

# BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU  
630 SOUTH BERETANIA STREET  
HONOLULU, HI 96843  
[www.boardofwatersupply.com](http://www.boardofwatersupply.com)



June 20, 2023

RICK BLANGIARDI, MAYOR

BRYAN P. ANDAYA, Chair  
KAPUA SPROAT, Vice Chair  
MAX J. SWORD  
NA'ALEHU ANTHONY  
JONATHAN KANESHIRO

EDWIN H. SNIFFEN, Ex-Officio  
WARREN K. MAMIZUKA, Acting Ex-Officio

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

ERWIN M. KAWATA  
Deputy Manager

## NOTICE

The Board of Water Supply, City and County of Honolulu, Regular Meeting will be held on Monday, June 26, 2023, 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 S. Beretania St., Honolulu, HI 96843.

### 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, June 26, 2023, at noon. Submit written testimony by:
  - Email to [board@hbws.org](mailto:board@hbws.org)
  - Online at [boardofwatersupply.com/testimony](http://boardofwatersupply.com/testimony)
  - Mail to Board of Water Supply, 630 S. Beretania St., 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](mailto:board@hbws.org)
    - Online at [boardofwatersupply.com/testimony](http://boardofwatersupply.com/testimony)Zoom 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, June 23, 2023, at noon.
  - To testify in person at the Board of Water Supply, Public Service Building, 630 S. Beretania St., Honolulu, HI 96843, please pre-register by submitting your request by Monday, June 26, 2023:
    - Email to [board@hbws.org](mailto:board@hbws.org)
    - Online at [boardofwatersupply.com/testimony](http://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](http://boardofwatersupply.com/boardmeetings).

### **MATERIALS AVAILABLE FOR INSPECTION**

Meeting materials ("board packet" under HRS Section 92-7.5) are accessible at [www.boardofwatersupply.com/boardmeetings](http://www.boardofwatersupply.com/boardmeetings).

### **VIEWING THE MEETING**

The meeting will be viewable via live streaming on the BWS website: [www.boardofwatersupply.com/live](http://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](mailto: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 June 26, 2023, Regular Meeting of the Board of Water Supply is as follows:

**ITEMS REQUIRING BOARD ACTION**

1. Approval of the Minutes of the Budget Workshop Meeting Held on May 15, 2023
2. Approval of the Minutes of the Public Hearing and Regular Meeting Held on May 22, 2023
3. Election of the Chair and Vice Chair of the Board of Water Supply Beginning July 1, 2023
4. Adoption of Resolution No. 967, 2023, Reimbursement of Capital Expenditure from the Proceeds of Indebtedness
5. Adoption of Resolution No. 968, 2023, Authorizing Up to \$100,000,000 Principal Amount of Series 2023 State Revolving Fund Water System Revenue Loans
6. To Determine the Role of the Board in the Water Rate Study Process and Creation of a Permitted Interaction Group Pursuant to Hawaii Revised Statutes 92-2.5(b)

**ITEMS FOR INFORMATION**

1. Update on the Board of Water Supply's Response to the Potential Impacts of the Red Hill Fuel Contamination
2. Update on the Draft Proposed Rate Schedule and Input from the Board
3. Discussion on Power Cost Adjustment
4. Water System Revenue Bonds - Compliance with Rate Covenant
5. Status Update of Groundwater Levels at All Index Stations
6. Water Main Repair Report for May 2023

**EXECUTIVE SESSION**

1. Approval of the Minutes of the Executive Session Held on May 22, 2023
2. To Consult with the Board's Attorney on Questions and Issues Pertaining to the Board's Powers, Duties, Privileges, Immunities, and Liabilities Pertaining to Claims Against the Navy Related to Matters Concerning the Red Hill Bulk Fuel Storage Facility [HRS §92-5(a)(4)]

**AMENDED  
MINUTES**

To watch the recording of this meeting, please click on the following link:  
<https://vimeo.com/bwshonolulu/june-26-2023>. Closed captioning is available.

**THE REGULAR MEETING OF  
THE BOARD OF WATER SUPPLY**

June 26, 2023

At 2:00 PM on June 26, 2023, in the Board Room of the Public Service Building at 630 South Beretania Street, Honolulu, Hawaii, Board Chair Andaya called to order the Regular Meeting.

**Present:** Bryan P. Andaya, Chair  
Kapua Sproat, Vice Chair via Zoom  
Max J. Sword, Board Member via Zoom  
Na'alehu Anthony, Board Member via Zoom  
Jonathan Kaneshiro, Board Member  
Edwin H. Sniffen, Ex-Officio via Zoom  
Warren K. Mamizuka, Ex-Officio via Zoom

**Also Present:** Ernest Lau, Manager and Chief Engineer  
Erwin Kawata, Deputy Manager  
Jadine Urasaki, Assistant Program Administrator,  
Capital Projects Division  
Jennifer Elflein, Program Administrator,  
Customer Care Division  
Kathleen Elliott-Pahinui, Information Officer,  
Communications Office  
Raelynn Nakabayashi, Executive Assistant I,  
Executive Support Office  
Jason Nikaido, Program Administrator,  
Field Operations Division  
Joseph Cooper, Waterworks Controller,  
Finance Division  
Michele Thomas, Executive Assistant I,  
Human Resources Office  
Henderson Nuuhiwa, Program Administrator,  
Program Administrator, Information  
Technology Division  
Michael Matsuo, Land Administrator, Land Division  
Roland Festemacher,  
Water Quality Laboratory Director,  
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  
Kathy Mitchell, Administrative Services Officer  
via Vimeo  
Kimberly Kuwaye, Manager Secretary  
Joy Cruz-Achiu, Board Secretary  
Steven Norstrom, Information Specialist II,  
Communications Office  
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  
Dave Ebersold, Senior Vice President, CMD Smith  
Ella Foley Gannon, Esq.,  
Morgan, Lewis, and Bockius, LLP  
David Brown, Esq., Morgan, Lewis, and Bockius, LLP

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

Chair Bryan Andaya welcomed everyone to the June 26, 2023, Regular Meeting of the Board of Water Supply (BWS). He announced that the public could attend Board Meetings at the BWS Public Service Building, 630 S. Beretania Street, Honolulu, HI 96843.

Before the meeting, Chair Andaya reviewed a few meeting regulations required by law. Board Members attending the Board Meeting remotely must be visible to the public to be considered present and meet quorum guidelines. He also stated that during roll call Board Members participating remotely must disclose their location and anyone that may be present at their location.

Board Secretary Ms. Joy Cruz-Achiu assisted Chair Andaya with roll call: Vice Chair Kapua Sproat was present via Zoom and disclosed that she was alone at her location; Board Member Max Sword was present via Zoom and disclosed he was alone at his location; Board Member Na'alehu Anthony was present via Zoom and disclosed that he was alone at his location; Board Member Jonathan Kaneshiro was present in the Board room; Board Member Edwin Sniffen, was present via Zoom and disclosed that he was alone at his location; and Board Member Warren Mamizuka was present via Zoom and disclosed that he was alone at his location. Chair Andaya was present in the Boardroom.

Chair Andaya 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 from the City and County Corporation Counsel joined via Zoom.

Chair Andaya asked all attendees calling in or video conferencing to mute their microphones when not speaking to the audience. When intending to speak, unmute their microphone and identify themselves before speaking.

