion.

Manager Lau stated he wasn't sure what level the Navy detected in their samples. Therefore, the BWS is looking into a GAC treatment system for Ka'amilo Wells as a precautionary measure should the contamination continue to migrate; since PFAS was detected at the Ka'amilo Wells, polyaromatic hydrocarbon (PAH) was detected at Aiea Wells, and PAH detected at the Navy's Monitor 24, which is located near the BWS Aiea Halawa Shaft. He mentioned that at a Red Hill open house, he asked a Navy officer what their Halawa System was being treated for and was told total petroleum hydrocarbon (TPH) and PFAS. However, in their press release, PFAS was the focus.

There was written testimony:

Meredith Wilson	<i>Provided written testimony.</i>
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Manager Lau pointed out that Ms. Meredith Wilson's testimony referenced the 2025 National Defense Authorization Act (NDAA). The NDAA authorizes where funding will be directed and not its budget. The authorization is for over half a billion (B) dollars and has been approved by the House and sent to the Senate, then the President for signature. The BWS found that \$75 M is for the construction of the water treatment system at Red Hill shaft.

Chair Anthony mentioned that the Navy would share the design specification of its water treatment system with the BWS. However, the BWS has not heard or received anything.



DECEMBER 2024 RED HILL UPDATES

December 16, 2024
boardofwatersupply.com

RECENT EVENTS

12/10

BWS- Navy SWARM Team Meeting

12/11

Pearl Harbor-Hickam Restoration Advisory Meeting

12/12

Community Representation Initiative Meeting #15



BWS-NAVY SWARM TEAM MEETING

The Navy SWARM maintained their stance that their now 9,500 water samples are valid despite lines of questioning from BWS technical experts regarding testing methods.

Navy SWARM team representative recognized that certain information, such as the laboratory surrogate studies, were not included in the final SWARM report, resulting in miscommunication.





Navy Closure Task Force-Red Hill
Joint Base Pearl Harbor-Hickam

MEDIA RELEASE

Point of Contact:
NCTF-RH Public Affairs
NCTF_PA@us.navy.mil
(808) 590-7690

Dec 5, 2024

Navy Closure Task Force – Red Hill November Operational Update

JOINT BASE PEARL HARBOR-HICKAM, Hawaii - Navy Closure Task Force - Red Hill (NCTF-RH) continued safe and deliberate closure efforts throughout November that included submitting a plan for the reactivation of the Navy Aiea-Halawa Shaft, initiating the pipeline removal process, hosting an open house, and conducting environmental assessment and remediation activities.

Navy Proposed Plan for Reactivation of the Navy Aiea-Halawa Shaft (NAHS): To increase water security for Joint Base Pearl Harbor Hickam (JBPHH) and the surrounding community, the Navy submitted a reactivation plan for the NAHS to the Hawaii State Department of Health (DOH) to add a second shaft to the Navy's drinking water system which currently relies solely upon the Waiawa Shaft. A key part of the plan is the installation of a granular activated carbon (GAC) filtration system prior to connecting NAHS to the water distribution system, to preemptively address any potential per- and polyfluoroalkyl substances (PFAS). The addition of the NAHS as a second water source will enhance water resiliency at JBPHH and is part of the Navy's continued commitment to providing the community with safe drinking water.

Pipeline Removal Process: The Navy submitted a Red Hill Bulk Fuel Storage Facility (RHBFSF) pipeline removal work plan to the Environmental Protection Agency (EPA) and DOH at the end of October. The plan outlines the process and procedures to safely and deliberately remove more than 10 miles of pipeline at the RHBFSF. The Navy began the months-long process of pre-staging equipment and installing required utilities and infrastructure to support the removal process in November and anticipates starting pipeline removal in spring 2025. The removed 1940s era steel-piping will be shipped to the continental United States for recycling.

Groundwater Flow Model: The Navy released the Groundwater Flow Model (GWFM) report onto the JBPHH Safe Waters website. The GWFM incorporates a model that

UPDATES FROM NCTF-RED HILL

1. Reactivation of the Navy Aiea-Halawa Shaft

- Installation of a granular activated carbon (GAC) filtration system “to preemptively address any potential per- and polyfluoroalkyl substances (PFAS).”

2. Tank ventilation and cleaning ongoing.

3. Preparation underway in pipeline removal process.





Source: Google Street View of Halawa Heights Drive from June 2011

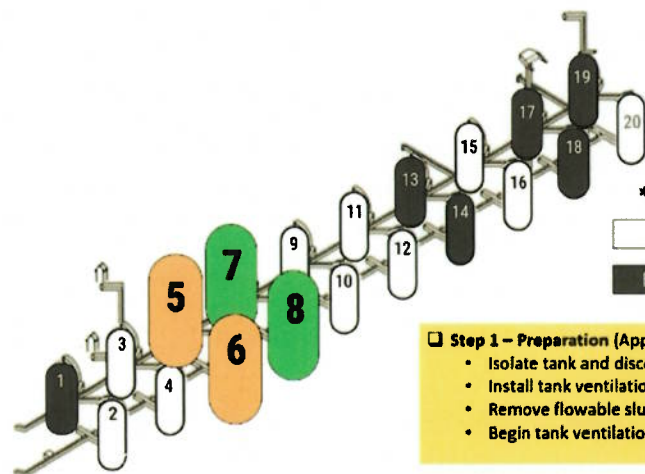


Source: Photo taken by BWS staff from Halawa Heights Drive on October 4, 2024



Tank Cleaning Update

SAFE.DELIBERATE.ENGAGED.COMMITTED.



***As of November 6, 2024**

White tanks awaiting cleaning

Black tanks empty at start of defueling

- Step 1 – Preparation (Approx. 2-3 months):
 - Isolate tank and disconnect piping
 - Install tank ventilation equipment and inject water to soften sludge
 - Remove flowable sludge
 - Begin tank ventilation with forced air

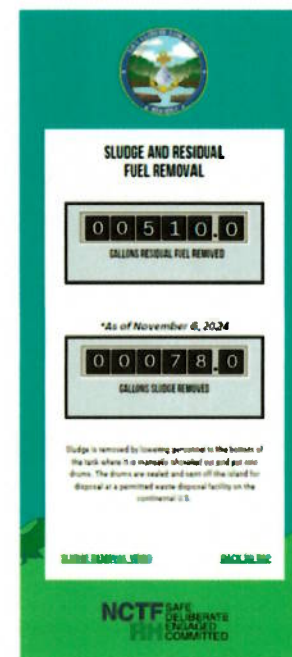
- Step 2 – Remove Solid Sludge (Approx. 2-3 months):
 - Inspect and repair central tower and catwalk
 - Install center tower elevator; load test tower and catwalk
 - Remove solid sludge

- Step 3 – Pressure Washing (Approx. 1-2 months):
 - Set up pressure washing system and
 - Pressure wash with 3% Simple Green
 - Rinse, continuously removing rinsate
 - Dry tank interior and validate cleanliness; submit cleaning report
 - Receive regulatory agency final approval that tank is clean

- Step 4 – Tank Decommission (Approx. 1-2 Months):
 - Remove booms and infrastructure
 - Install permanent lockable steel hatch at the entrance

Tank
cleaning
remains on
schedule!

Source: Navy Closure Task Force –Red Hill



Download our mobile app and stay informed of the latest closure related information.





MAHALO! AND HAPPY HOLIDAYS

December 2024 Red Hill Updates

Providing safe, dependable, and affordable
drinking water, now and into the future.