The following procedures are in effect for the meeting:

Chair Andaya shared the various ways to submit testimony: Written testimony may be submitted by email to [board@hbws.org](mailto:board@hbws.org), by fax to (808) 748-5079; mailed to Board of Water Supply, 630 S. Beretania St., Honolulu, HI 96843; or online at the [boardofwatersupply.com/testimony](http://boardofwatersupply.com/testimony), which were all due on Monday, June 26, 2023, at noon. However, late testimony will be accepted by email, fax, or mail. Videoconference testimony was accepted by registering at [boardofwatersupply.com/testimony](http://boardofwatersupply.com/testimony) by Friday, June 23, 2023. In-person testimony is being accepted at the Board of Water Supply, Public Service Building located at 630 S. Beretania St., Honolulu, HI 96843. Pursuant to HRS Section 92-7.5, Board Meeting materials are available to view on our website at [www.boardofwatersupply.com/boardmeeting](http://www.boardofwatersupply.com/boardmeeting).

Chair Andaya also announced the Board Meeting is broadcasted live on the BWS website at [www.boardofwatersupply.com/live](http://www.boardofwatersupply.com/live).

**REGULAR MEETING**

**APPROVAL OF MINUTES**

Approval of the Minutes of the Budget Workshop Held on May 15, 2023.

**MOTION TO APPROVE**

Jonathan Kaneshiro and Max Sword motioned and seconded, respectively, to approve the Minutes of the Budget Workshop Held on May 15, 2023.

Ms. Cruz-Achiu conducted a roll call vote: Vice Chair Kapua Sproat, abstain; Board Member Max Sword, aye; Board Member Na’alehu Anthony, aye; Board Member Jonathan Kaneshiro; aye; Board Member Edwin Sniffen, aye; Board Member Warren Mamizuka, aye; and Chair Bryan Andaya, aye.

THE MINUTES OF THE BUDGET WORKSHOP HELD ON MAY 15, 2023, WERE APPROVED AT THE JUNE 26, 2023, BOARD MEETING			
	AYE	NO	COMMENT
BRYAN P. ANDAYA	X		
KAPUA SPROAT			ABSTAIN
MAX J. SWORD	X		
NA’ALEHU ANTHONY	X		
JONATHAN KANESHIRO	X		
EDWIN H. SNIFFEN	X		
WARREN K. MAMIZUKA	X		

**APPROVAL OF MINUTES**

Approval of the Minutes of the Public Hearing and Regular Meeting Held on May 22, 2023.

**MOTION TO APPROVE**

Jonathan Kaneshiro and Max Sword motioned and seconded, respectively, to approve the Minutes of the Public Hearing and Regular Meeting Held on May 22, 2023.

Ms. Cruz-Achiu conducted a roll call vote: Vice Chair Kapua Sproat, abstain; Board Member Max Sword, aye; Board Member Na'alehu Anthony, aye; Board Member Jonathan Kaneshiro; aye; Board Member Edwin Sniffen, aye; Board Member Warren Mamizuka, aye; and Chair Bryan Andaya, aye.

THE MINUTES OF THE PUBLIC HEARING AND REGULAR MEETING HELD ON MAY 22, 2023, WERE APPROVED AT THE JUNE 26, 2023, BOARD MEETING			
	AYE	NO	COMMENT
BRYAN P. ANDAYA	X		
KAPUA SPROAT			ABSTAINED
MAX J. SWORD	X		
NA'ALEHU ANTHONY	X		
JONATHAN KANESHIRO	X		
EDWIN H. SNIFFEN	X		
WARREN K. MAMIZUKA	X		

“June 26, 2023

ELECTION OF  
THE CHAIR AND  
VICE CHAIR OF  
THE BOARD OF  
WATER SUPPLY  
BEGINNING  
JULY 1, 2023

Chair and Members  
Board of Water Supply  
City and County of Honolulu  
Honolulu, Hawaii 96843

Chair and Members:

Subject: Election of the Chair and Vice Chair of the Board of Water  
Supply Beginning July 1, 2023

The Bylaws of the Board of Water Supply provide that the Chair and Vice Chair of the Board shall be elected annually from among and by the appointed members of the Board.

Accordingly, the election of the Chair and Vice Chair of the Board for the ensuing year commencing July 1, 2023, is on the agenda for this June 26, 2023, regular meeting.

Respectfully Submitted,

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

Attachment”

DISCUSSION: Bryan Andaya, Board Chair, gave the report.

Chair Andaya stated that he and Vice Chair Kapua Sproat has served since 2016 and are honored to have had the opportunity to serve. However, since their terms are close to the end, he suggested that together as the Board of Directors (Board) work on a succession plan. Chair Andaya offered that Vice Chair Sproat and himself continue to serve as the Board Chair and Vice Chair while preparing and transitioning for new successors. He mentioned that Board Member Na’alehu Anthony had shared his interest in a board leadership position and suggested that other Board Members consider leadership positions.

Board Member Edwin Sniffen agreed with Chair Andaya regarding succession and transition planning. He expressed that Chair Andaya has done an excellent job through his chairship. However, he suggested that the Board move forward to ensure a smooth transition. Board Member Sniffen nominated Board Member Na’alehu Anthony as Chair and Vice Chair Sproat to continue in her current position.

Vice Chair Kapua Sproat stated that she and Chair Andaya have discussed the succession of their positions on the Board. She commented that due to the critical issues the BWS is currently facing, such as Red Hill, it would be a good time to allow other Board Members the opportunity to take the lead while still being available to mentor and assist the newly

elected. Vice Chair Sproat expressed her support of Board Member Na'alehu Anthony as Chair and nominated Jonathan Kaneshiro as Vice Chair.

Board Member Jonathan Kaneshiro responded to the nomination and stated that he was informed of the Chair and Vice Chair election just a few days before the Board meeting. He appreciates Vice Chair Kapua's faith in him but stated that as a freshman on the Board, his main priority is to learn more about the process, role, and responsibilities as a Board Member; therefore, he declined the nomination as Vice Chair at the current time. Board Member Kaneshiro stated that when he better understands what is required of a Board member, he would be more open to stepping into a leadership position.

Board Member Na'alehu Anthony commented that the BWS faces many challenges which require the Board's attention; one on the list is succession planning, which has been discussed in previous meetings. He shared similar reservations as Board Member Kaneshiro of wanting to learn more but showed interest in taking the lead as a Board Member on the Red Hill issue. Board Member Anthony expressed his concerns about the impact of Red Hill. He stated regardless of title; a Board must come together to meet the charter of clean, affordable, and dependable water.

Chair Andaya congratulated Board Member Na'alehu Anthony on his new role as Chair and Vice Chair Sproat to continue in her current seat.

Board Member Sniffen expressed his appreciation for all the work Chair Andaya had done during a challenging time for the BWS and the State of Hawaii.

Manager Ernest Lau also expressed his appreciation for Chair Andaya's active role as Chair dating back to 2016 with the development and adoption of the 30-year Water Master Plan, the development of the BWS Strategic Plan, the creation, implementation, and adoption of the Water Rate Schedule, and Chair Andaya's support on the Red Hill issue.

Chair Andaya stated that it has been a pleasure to serve as the Chair on the Board and looks forward to continuing to serve as part of the Board.

Vice Chair Sproat expressed her heartfelt "Mahalo" for Chair Andaya's many years and looks forward to his continued support.

**MOTION  
TO APPROVE**

Edwin Sniffen and Max Sword motioned and seconded, respectively, the Election of Na'alehu Anthony as Chair and Kapua Sproat as Vice Chair of the Board of Water Supply Beginning July 1, 2023.

Ms. Cruz-Achui conducted a roll call vote: Vice Chair Kapua Sproat, aye; Board Member Max Sword, aye; Board Member Na'alehu Anthony, aye; Board Member Jonathan Kaneshiro; abstained; Board Member Edwin Sniffen, aye; Board Member Warren Marnizuka, abstained; and Chair Bryan Andaya, aye.

Ms. Cruz-Achiu announced that the motion passed with five ayes and two abstentions.

THE ELECTION OF NA'ALEHU ANTHONY AS CHAIR OF THE BOARD OF WATER SUPPLY, BEGINNING JULY 1, 2023, TO JUNE 30, 2024, WAS APPROVED ON JUNE 26, 2023			
	AYE	NO	COMMENT
BRYAN P. ANDAYA	X		
KAPUA SPROAT	X		
MAX J. SWORD	X		
NA'ALEHU ANTHONY	X		
JONATHAN KANESHIRO			ABSTAINED
EDWIN H. SNIFFEN	X		
WARREN K. MAMIZUKA			ABSTAINED

THE ELECTION KAPUA SPROAT AS VICE CHAIR OF THE BOARD OF WATER SUPPLY, BEGINNING JULY 1, 2023, TO JUNE 30, 2024, WAS APPROVED ON JUNE 26, 2023			
	AYE	NO	COMMENT
BRYAN P. ANDAYA	X		
KAPUA SPROAT	X		
MAX J. SWORD	X		
NA'ALEHU ANTHONY	X		
JONATHAN KANESHIRO			ABSTAINED
EDWIN H. SNIFFEN	X		
WARREN K. MAMIZUKA			ABSTAINED



“June 26, 2023

ADOPTION OF  
RESOLUTION NO.  
967, 2023,  
REIMBURSEMENT  
OF CAPITAL  
EXPENDITURE  
FROM THE  
PROCEEDS OF  
INDEBTEDNESS

Chair and Members  
Board of Water Supply  
City and County of Honolulu  
Honolulu, Hawaii 96843

Chair and Members:

Subject: Adoption of Resolution No. 967, 2023, Reimbursement of  
Capital Expenditure from the Proceeds of Indebtedness

We recommend the adoption of Resolution No. 967, 2023, Declaring the Official Intent of the Board of Water Supply of the City and County of Honolulu to Reimburse Itself for Certain Capital Expenditures from the Proceeds of Indebtedness.

The Resolution establishes the time limit for reimbursement of capital expenditures at eighteen months. This brings the Board of Water Supply into compliance with Section 1.150 of the U. S. Treasury Regulations and does not bind the Board to make any expenditure, incur any indebtedness, or proceed with the Project.

The Resolution establishes a limit of \$212,646,000 and attaches the F.Y. 2024 Capital Improvement Program.

Respectfully Submitted,

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

Attachment”

DISCUSSION: Joseph Cooper, Waterworks Controller, Finance Division, gave the report. There were no comments or discussion.

At 2:29 PM Board Member Edwin Sniffen disconnected from Zoom and left the meeting.

MOTION TO APPROVE Max Sword and Kapua Sproat motioned and seconded, respectively to approve the Adoption of Resolution No. 967, 2023, Reimbursement of Capital Expenditure from the Proceeds of Indebtedness.

Ms. Cruz-Achiu conducted a roll call vote: Vice Chair Kapua Sproat, aye; Board Member Max Sword, aye; Board Member Na’alehu Anthony, aye; Board Member Jonathan Kaneshiro; aye; Board Member Warren Mamizuka, áye; and Chair Bryan Andaya, aye. Board Member Edwin Sniffen was absent.

Ms. Cruz-Achiu announced that the motion passed with six ayes.

**ADOPTION OF RESOLUTION NO. 967, 2023,  
REIMBURSEMENT OF CAPITAL EXPENDITURE FROM  
THE PROCEEDS OF INDEBTEDNESS WAS ADOPTED ON  
JUNE 26, 2023**

	AYE	NO	COMMENT
BRYAN P. ANDAYA	X		
KAPUA SPROAT	X		
MAX J. SWORD	X		
NA'ALEHU ANTHONY	X		
JONATHAN KANESHIRO	X		
EDWIN H. SNIFFEN			ABSENT
WARREN K. MAMIZUKA	X		

“June 26, 2023

ADOPTION OF  
RESOLUTION  
NO. 968, 2023,  
AUTHORIZING UP  
TO \$100,000,000  
PRINCIPAL  
AMOUNT OF  
SERIES 2023  
STATE REVOLVING  
FUND WATER  
SYSTEM  
REVENUE LOAN

Chair and Members  
Board of Water Supply  
City and County of Honolulu  
Honolulu, Hawaii 96843

Chair and Members:

Subject: Adoption of Resolution No. 968, 2023, Authorizing Up to  
\$100,000,000 Principal Amount of Series 2023 State  
Revolving Fund Water System Revenue Loans

The State Revolving Fund (SRF) is a program funded by the U.S. Environmental Protection Agency under the Clean Water and Safe Drinking Water Acts. The Board of Water Supply (BWS) has been participating in this program since 2004.

In order to continue participating in the SRF program, the Board will need to authorize additional borrowing.

We recommend adoption of Resolution No. 968, 2023, authorizing up to \$100,000,000 aggregate principal amount of the BWS SRF Water System Revenue Loans, Series 2023 (Series 2023 Loans).

The Series 2023 Loans provide moneys to pay the costs of improvements to the Water System authorized in the capital budget of the BWS, to make a deposit to an SRF Series Reserve Account if applicable, and to pay costs of issuance of the Series 2023 Loans. The Series 2023 Loans are the seventh series of SRF Loans to be obtained by the BWS from the State Department of Health under and pursuant to the SRF General Resolution.

This resolution will support various capital improvement projects, including:

- 1) East Kapolei 215 Reservoir and Kualakai Parkway Recycled 16-Inch Water Main;
- 2) Kahilinai Place and Aiea Heights Drive Water System Improvements;  
and
- 3) Kalaeloa Sea Water Desalination Facility.

Resolution No. 968, 2023 further authorizes any Authorized Officer of the BWS, subject to limitations, the power to determine and carry out certain actions in connection with the issuance and execution of the Series 2023 Loans.

Respectfully Submitted,

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

Attachment”

DISCUSSION: Joseph Cooper, Waterworks Controller, Finance Division, gave the report. Board Member Sword inquired if taking a State Revolving Fund (SRF) loan would affect the BWS bond issues. Mr. Joseph Cooper responded that SRF loans do not lower the BWS municipal bond issues.

Board Member Kaneshiro asked if the SRF loan similar to a credit line at a floating rate.

Mr. Cooper explained that the SRF loan is not a credit line but a federal government capitation grant given to the State of Hawaii, which is loaned to the BWS. When the BWS repays the SRF loan, the State of Hawaii can re-loan the funds, allowing the funds to be revolved and loaned out again. He further explained that the loan is set at a fixed rate of 1.75% to 2.75 on a 20 to 30-year bond, which is less than the BWS municipal revenue bonds. While the maximum rate is 8%, the actual rate is much lower. Mr. Cooper also shared that the SRF program may allow for a \$1,000,000 principal forgiveness on specific projects.

MOTION TO APPROVE Jonathan Kaneshiro and Max Sword motioned and seconded, respectively, to approve the Adoption of Resolution No. 968, 2023, Authorizing Up to \$100,000,000 Principal Amount of Series 2023 State Revolving Fund Water System Revenue Loans.

Ms. Cruz-Achui conducted a roll call vote: Vice Chair Kapua Sproat, aye; Board Member Max Sword, aye; Board Member Na’alehu Anthony, aye; Board Member Jonathan Kaneshiro; aye; Board Member Warren Mamizuka, aye; and Chair Bryan Andaya, aye. Board Member Edwin Sniffen was absent.