ITEM FOR INFORMATION NO. 2

"December 16, 2024

STATUS
UPDATE OF
GROUNDWATER
LEVELS AT
ALL INDEX
STATIONS

Chair and Members
Board of Water Supply
City and County of Honolulu
Honolulu, Hawai'i 96843

Chair and Members:

Subject: Status Update of Groundwater Levels at All Index Stations

Three aquifer index stations were in low groundwater condition for the production month of November 2024. Waialua is in Caution Status. Kaimukī and Punalu'u are in Alert Status. The monthly production average for November 2024 was 133.78 million gallons per day.

The Board of Water Supply rainfall index for the month of November 2024 was 80 percent of normal, with a 5-month moving average of 83 percent. As of December 3, 2024, the Hawai'i Drought Monitor shows a band of abnormally dry conditions running through the central axis and northern and southern coastlines of O'ahu, grading to severe drought conditions along the leeward coast. The National Weather Service is forecasting above-normal precipitation through March 2025.

Most monitoring wells exhibited stable head levels for the month of November 2024. This likely reflects the seasonal decrease in production. Average monthly production for November 2024 is less than November 2023 and close to the 5-year monthly average.

Respectfully Submitted,

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

Attachment"

The foregoing was for information only.

DISCUSSION:

Barry Usagawa, Program Administrator, Water Resources Division, gave the report. There were no comments or discussion.

Chair Anthony commented that he was excited to see that Kaimuki was out of critical status.

Mr. Barry Usagawa stated that water system operations was able to reduced production to the decrease in water demand going into the winter season.

**PRODUCTION, HEAD AND RAINFALL REPORT
MONTH OF NOVEMBER 2024**

POTABLE

STATION	MGD
HONOLULU (1)	
KULIOUOU	0.06
WAILUPE	0.00
AINA KOA	0.00
AINA KOA II	0.62
MANOA II	0.93
PALOLO	1.42
KAIMUKI HIGH	2.49
KAIMUKI LOW	0.69
WILDER	8.50
BERETANIA HIGH	0.86
BERETANIA LOW	1.75
KALIH HIGH	3.79
KALIH LOW	5.01
KAPALAMA	0.13
KALIH SHAFT	7.54
MOANALUA	0.00
HALAWA SHAFT	0.00
KAAMILO	0.58
KALAUAO	9.30
PUNANANI	9.20
KAAHUMANU	0.26
HECO WAIU	2.73
MANANA	0.22
WAIALAE IKI	0.52
WELLS SUBTOTAL:	56.60
MANOA TUNNEL	0.17
PALOLO TUNNEL	0.00
GRAVITY SUBTTL:	0.17
HONOLULU SUBTTL:	56.77

STATION	MGD
WINDWARD (2)	
WAIMANALO II	0.23
WAIMANALO III	0.00
KUOU I	1.52
KUOU II	0.24
KUOU III	0.60
LULUKU	0.84
HAIKU	0.33
IOLEKAA	0.00
KAHALUU	0.57
KAHANA	0.48
PUNALUU I	0.00
PUNALUU II	2.03
PUNALUU III	1.21
KALUANUI	1.30
MAAKUA	0.22
HAUULA	0.26
WELLS SUBTOTAL:	9.83
WAIM. TUNNELS I & II	0.00
WAIM. TUNNELS III&IV	0.19
WAIHEE INCL. WELLS	0.39
WAIHEE TUNNEL	4.30
LULUKU TUNNEL	0.23
HAIKU TUNNEL	0.30
KAHALUU TUNNEL	1.64
GRAVITY SUBTOTAL:	7.05
WIND. SUBTOTAL:	16.88

STATION	MGD
NORTH SHORE (3)	
KAHUKU	0.32
OPANA	0.91
WAIALEE I	0.22
WAIALEE II	0.31
HALEIWA	0.00
WAIALUA	1.51
N.SHORE SUBTOTAL:	3.27

STATION	MGD
MILILANI (4)	
MILILANI I	3.09
MILILANI II	0.00
MILILANI III	0.62
MILILANI IV	0.53
MILILANI SUBTOTAL:	4.23

STATION	MGD
WAHIAWA (5)	
WAHIAWA	0.62
WAHIAWA II	2.42
WAHIAWA SUBTOTAL:	3.04

STATION	MGD
PEARL CITY-HALAWA (6)	
HALAWA 277	0.00
HALAWA 550	0.00
AIEA	0.00
AIEA GULCH 497	0.19
AIEA GULCH 550	0.22
KAONOHI I	1.91
WAIMALU I	0.00
NEWTOWN	1.86
WAIU	1.66
PEARL CITY I	0.78
PEARL CITY II	0.95
PEARL CITY III	0.20
PEARL CITY SHAFT	0.91
PEARL CITY-HALAWA SUBTOTAL:	8.69

STATION	MGD
WAIPAHU-EWA (7)	
WAPIO HTS.	1.81
WAPIO HTS. I	0.00
WAPIO HTS. II	0.31
WAPIO HTS. III	1.40
WAIPAHU	6.67
WAIPAHU II	2.04
WAIPAHU III	3.17
WAIPAHU IV	2.46
KUNIA I	4.93
KUNIA II	1.72
KUNIA III	1.46
HOAEAE	5.66
HONOULIULI I	0.00
HONOULIULI II	5.14
MAKAKILO	0.15
WAIPAHU-EWA SUBTOTAL:	36.91

STATION	MGD
WAIANAE (8)	
MAKAHA I	0.87
MAKAHA II	0.00
MAKAHA III	0.37
MAKAHA V	0.66
MAKAHA VI	0.00
MAKAHA SHAFT	0.00
KAMAILE	0.05
WAIANAE I	0.00
WAIANAE II	0.35
WAIANAE III	0.23
WELLS SUBTOTAL:	2.52
WAI. C&C TUNNEL	1.40
WAI. PLANT. TUNNELS	0.08
GRAVITY SUBTOTAL:	1.48
WAIANAE SUBTOTAL:	4.00

NONPOTABLE

NONPOTABLE	MGD
KALAUAO SPRINGS	0.36
BARBERS POINT WELL	1.05
GLOVER TUNNEL NP	0.32
NONPOTABLE TOTAL:	1.73

RECYCLED WATER (OCTOBER 2024)

RECYCLED WATER	MGD
HONOULIULI WRF R-1	6.68
HONOULIULI WRF RO	1.55
RECYCLED TOTAL:	8.23

PRODUCTION, HEAD AND RAINFALL REPORT **MONTH OF NOVEMBER 2024**

PRODUCTION SUMMARIES

TOTAL WATER	MGD
PUMPAGE	125.08
GRAVITY	8.70
POTABLE TOTAL:	133.78
NONPOTABLE	1.73
RECYCLED WATER	8.23
TOTAL WATER:	143.74

CWRM PERMITTED USE AND BWS ASSESSED YIELDS FOR BWS POTABLE SOURCES			
WATER USE DISTRICTS		A PERMITTED USE/ BWS YLDS	B NOV 2024
			C DIFF. A-B
1	HONOLULU	83.32	56.60
2	WINDWARD	25.02	16.88
3	NORTH SHORE	4.70	3.27
4	MILILANI	7.53	4.23
5	WAHIAWA	4.27	3.04
6	PEARL CITY-HALAWA	12.25	8.69
7	WAIPAHU-EWA	50.63	36.91
8	WAIANAE	4.34	4.00
TOTAL:		192.06	133.61

CWRM PERMITTED USE FOR BWS NONPOTABLE SOURCES			
WATER USE DISTRICTS		A PERMITTED USE	B NOV 2024
			C DIFF. A-B
7	WAIPAHU-EWA (BARBERS POINT WELL)	1.00	1.05
TOTAL:		1.00	1.05