Ms. Cruz-Achui announced that the motion passed with six ayes.

**ADOPTION OF RESOLUTION NO. 968, 2023,  
AUTHORIZING UP TO \$100,000,000 PRINCIPAL AMOUNT  
OF SERIES 2023 STATE REVOLVING FUND WATER  
SYSTEM LOANS WAS ADOPTED ON JUNE 26, 2023**

	AYE	NO	COMMENT
BRYAN P. ANDAYA	X		
KAPUA SPROAT	X		
MAX J. SWORD	X		
NA'ALEHU ANTHONY	X		
JONATHAN KANESHIRO	X		
EDWIN H. SNIFFEN			ABSENT
WARREN K. MAMIZUKA	X		

BOARD OF WATER SUPPLY  
CITY AND COUNTY OF HONOLULU

RESOLUTION NO. 967, 2023

**A RESOLUTION DECLARING THE OFFICIAL INTENT OF THE  
BOARD OF WATER SUPPLY OF THE CITY AND COUNTY  
OF HONOLULU TO REIMBURSE ITSELF FOR CERTAIN CAPITAL  
EXPENDITURES FROM THE PROCEEDS OF INDEBTEDNESS**

WHEREAS, the Board intends to provide for the acquisition, construction, rehabilitation and/or equipping of certain capital facilities for the Board constituting water system facilities and other capital improvements for the use and benefit of the Board comprising improvements related to the FY 2024 Capital Improvement Program and other related facilities (the "Project"); and

WHEREAS, the Board expects to pay certain expenditures (the "Reimbursement Expenditures") in connection with the Project prior to the issuance of indebtedness for the purpose of financing costs associated with the Project on a long-term basis; and

WHEREAS, the Board reasonably expects that debt obligations for the Project in an amount not expected to exceed \$212,646,000 will be issued and that certain of the proceeds of such debt obligations will be used to reimburse the Reimbursement Expenditures; and

WHEREAS, proceeds of such debt obligations will be allocated to Reimbursement Expenditures no later than 18 months after the later of (i) the date the cost is paid, or (ii) the date the Project is placed in service or abandoned (but in no event more than three years after the cost is paid); and

WHEREAS, the Board may issue debt obligations for the Project in connection with obligations for other projects;

BE IT RESOLVED by the Board of Water Supply of the City and County of Honolulu, Hawaii, as follows:

1. It is hereby found and determined that it is the intent of the Board that bonds be authorized and issued by the Board to provide monies to carry out one or more purposes of the Board, including the acquisition and construction of improvements to the water system of the Board as specified in Schedule I attached hereto.

2. This declaration is made solely for purposes of establishing compliance with the requirements of Section 1.150 2 of the Treasury Regulations, and this declaration does not bind the Board to make any expenditure, incur any indebtedness, or proceed with the Project.

3. The Board hereby declares its official intent to use proceeds of the indebtedness to reimburse itself for the Reimbursement Expenditures after adoption of this resolution.

4. This resolution shall take effect upon the adoption thereof.

ADOPTED:



BRYAN P. ANDAYA  
Chair

Honolulu, Hawaii  
June 26, 2023

ADOPTION OF RESOLUTION NO. 967, 2023, REIMBURSEMENT OF CAPITAL EXPENDITURE FROM THE PROCEEDS OF INDEBTEDNESS WAS ADOPTED ON JUNE 26, 2023			
	AYE	NO	COMMENT
BRYAN P. ANDAYA	X		
KAPUA SPROAT	X		
MAX J. SWORD	X		
NA'ALEHU ANTHONY	X		
JONATHAN KANESHIRO	X		
EDWIN H. SNIFFEN			ABSENT
WARREN K. MAMIZUKA	X		



“June 26, 2023

TO DETERMINE  
THE ROLE OF THE  
BOARD IN THE  
WATER RATE  
STUDY OF A  
PERMITTED  
INTERACTION  
GROUP  
PURSUANT TO  
HAWAII REVISED  
STATUTES  
92-2.5(B)

Chair and Members  
Board of Water Supply  
City and County of Honolulu  
Honolulu, Hawaii 96843

Chair and Members:

Subject: To Determine the Role of the Board in the Water Rate Study Process and Creation of a Permitted Interaction Group Pursuant to Hawaii Revised Statutes 92-2.5(b)

The Board of Water Supply (BWS) is undergoing a water rate study and requests the involvement of the Board in the process. The water rate study will determine the appropriate water rates and charges needed to fund BWS operations and the capital improvement program for fiscal year 2024-2029. We are seeking Board member(s) participation to work with the BWS's senior managers and consultants on the water rate study. Ultimately, any recommendations resulting from the water rate study will be presented to the Board to conduct public hearings and to take action at a regular meeting of the Board.

If two or more Board members would like to participate in the development of the water rate study, we recommend the creation of a Permitted Interaction Group. The pertinent section of Chapter 92, Hawaii Revised Statutes regarding the permitted interaction of members is as follows:

*§92-2.5 Permitted interactions of members. (a) Two members of a board may discuss between themselves matters relating to official board business to enable them to perform their duties faithfully, as long as no commitment to vote is made or sought and the two members do not constitute a quorum of their Board.*

*(b) Two or more members of a board, but less than the number of members which would constitute a quorum for the Board, may be assigned to:*

*(1) Investigate a matter relating to the official business of their Board; provided that:*

*(A) The scope of the investigation and the scope of each member's authority are defined at a meeting of the Board;*

*(B) All resulting findings and recommendations are presented to the Board at a meeting of the Board; and*

*(C) Deliberation and decision making on the matter investigated, if any, occurs only at a duly noticed meeting of the Board held subsequent to the meeting at which the findings and recommendations of the investigation were presented to the Board; or*

*(2) Present, discuss, or negotiate any position which the Board has adopted at a meeting of the Board; provided that the assignment is made and the scope of each member's authority is defined at a meeting of the Board prior to the presentation, discussion or negotiation.*

The involvement of the Board in the water rate study is an important opportunity to ensure a collaborative implementation of the long-term strategies identified in the WMP to address the needs of the BWS and its customers to achieve the mission of providing safe, dependable, and affordable water, now and into the future for our community.

Respectfully Submitted,

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

Attachment"

DISCUSSION: Ernest Lau, Manager and Chief Engineer, gave the report.

Chair Andaya stated that the BWS rate study plays an extremely important part of its current budget. He requested for three Board Members to participate in the Permitted Interaction Group (PIG) in the process of its rate study and asked for any volunteers.

Board Member Kaneshiro was the first to volunteer.

Board Member Sword volunteered second.

Chair Andaya volunteered to complete the three Board members to participate in the PIG.

Manager Lau thanked Chair Andaya, Board Member Kaneshiro, Board Member Sword, and Chair Andaya for volunteering as participants in the rate study PIG.

MOTION  
respectively,  
TO APPROVE

Kapua Sproat and Na'alehu Anthony motioned and seconded,

the Role of the Board in the Water Rate Study Process and Creation of a Permitted Interaction Group Pursuant to Hawaii Revised Statutes 92-2.5(b).

Ms. Cruz-Achiu conducted a roll call vote: Vice Chair Kapua Sproat, aye; Board Member Max Sword, aye; Board Member Na'alehu Anthony, aye; Board Member Jonathan Kaneshiro; aye; Board Member Warren Mamizuka, aye; and Chair Bryan Andaya, aye. Board Member Edwin Sniffen was absent.

Ms. Cruz-Achiu announced that the motion passed with six ayes.

TO DETERMINE THE ROLE OF THE BOARD IN THE WATER RATE STUDY PROCESS AND CREATION OF A PERMITTED INTERACTION GROUP PURSUANT TO HAWAII REVISED STATUTES 92-2.5(B) APPROVED ON JUNE 26, 2023			
	AYE	NO	COMMENT
BRYAN P. ANDAYA	X		
KAPUA SPROAT	X		
MAX J. SWORD	X		
NA'ALEHU ANTHONY	X		
JONATHAN KANESHIRO	X		
EDWIN H. SNIFFEN			ABSENT
WARREN K. MAMIZUKA	X		

**BOARD OF WATER SUPPLY  
CITY AND COUNTY OF HONOLULU, HAWAII**

**STATE REVOLVING FUND  
WATER SYSTEM REVENUE LOAN  
SERIES 2023 RESOLUTION NO. 968, 2023**

**AUTHORIZING UP TO  
\$100,000,000 PRINCIPAL AMOUNT OF SERIES 2023 LOANS**

**ADOPTED JUNE 26, 2023**

## TABLE OF CONTENTS

		<b>Page</b>
ARTICLE I	DEFINITIONS AND STATUTORY AUTHORITY .....	1
Section 1.01.	Series 2023 Resolution; Findings and Determination .....	1
Section 1.02.	Definitions.....	1
Section 1.03.	Authority for the Series 2023 Resolution .....	2
ARTICLE II	AUTHORIZATION, TERMS AND OBTAINING OF SERIES 2021 LOANS .....	2
Section 2.01.	Authorization of Series 2023 Loans, Principal Amount, Designation and Title.....	2
Section 2.02.	Purposes .....	2
Section 2.03.	Delegation of Authority .....	2
Section 2.04.	Authority to Enter into Series 2023 Loan Agreements.....	4
Section 2.05.	Execution of Documents .....	4
ARTICLE III	APPLICATION OF PROCEEDS.....	4
Section 3.01.	Application of Proceeds .....	4
ARTICLE IV	MISCELLANEOUS .....	4
Section 4.01.	Effectiveness .....	4

STATE REVOLVING FUND  
WATER SYSTEM REVENUE LOAN  
SERIES 2023 RESOLUTION NO. 968, 2023

AUTHORIZING UP TO  
\$100,000,000 PRINCIPAL AMOUNT OF SERIES 2023 LOANS

BE IT RESOLVED by the Board of Water Supply of the City and County of Honolulu, Hawaii (the “Board”), as follows:

ARTICLE I

DEFINITIONS AND STATUTORY AUTHORITY

Section 1.01. Series 2023 Resolution; Findings and Determination. (1) This State Revolving Fund Water System Revenue Loan Series 2023 Resolution authorizing up to \$100,000,000 principal amount of Series 2023 Loans is supplemental to, and constitutes a Series Resolution within the meaning of and is adopted in accordance with Article IX of, the Resolution, as hereinafter defined.

(2) It is hereby found and determined by the Board that it is necessary and desirable that the Board obtain from the Department of Health at this time one or more Loans to be designated as provided herein to provide monies to carry out one or more purposes of the Board.

Section 1.02. Definitions. (1) All terms which are defined in Section 1.01 of the Resolution shall have the same meanings, respectively, in this Series 2023 Resolution as such terms are given in said Section 1.01 of the Resolution.

(2) In addition, as used in this Series 2023 Resolution, unless the context shall otherwise require, the following terms shall have the following respective meanings:

“*Resolution*” means that certain resolution adopted by the Board on February 23, 2004 entitled “A Resolution Authorizing and Providing for State Revolving Fund Loans to be Obtained from time to time from the State of Hawaii Department of Health by the Board of Water Supply of the City and County of Honolulu, Hawaii, for the Purposes of the Water System of the City and County; Covenanting as to Establishment, Maintenance, Revision and Collection of Charges and Rates for the Use and Services of the Water System and the Collection and Disbursement of Revenues Derived therefrom; Pledging on a Junior and Subordinate Basis the Net Revenues Derived from the Water System to the Payment of the Principal of and Interest on such Loans as the same Fall Due; Creating and Establishing Certain Funds and Accounts; Setting Forth the Limitations or Conditions upon the Obtaining of Additional Loans Payable from such Revenues and Making Other Covenants and Agreements in connection with the Foregoing” as amended and supplemented.

“*Series 2023 Loans*” mean the Loans authorized by Article II of this Series 2023 Resolution.

“*Series 2023 Project*” means the Improvements authorized in the capital budget of the Board and identified in one or more SRF Series 2023 Loan Agreements to be financed.

“*Series 2023 Resolution*” means this State Revolving Fund Water System Revenue Loan Series 2023 Resolution authorizing up to \$100,000,000 principal amount of the Series 2023 Loans.

“*SRF Series 2023 Loan Agreements*” means one or more interim and final Loan Agreements to be entered into between the Department of Health and the Board pursuant to which the Department of Health is to make one or more loans to the Board and the Board is to obtain one or more of such loans from the Department of Health to finance the Improvements identified therein constituting a part of the Series 2023 Project.

(3) Words of any gender shall be deemed and construed to include correlative words of the other genders. Unless the context shall otherwise indicate, words importing the singular number shall include the plural number and vice versa, and words importing persons shall include firms, associations and corporations, including public bodies, as well as natural persons.

(4) The terms “hereby”, “hereof”, “hereto”, “herein”, “hereunder”, and any similar terms, as used in this Series 2023 Resolution, refer to this Series 2023 Resolution.

Section 1.03. Authority for the Series 2023 Resolution. This Series 2023 Resolution is adopted pursuant to the provisions of the Act and the Resolution.

## ARTICLE II

### AUTHORIZATION, TERMS AND OBTAINING OF SERIES 2023 LOANS

Section 2.01. Authorization of Series 2023 Loans, Principal Amount, Designation and Title. One or more Loans (collectively, the “Series 2023 Loans”) entitled to the benefit, protection and security of the Resolution is hereby authorized to be obtained from the Department of Health in an aggregate principal amount not to exceed \$100,000,000. The Series 2023 Loans may be initially obtained on different dates; provided that no Series 2023 Loan shall be obtained later than six years from the date of adoption of this Series 2023 Resolution. For purposes of this Series 2023 Resolution, a Series 2023 Loan is obtained when the Board receives money from the Department of Health and the amount of the Series 2023 Loan is the actual amount that the Board receives.

Section 2.02. Purposes. The purposes for which the Series 2023 Loans are being issued are (1) to pay the Costs of Improvements constituting the Series 2023 Project; (2) to make such deposit to the SRF Series Reserve Account in the SRF Revenue Fund as may be necessary in connection with obtaining the Series 2023 Loans; and (3) to pay the costs of obtaining of the Series 2023 Loans.