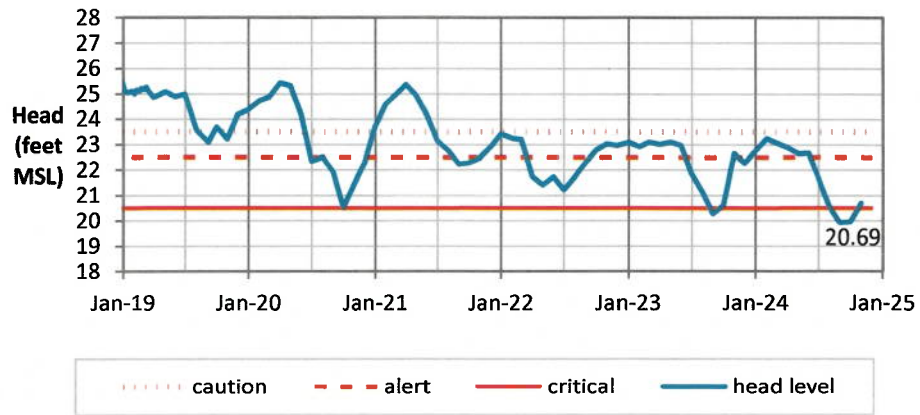
EFFECTIVE WATER DEMAND PER DISTRICT

IMPORT/EXPORT BETWEEN WATER USE DISTRICTS			
FROM	TO		MGD
2	1	WINDWARD EXPORT	0.10
7	8	BARBERS PT LB	5.92

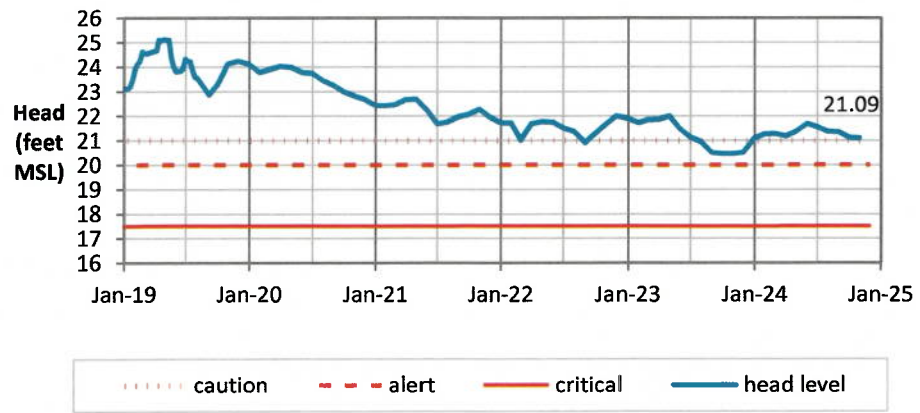
WATER USE DISTRICTS		SUBTOTAL	IMPORT	EXPORT	EFFECTIVE WATER DEMAND
1	HONOLULU	56.77	0.10	-	56.87
2	WINDWARD	16.88	-	0.10	16.78
3	NORTH SHORE	3.27	-	-	3.27
4	MILILANI	4.23	-	-	4.23
5	WAHIAWA	3.04	-	-	3.04
6	PEARL CITY-HALAWA	8.69	-	-	8.69
7	WAIPAHU-EWA	36.91	-	5.92	30.99
8	WAIANAE	4.00	5.92	-	9.92
TOTAL:		133.78	6.02	6.02	133.78

Head Report

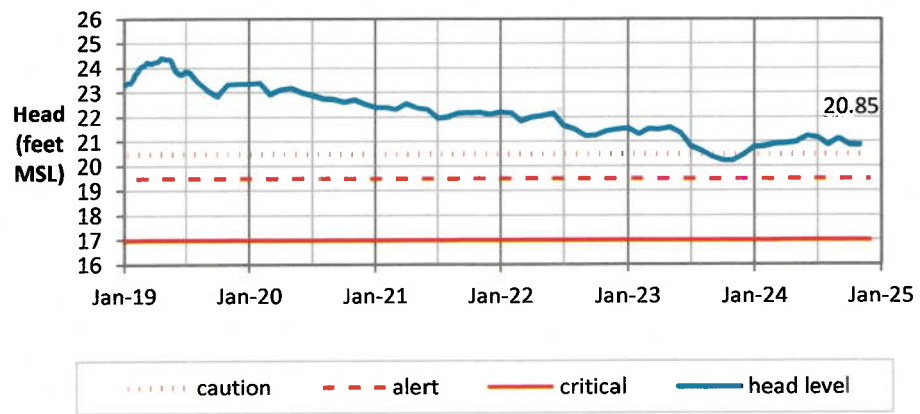
Kaimukī 11/01/24



Beretania 11/01/24

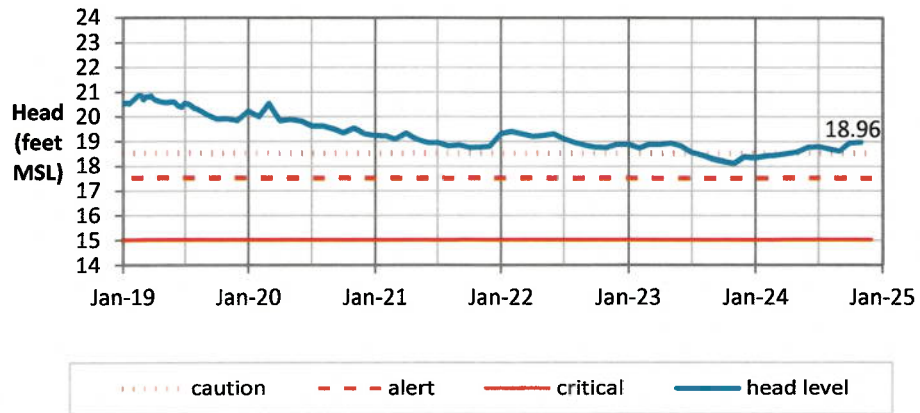


Kalihi 11/01/24

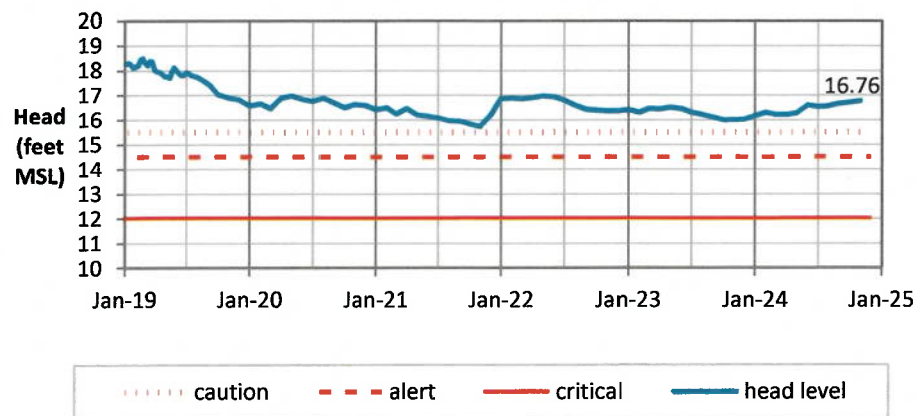


Head Report

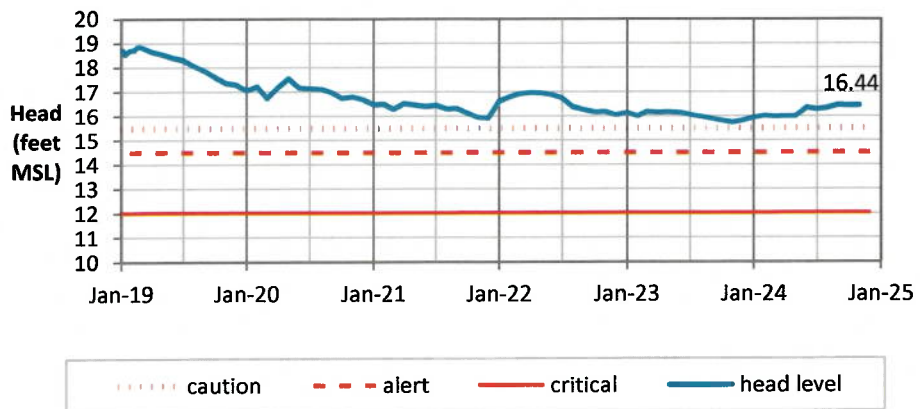
Moanalua 11/01/24



Hālawā 11/01/24

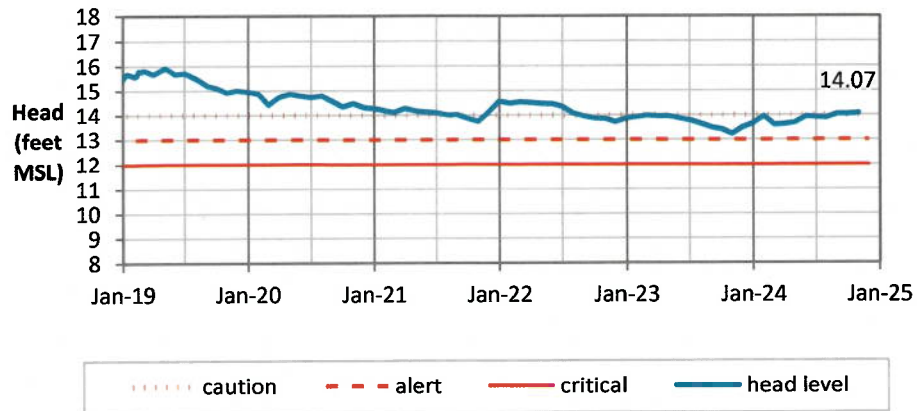


Kalauao 11/06/24

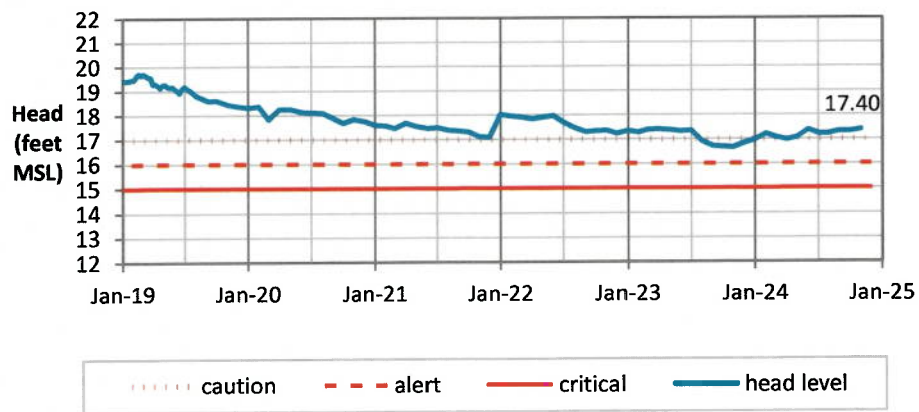


Head Report

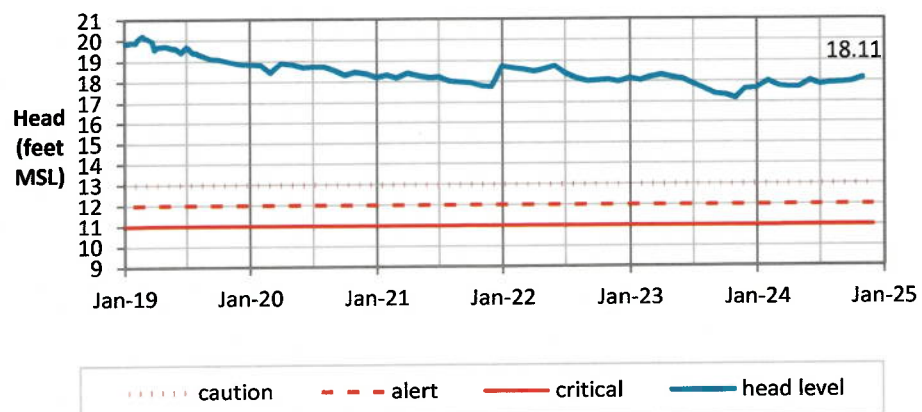
Pearl City 11/07/24



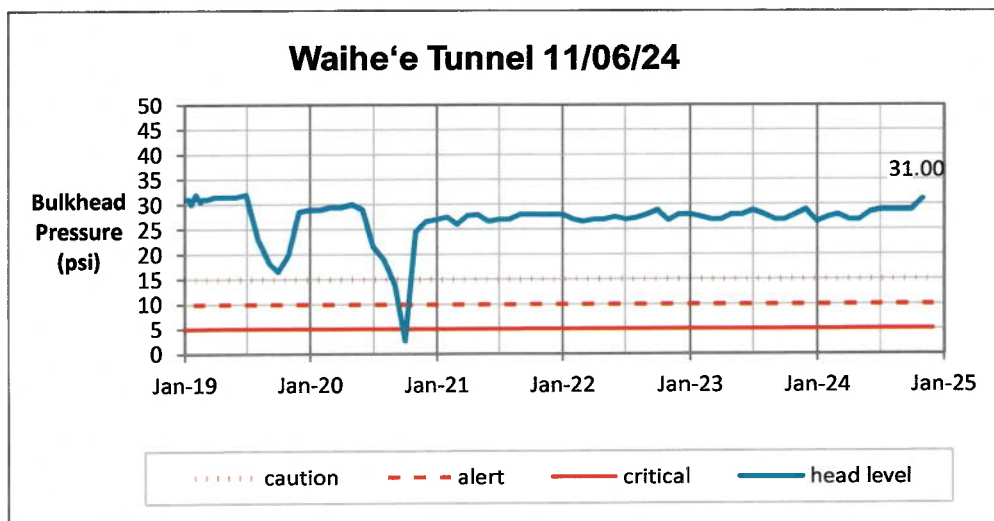
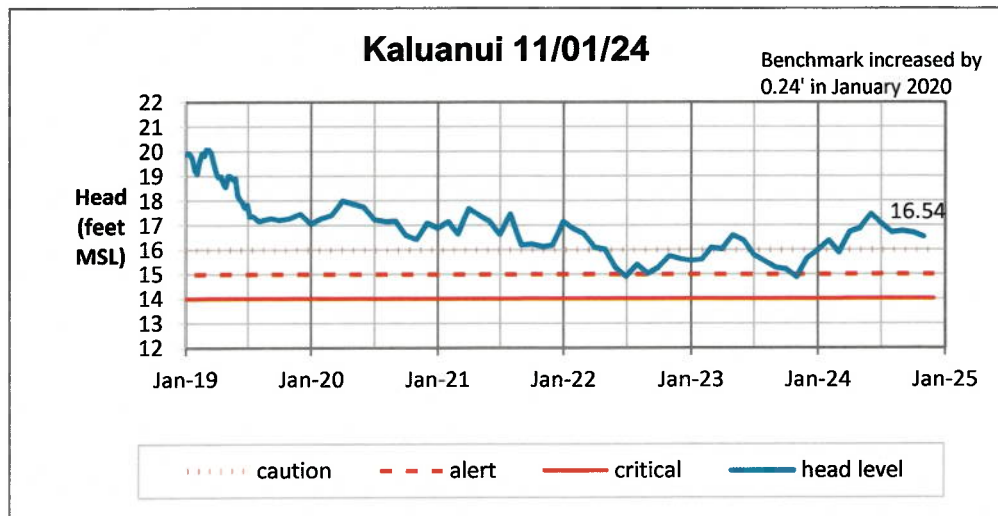
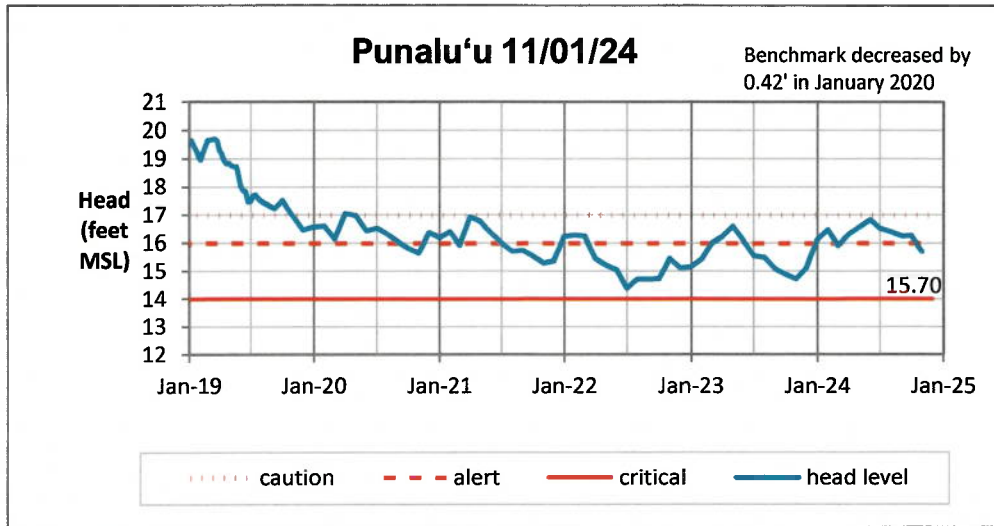
Waipahu 11/01/24