Section 2.03. Delegation of Authority. (1) There is hereby delegated to any Authorized Officer of the Board, subject to the limitations contained herein and in the Resolution



and the Act, the power with respect to the Series 2023 Loans to determine and carry out the following:

(a) The terms and provisions of each Series 2023 Loan to be obtained from the Department of Health to finance the cost of one or more Improvements; *provided, however,* that all terms and provisions shall be in the best interest of the Board and shall carry out the purposes of the Board;

(b) The principal amount and designation and title of each Series 2023 Loan to be obtained; *provided however,* that the principal amount of all Series 2023 Loans shall not exceed \$100,000,000 or, together with other bonds and loans of the Board, any applicable limit approved by the City Council to be issued or obtained by the Board;

(c) The specific Improvements constituting the Series 2023 Project to be financed from the proceeds of the Series 2023 Loans;

(d) The date or dates, maturity date or dates and principal amount of each maturity of each 2023 Loan;

(e) The interest rate or rates of each Series 2023 Loan, the date from which interest on such Series 2023 Loan shall accrue, the dates on which interest on such Series 2023 Loan shall be payable, if any; *provided, however,* that the true interest cost (as determined by an Authorized Officer of the Board, which determination shall be conclusive) on the Series 2023 Loans shall not exceed eight percent (8%) per annum;

(f) The Paying Agent or Paying Agents for the Series 2023 Loans and the place or places of payments of the principal, Sinking Fund Installments, if any, prepayment price of and interest on the Series 2023 Loans, if other than the Board;

(g) The prepayment prices, if any, and the prepayment terms, if any, for the Series 2023 Loans, *provided, however,* that the prepayment price of Series 2023 Loans at the election or direction of the Board shall not be greater than one hundred three percent (103%) of the principal amount of the Series 2023 Loans to be prepaid, plus accrued interest thereof to the prepayment date;

(h) Any provisions with respect to funds and accounts and subaccounts therein, if applicable, and the Revenues and application thereof, as provided in Article V of the Resolution;

(i) Whether a SRF Series Reserve Account shall be established for the Series 2023 Loans, and if so determined to be established, the amount of the SRF Series Reserve Account Requirement and the method of funding or providing for such SRF Series Reserve Account Requirement, and any provisions with respect to subaccounts therein, if applicable, and the Revenues and application thereof, as provided in Article V of the Resolution;

(j) Directions for the application of the proceeds of each Series 2023 Loan, including the interest on the Series 2023 Loans to be capitalized from the proceeds thereof, if any, and the date or dates to which such capitalized interest shall accrue; and

(k) Any other provisions deemed advisable by an Authorized Officer of the Board, not in conflict with the provisions hereof or of the Resolution.

(2) Such Authorized Officer shall set forth in the Series 2023 Loan Agreements the determinations or other actions taken pursuant to the authority granted herein or in the Resolution and any such Series 2023 Loan Agreements shall be conclusive evidence of the action or determination of such Authorized Officer as to the matters stated therein.

Section 2.04. Authority to Enter into Series 2023 Loan Agreements. Any Authorized Officer of the Board is hereby authorized to execute, and acknowledge and agree to, one or more Series 2023 Loan Agreements in the name and on behalf of the Board in substantially the form as presented at the meeting at which this Series 2023 Resolution is adopted, which form is hereby approved, with such changes, insertions and omissions as may be approved by such Authorized Officers, such execution and acknowledgement and agreement being conclusive evidence of such approval; provided that no Series 2023 Loan Agreement shall be entered into later than four years from the date of adoption of this Series 2023 Resolution

Section 2.05. Execution of Documents. Any Authorized Officer of the Board is hereby authorized to execute and deliver, in the name and on behalf of the Board, any and all documents and instruments, and to do and cause to be done any and all acts and things, such Authorized Officer deems necessary or advisable in connection with obtaining the Series 2023 Loans from the Department of Health and to carry out the transactions contemplated by this Series 2023 Resolution.

### ARTICLE III

#### APPLICATION OF PROCEEDS


Section 3.01. Application of Proceeds. On the date each Series 2023 Loan is obtained, the proceeds of such Series 2023 Loan shall be applied in accordance with the written direction of any Authorized Officer given pursuant to Section 2.03(1)(j) of this Series 2023 Resolution.

### ARTICLE IV

#### MISCELLANEOUS


Section 4.01. Effectiveness. The Series 2023 Resolution shall become effective immediately upon its adoption.

INTRODUCED BY:

  
Bryan P. Andaya, Chair  
Date of Introduction: June 26, 2023

ADOPTION OF RESOLUTION NO. 968, 2023, AUTHORIZING UP TO \$100,000,000 PRINCIPAL AMOUNT OF SERIES 2023 STATE REVOLVING FUND WATER SYSTEM LOANS WAS ADOPTED ON JUNE 26, 2023			
	AYE	NO	COMMENT
BRYAN P. ANDAYA	X		
KAPUA SPROAT	X		
MAX J. SWORD	X		
NA'ALEHU ANTHONY	X		
JONATHAN KANESHIRO	X		
EDWIN H. SNIFFEN			ABSENT
WARREN K. MAMIZUKA	X		

The above and foregoing resolution is hereby approved as to form and legality this June 26, 2023.

  
\_\_\_\_\_  
Deputy Corporation Counsel  
City and County of Honolulu  
JESSICA Y.

ITEM FOR INFORMATION NO. 1

“June 26, 2023

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, Hawaii 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 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 Sword recalls reading a publication stating that there wasn't enough information in a document that the Navy released.

Manager Lau responded that two documents were released during May and June 2023. The Supplement Two Defueling Plan states that defueling would begin in October 2023 and finish in January 2024, with approximately 100,000 to 400,000 gallons of residual fuel remaining in the tanks. The Supplement Two Closure Plan states that three large steel pipelines connected to the tanks from Red Hill to Pearl Harbor would be used to hopefully remove the remaining fuel, which could take at least three or more years to complete.

Board Member Sword recalls the article he read, mentioning that the Navy wasn't fined enough. He asked what would happen if there was another spill.

Manager Lau replied that the 2023 Administrative Order of Consent (AOC) was proposed by the Environmental Protection Agency (EPA), the Navy, and the Defense Logistics Agency (DLA), which outlined penalties that were very minimal compared to the risks that Red Hill would pose on the public. The 2023 AOC indicated a fine of \$10,000 the first week and \$5,000 a week subsequently for noncompliance.

Board Member Sword inquired if the fine was addressed.

Manager Lau stated that the EPA, the Navy, and the DLA finalized the 2023 AOC. However, the Red Hill issue continues simultaneously with various moving pieces at different levels and areas.

Board Member Anthony stated that the Department of Health released the exposure assessment that Dr. Roger Brewer was working on a week ago. He commented that from only reading a portion of the exposure assessment, it seemed as if the DOH did not know the effects of the exposure would have on the community. He asked if the BWS had any comments.

Deputy Manager Erwin Kawata agreed with Board Member Anthony's comment. He stated that the exposure assessment did not mention the long-term impact of the different chemicals present during the 2021 release. However, the document noted the different kinds of chemicals and acknowledged the presence of petroleum constituents and additives, such as deicing chemicals in jet fuel, which has been thought of over the last several years. Deputy Manager Kawata commented that the exposure assessment is a very important document that is being reviewed by the technical team. The BWS will be able to provide an assessment as soon as an evaluation is completed.

Manager Lau shared that he reached out to the DOH to inquire if they would be open to amending the health advisory issued in 2021 since doing its latest assessment, which would assist people impacted to access better medical care. The BWS has not received a response from the DOH yet.

Board Member Anthony stated that since there are many unknown answers, it is critical that the BWS be cautious moving forward as the purveyor of water.