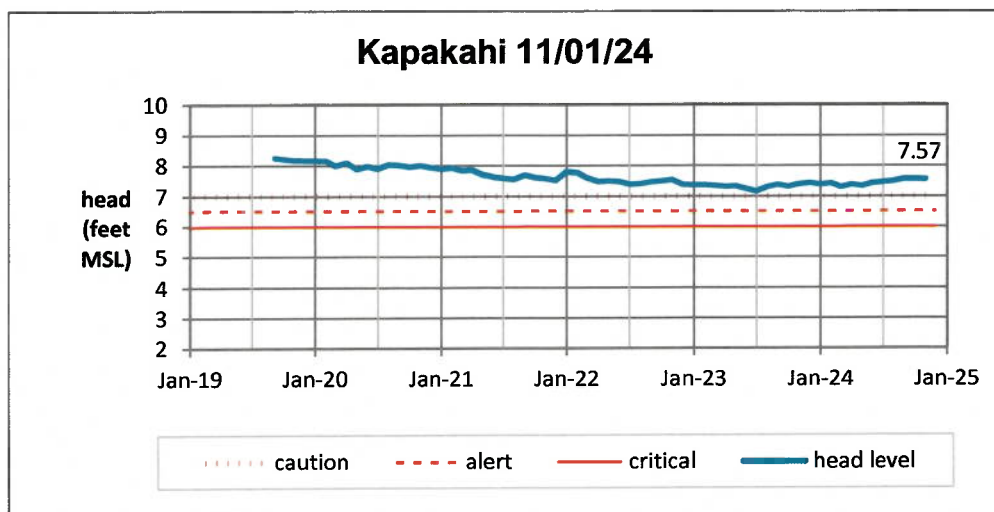
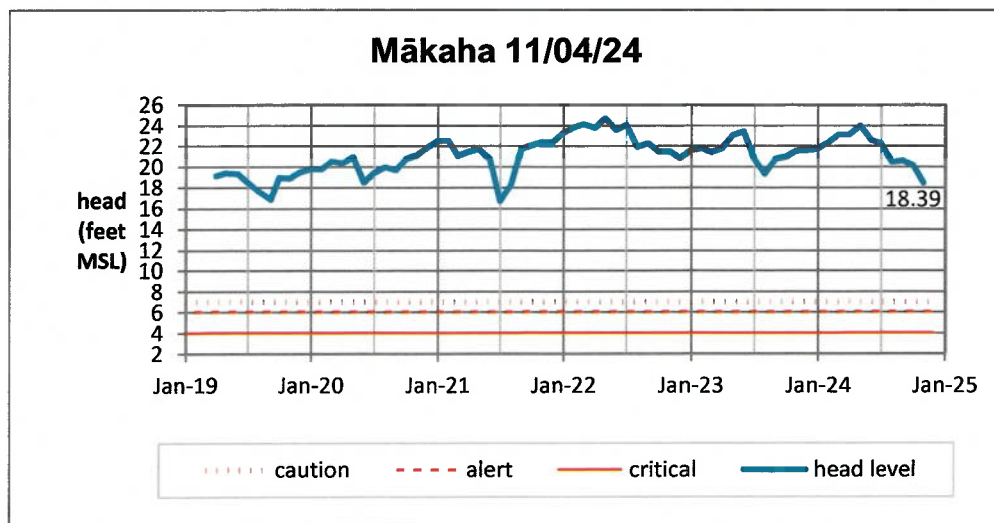
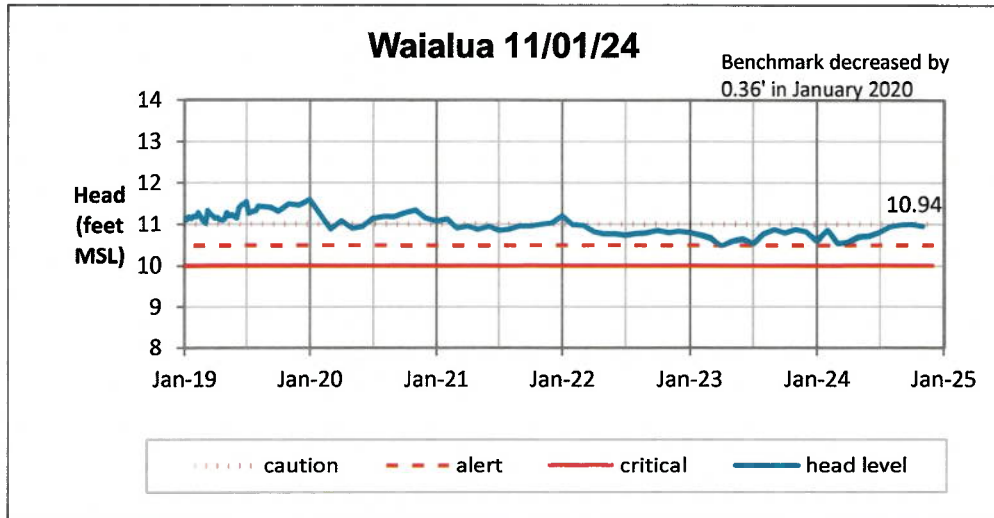
Hō'ae'ae-Kunia 11/01/24



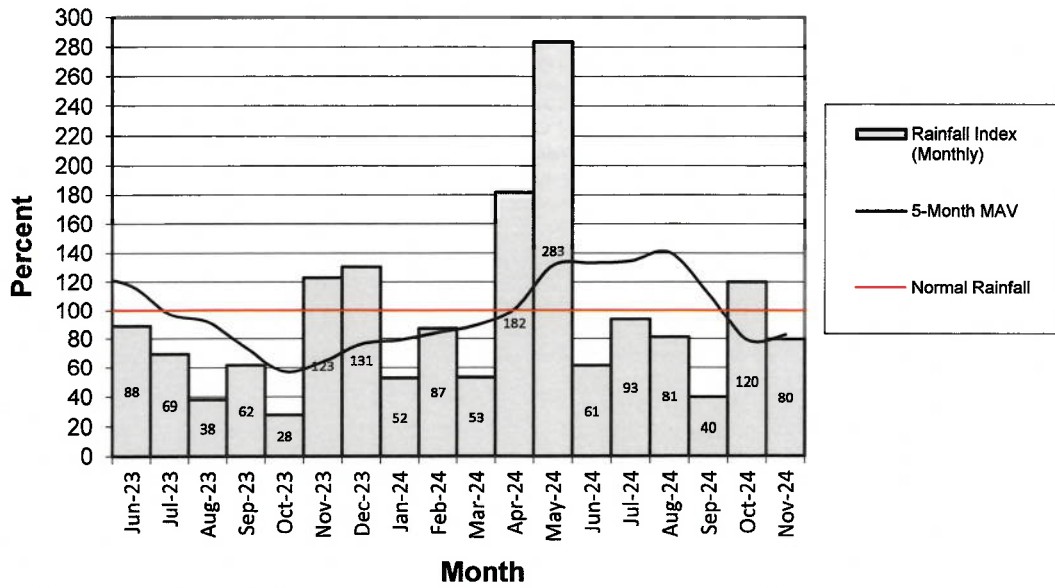
Head Report



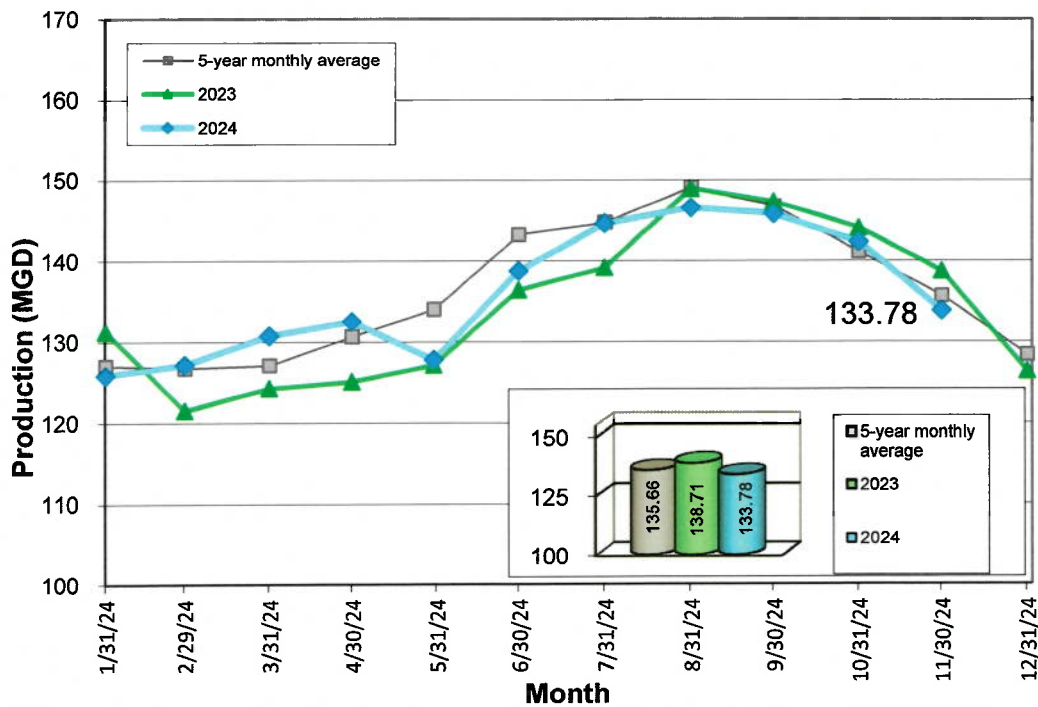
Head Report



HONOLULU WATERSHED AREA Rainfall Intake



Monthly Production



ITEM FOR INFORMATION NO. 3

"December 16, 2024

WATER MAIN
REPAIR
REPORT FOR
NOVEMBER 2024

Chair and Members
Board of Water Supply
City and County of Honolulu
Honolulu, Hawai'i 96843

Chair and Members:

Subject: Water Main Repair Report for November 2024

Wayne Tello, Acting Program Administrator, Field Operations Division,
will report on water main repair work for the month of November 2024.

Respectfully submitted,

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

Attachment"

The foregoing was for information only.

DISCUSSION: Wayne Tello, Acting Program Administrator, Field Operations Division,
gave the report.

Chair Anthony asked Mr. Tello to share information about the leak
detection apparatus that the BWS uses.

Mr. Wayne Tello shared that the BWS uses a satellite that focuses on a
specific area and detects leaks using a color code system, red being the
most impacted area. Once the affected areas are identified, field
operations will send a crew into the field to determine each point of
interest.

Manager Lau added the satellite can capture imagery from space and
detect chlorinated water up to a meter below ground. The leak detection
team identifies each point of interest and determines whether it is a
coupling, service, or water main leak.

Mr. Tello stated that the leak detection team comprises five individuals.

Manager Lau stated that since the Field Operations Division began using
the satellite, the leak detection team has become more efficient. In the
past, it would take approximately three years to survey the BWS's 2,100
miles of pipeline; however, since using the satellite, there is a fifty-fifty
chance of finding a leak. He thanked Mr. Tello and Mr. Usagawa.

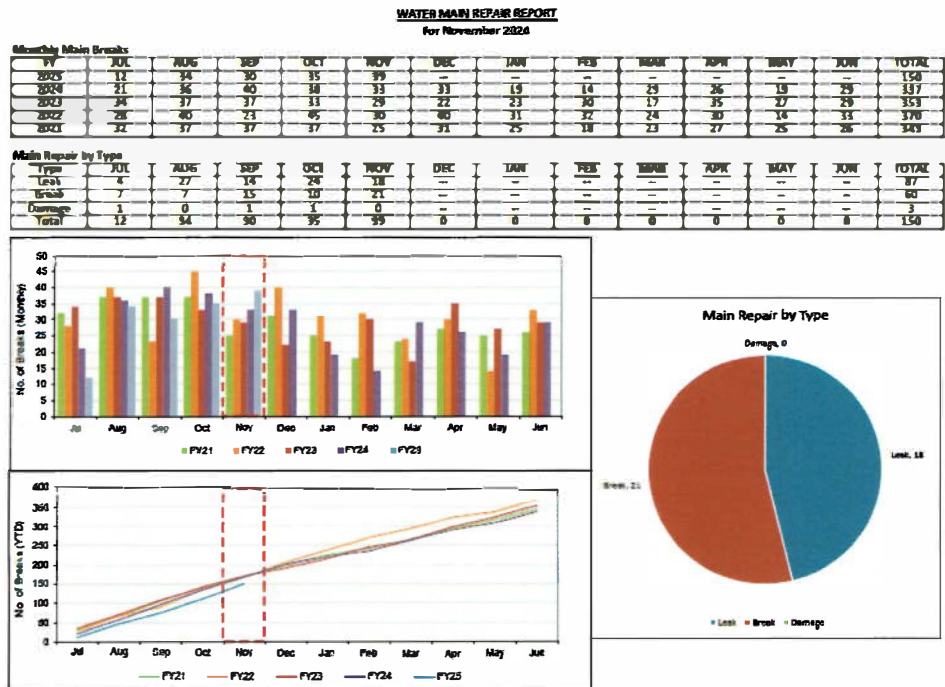
Board Member Wilhelm asked how long the BWS has used the satellite program.

Mr. Tello responded that the BWS has used the satellite program for approximately five years.

Board Member Wilhelm asked if the BWS expected fewer main breaks by using the satellite.

Manager Lau replied that the satellite program has helped; however, it would be difficult to say that it has drastically reduced the main breaks since the BWS has 2,100 miles of pipelines that average about to 50 years old.

Mr. Tello explained the difference between a leak and a break. A leak is consistent with a small amount of water; for example, if the satellite detected water seeping from under the road, the team will go out to make the repairs to prevent a break. A break can be unpredictable and catastrophic and may take time to repair.