There was one in-person testifier:

<b>Susan Pcola-Davis</b>	<i>Commented on the Navy's response to the DOH regarding Red Hill's closure and supplement 2, FTAC meeting, and questions from the community directed to FTAC, . She also provided a 16-page attachment.</i>
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# JUNE 2023 RED HILL UPDATES

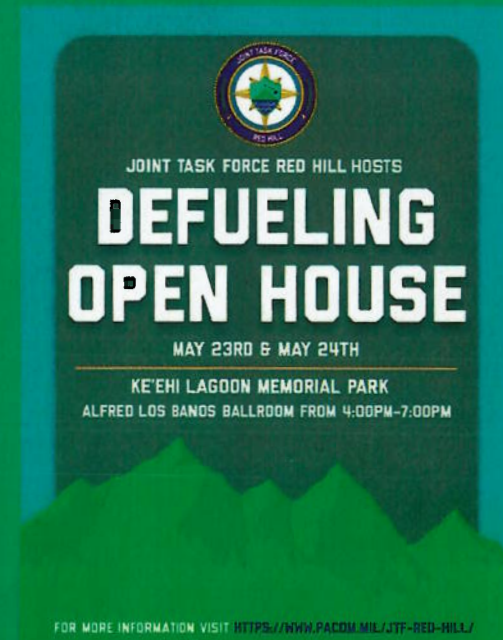
June 26, 2023

[boardofwatersupply.com](http://boardofwatersupply.com)

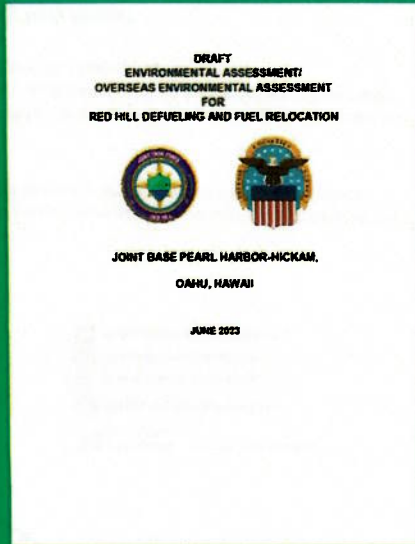
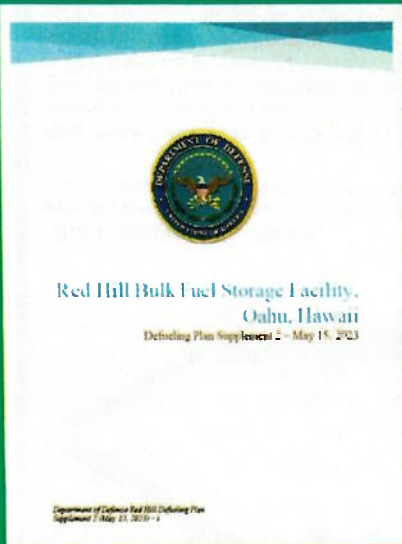


# RECENT EVENTS

- Joint Task Force –Red Hill Defueling Open House
- Met with EPA on 2023 Consent Order
- Fuel Tank Advisory Committee Open House and Meeting
- Red Hill Remediation Roundtable
- EPA's Groundwater Result Application  
<https://www.epa.gov/red-hill-groundwater-result-application>
- Met with ASN-EIE Meredith Berger
- Met with Navy Admirals







# DEFUELING

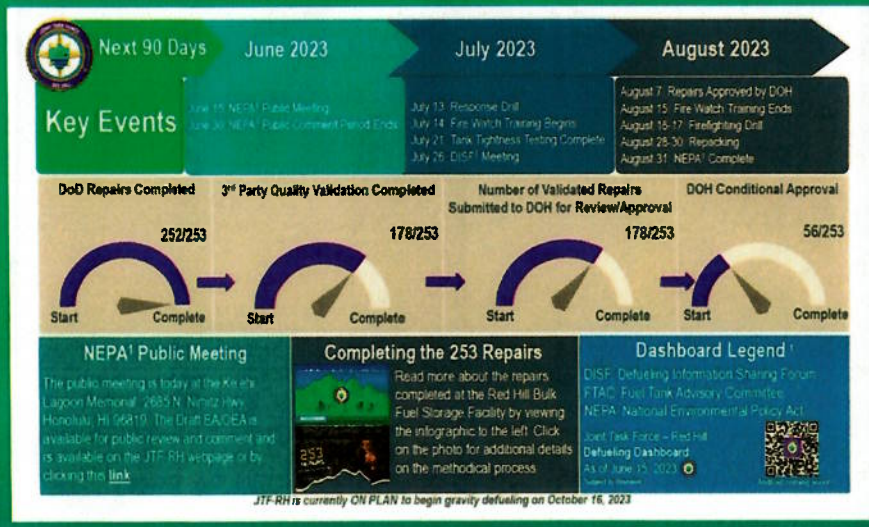
## Defueling Plan Supplement 2

- Defueling Timeline: October 16, 2023 – January 19, 2024
- 99.85 % of fuel will be removed.

Potentially 100,000 - 400,000 gallons of fuel to remain at the end of defueling

- Manual removal of fuel
- Unclear how long this may take

<https://www.pca.com/hill/JTF-Red-Hill/Defueling-Plan-Supplement-2>



## Environmental Assessment for Red Hill Defueling and Fuel Relocation

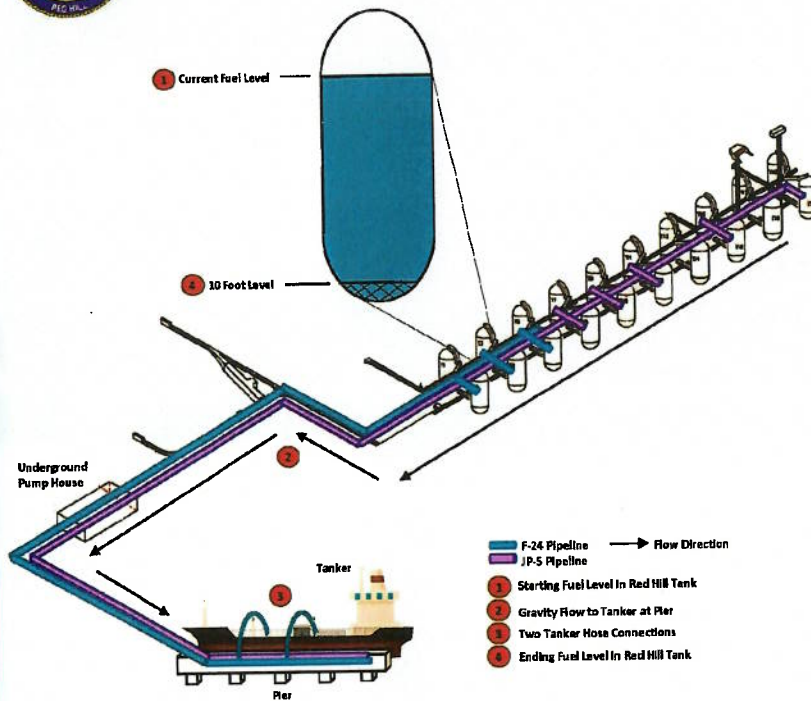
- Public Comment period ends June 30<sup>th</sup>

<https://www.pca.com/hill/JTF-Red-Hill/NEPA-Comment/>





## DEFUELING - TANK MAINS



### What is Defueling Tank Mains?

Defueling tank mains is the evolution that transfers the bulk amount of fuel from the 14 active Red Hill tanks to tanker vessels at Pearl Harbor pier. Fuel is transferred by gravity flow through the Red Hill pipelines.