Board Member Wilhelm commented the idea of detecting leaks over a long period may be able to reduce the number of breaks.

Chair Anthony mentioned that before the Red Hill incident, the BWS worked to replace 1% or 21 miles of pipeline a year; however, it needed to set aside its goal to address the contamination due to funding and manpower. The BWS is slowly working to reach its goal of replacing 21

miles of pipeline yearly and using any available federal funding to accomplish that.

Manager Lau stated that despite the many curve balls, the BWS continues to provide affordable, safe, and dependable water, even if other priorities arise. The BWS is working to update its 30-year Water Master Plan (WMP), which will help prioritize its long-term goals.

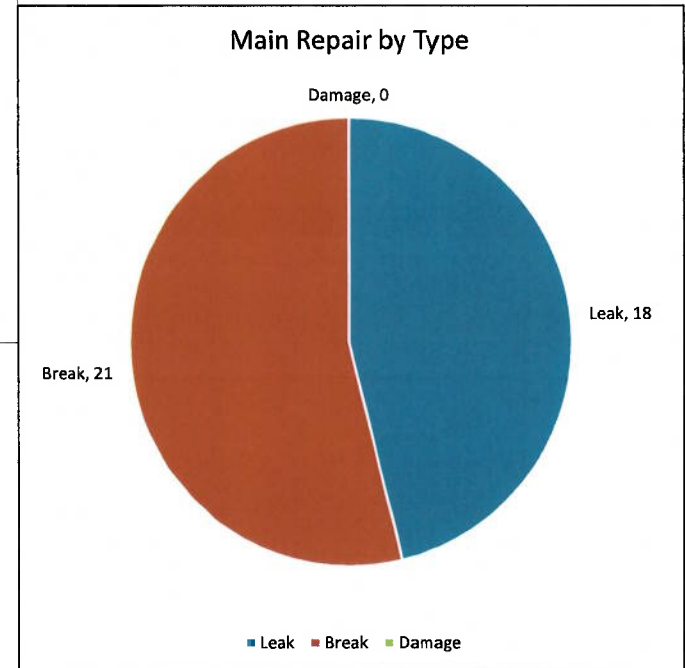
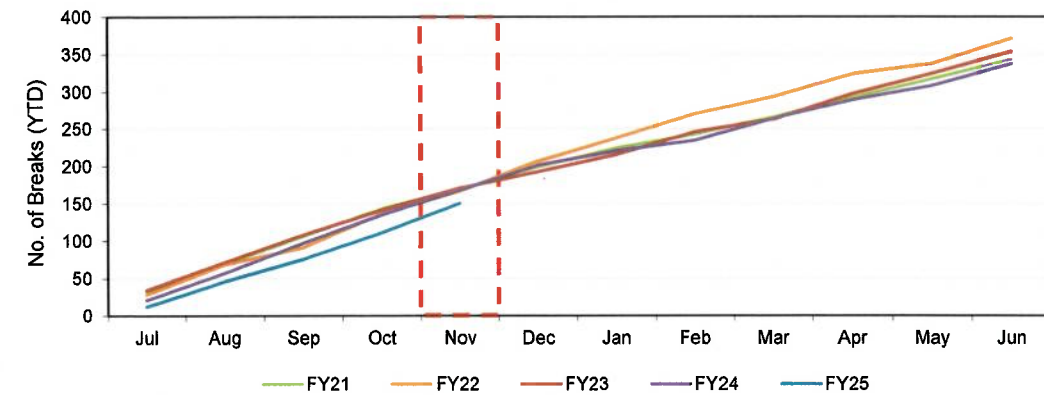
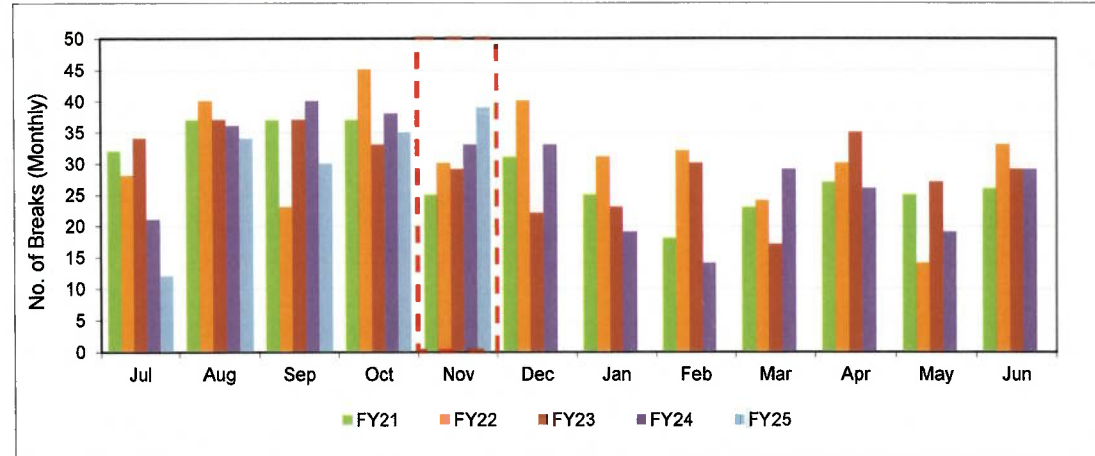
**WATER MAIN REPAIR REPORT
for November 2024**

Monthly Main Breaks

FY	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
2025	12	34	30	35	39	--	--	--	--	--	--	--	150
2024	21	36	40	38	33	33	19	14	29	26	19	29	337
2023	34	37	37	33	29	22	23	30	17	35	27	29	353
2022	28	40	23	45	30	40	31	32	24	30	14	33	370
2021	32	37	37	37	25	31	25	18	23	27	25	26	343

Main Repair by Type

Type	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
Leak	4	27	14	24	18	--	--	--	--	--	--	--	87
Break	7	7	15	10	21	--	--	--	--	--	--	--	60
Damage	1	0	1	1	0	--	--	--	--	--	--	--	3
Total	12	34	30	35	39	0	0	0	0	0	0	0	150



Date	Address	Size (In)	Pipe Type	Date	Address	Size (In)	Pipe Type
11/1/2024	5850 Haleola St, Honolulu	12	CI	11/16/2024	99-36 Nalopaka St, Aiea	6	CI
11/1/2024	41-1610 Kalaniana'ole Hwy, Waimanalo	20	CC	11/18/2024	45-705 Keneke St., Kaneohe	4	CI
11/1/2024	759 Alakea St, Honolulu	8	CI	11/18/2024	41-210 Hihimanu St, Waimanalo	8	CI
11/2/2024	1261 Mokulua Dr, Kailua	8	PVC	11/18/2024	536 12th Ave, Honolulu	12	CI
11/2/2024	91-1506 Miula St, Ewa Beach	8	DI	11/20/2024	45-808 Nanihoku Way, Kaneohe	8	DI
11/3/2024	41-1521 Lukanela St, Waimanalo	20	CC	11/26/2024	1448 Mokolea Dr, Kailua	8	PVC
11/3/2024	41-530 Poalima St, Waimanalo	8	CI	11/26/2024	1027 Maunaloa Ave, Honolulu	6	CI
11/4/2024	41-1647 Humuka Lp, Waimanalo	8	CI	11/26/2024	94-601 Farrington Hwy, Waipahu	8	CI
11/4/2024	99-838 Hulumanu St , Aiea	8	CI	11/29/2024	4836 Aukai Ave, Honolulu	8	CI
11/4/2024	99-835 Lalawai Dr, Aiea	6	CI	11/29/2024	91-508 Pupu St, Ewa Beach	6	CI
11/5/2024	91-32 Hailipo St, Ewa Beach	6	CI	11/30/2024	2995 E. Manoa Rd, Honolulu	8	PVC
11/6/2024	3504 Pilikino St, Honolulu	8	CI	11/30/2024	808 Pahumele Pl, Kailua	4	CI
11/6/2024	87-104 Mohihi ST, Waianae	8	PVC	11/30/2024	408 Hao St, Honolulu	8	CI
11/8/2024	85-419 Waianae VY RD, Waianae	12	CI				
11/8/2024	99-540 Iwaiwa St, Aiea	8	CI				
11/10/2024	91-640 Pupu St, Ewa Beach	8	CI				
11/12/2024	508 Ilimano St, Kailua	8	CI				
11/14/2024	99-157 Mikaleemi St, Aiea	8	CI				
11/14/2024	45-069 Kaneohe Bay Dr, Kaneohe	12	CI				
11/14/2024	91-24 Pohakupuna St, Ewa Beach	8	CI				
11/14/2024	91-640 Onelua St, Ewa Beach	8	AC				
11/14/2024	45-069 Kaneohe Bay Dr, Kaneohe	12	CI				
11/15/2024	99-540 Iwaiwa St, Aiea	8	CI				
11/15/2024	87-860 Farrington HWY, Waianae	8	CI				
11/15/2024	978 Valley View, Honolulu	4	CI				
11/16/2024	1544 Makaloa St, Honolulu	8	CI				

LEAK DETECTION for November 2024

POIs Investigated

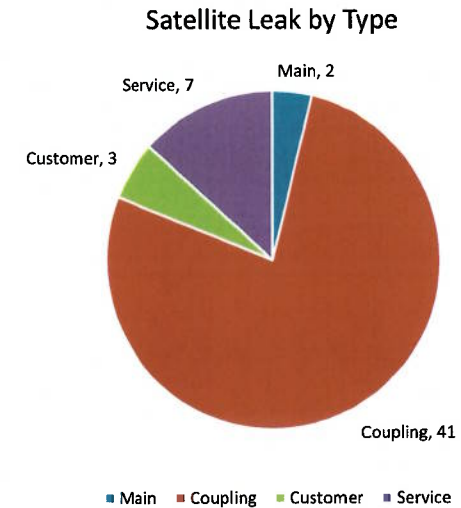
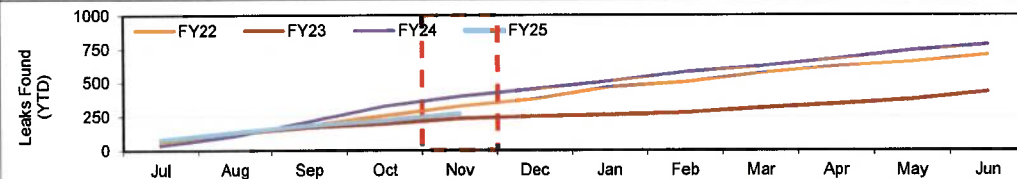
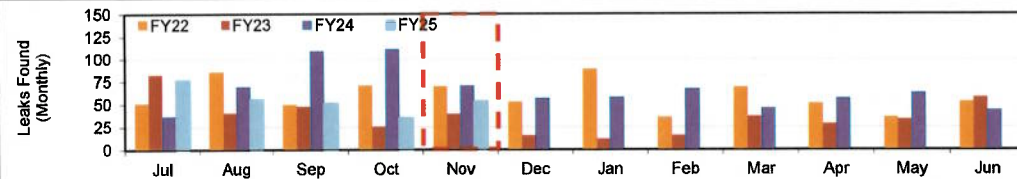
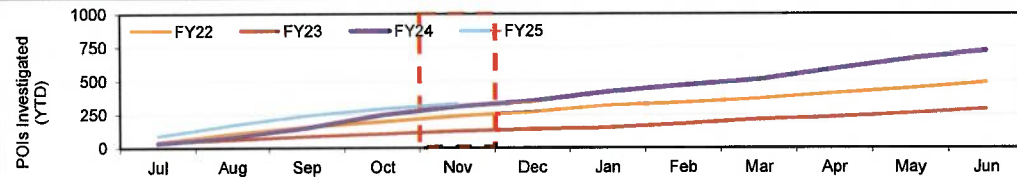
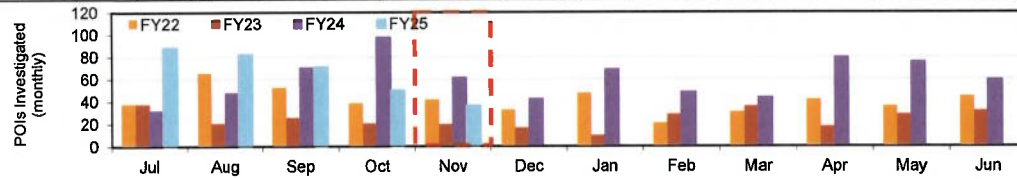
FY	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
2025	88	82	71	50	36	--	--	--	--	--	--	--	327
2024	31	47	70	97	61	42	68	48	43	79	75	59	720
2023	37	20	25	20	19	16	9	28	35	17	28	31	285
2022	37	65	52	38	41	32	47	20	30	41	35	44	482

Leaks Found

FY	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
2025	76	55	51	35	53	--	--	--	--	--	--	--	270
2024	36	69	109	111	70	56	57	66	45	56	62	43	780
2023	82	40	47	25	39	15	11	15	36	28	33	57	428
2022	50	85	49	70	69	52	88	35	68	50	35	52	703

Satellite Leak by Type

Type	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
Main	8	6	2	3	2	--	--	--	--	--	--	--	21
Coupling	62	41	43	24	41	--	--	--	--	--	--	--	211
Customer	3	4	1	5	3	--	--	--	--	--	--	--	16
Service	3	4	5	3	7	--	--	--	--	--	--	--	22
Total	76	55	51	35	53	0	0	0	0	0	0	0	270



**MOTION TO
RECESS INTO
EXECUTIVE
SESSION**

There being no further business, Chair Anthony, at 2:48 PM, called for a motion to adjourn the Open Session. Jonathan Kaneshiro so moved; seconded by Lance Wilhelm and unanimously carried.

Upon unanimous approved motion, the Board recessed into Executive Session Pursuant to [HRS § 92-5 (a)(4)] at 2:49 PM to Consider Issues Pertaining to Matters Posted for Discussion at an Executive Session.

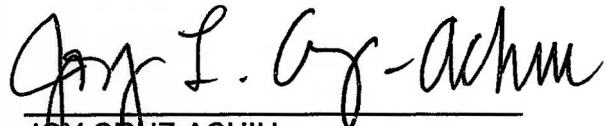
**OPEN
SESSION**

The Board reconvened in Open Session at 3:15 PM.


**MOTION TO
ADJOURN**

There being no further business, Chair Anthony, at 3:16 PM, called for a motion to adjourn the Regular Session. Lance Wilhelm so moved, seconded by Jonathan Kaneshiro, and unanimously carried.

The minutes of the Regular Meeting held on December 16, 2024, are respectfully submitted,


JOY CRUZ-ACHIU

APPROVED:


NĀ'ĀLEHU ANTHONY
Chair of the Board
JAN 27 2025
Date

THE MINUTES OF THE REGULAR MEETING HELD ON DECEMBER 16, 2024, WERE APPROVED AT THE JANUARY 27, 2025, BOARD MEETING			
	AYE	NO	COMMENT
NĀ'ĀLEHU ANTHONY	X		
JONATHAN KANESHIRO	X		
BRYAN P. ANDAYA	X		
LANCE WILHELM	X		
KĒHAULANI PU'U	X		
EDWIN H. SNIFFEN			ABSENT
GENE C. ALBANO			ABSENT