### How Much Fuel Will Be Transferred?

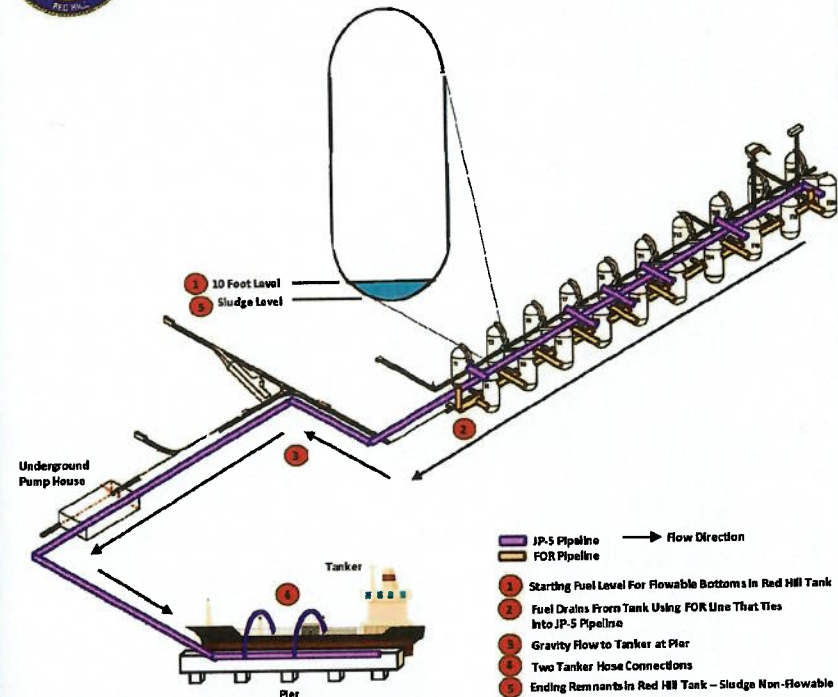
Starting tank fuel levels vary from 60-212 ft. or 2.5-11.4M gallons. This evolution is designed to transfer fuel down to the 10 ft. level or ~120K gallons for all 14 tanks. Fuel transferred during this phase will be ~50M gallons of JP-5, ~12M gallons of F-76 and 41M gallons of F-24, totaling ~103M gallons.

### Will Only Tanker Vessels Be Used For Defueling Tank Mains?

Red Hill fuel is planned to go to tankers. Up to 15% could be redirected to refill Pearl Harbor or Hickam tanks.



## DEFUELING – FLOWABLE TANK BOTTOMS



### What is Defueling Flowable Tank Bottoms?

Defueling flowable tank bottoms transfers the remaining “flowable” fuel from the 14 active Red Hill tanks to a tanker vessel at Pearl Harbor pier. This fuel is below the tank’s main fuel line low suction level; the point where the primary fuel lines come into each tank. To remove this remaining fuel, a smaller drain line at the bottom of each tank is used.

### How Much Fuel Will Be Transferred?

This evolution transfers ~120K gallons of fuel from each of the 14 tanks or 1.68M gallons total.

### What is meant by Flowable?

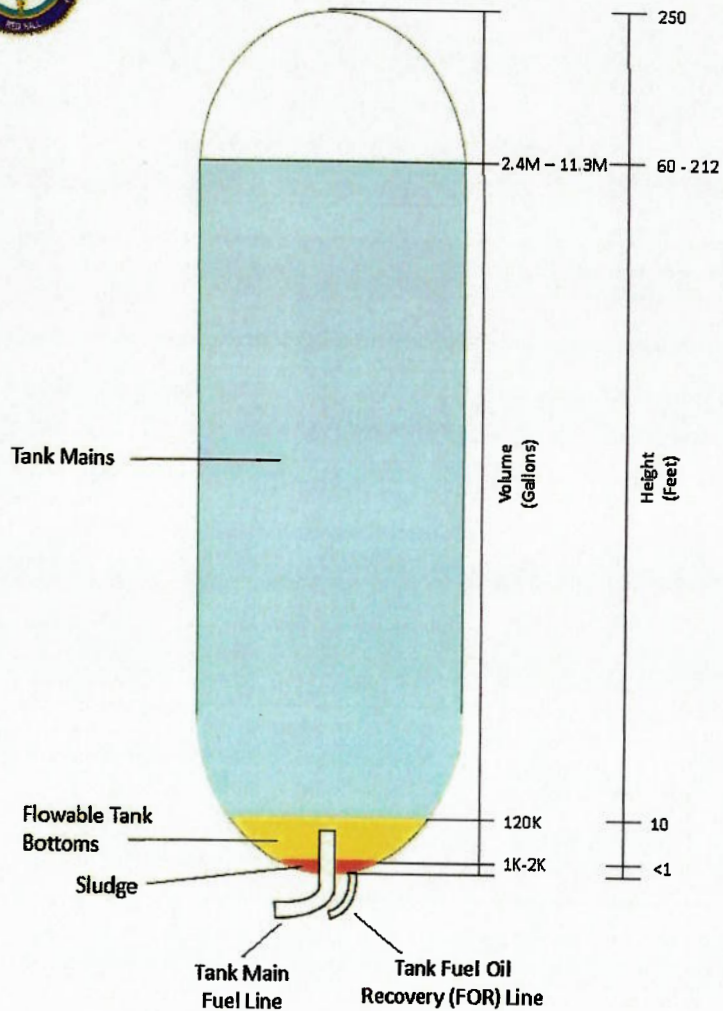
Flowable is the liquid fuel that can be drained from the tanks by gravity. What remains is ~1-2K gallons of fuel sludge (non-flowable), that will be removed by entering the tank as part of the cleaning and closure process.



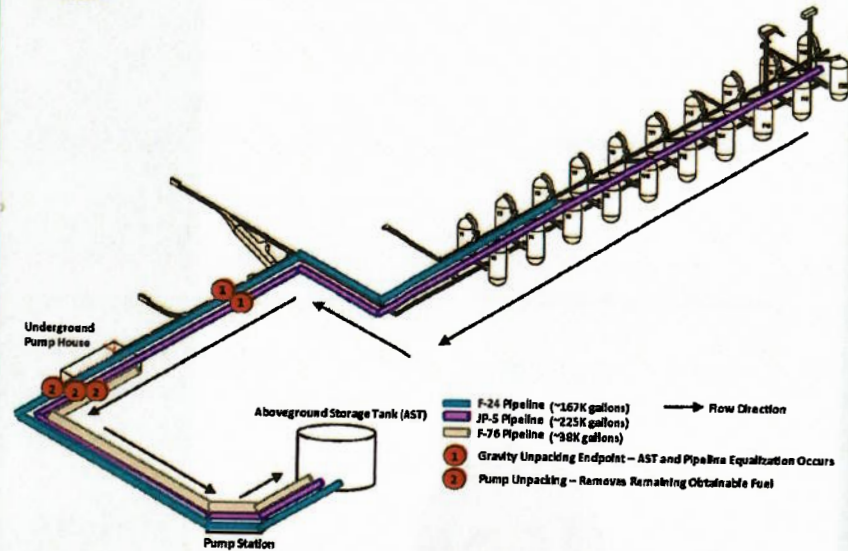




## TANK SCHEMATIC - FUEL SECTIONS



## PIPELINE UNPACKING



### What is Pipeline Unpacking?

Pipeline unpacking is the stage of defueling that removes a majority of the fuel in the Red Hill pipelines. It involves two steps: 1) Use gravity to transfer fuel to an above ground storage tank (AST) until the levels equalize, 2) Use low points outside the underground pumphouse and pumps to pull additional fuel from the pipeline and send to an AST.

### How Much Fuel Will Be Unpacked?

Unpacking will remove ~185K gallons of F-24, ~250K gallons of JP-5, and ~90K gallons of F-76 for a total of ~525K gallons.

### After The Lines Are Unpacked Will Any Fuel Remain?

There will be residual fuel that remains throughout the Red Hill pipelines, at bends, low points, and valves, etc. that cannot be removed by gravity or pulled out during the pumping step. This residual fuel will require maintenance actions to access and remove and will be addressed during the closure process.



# CLOSURE of Red Hill Bulk Fuel Storage Facility

## Tank Closure Plan -Supplemental 2

- Removal of 3 fuel pipelines
- Alternative 1: Close In-Place
- Structural Assessment

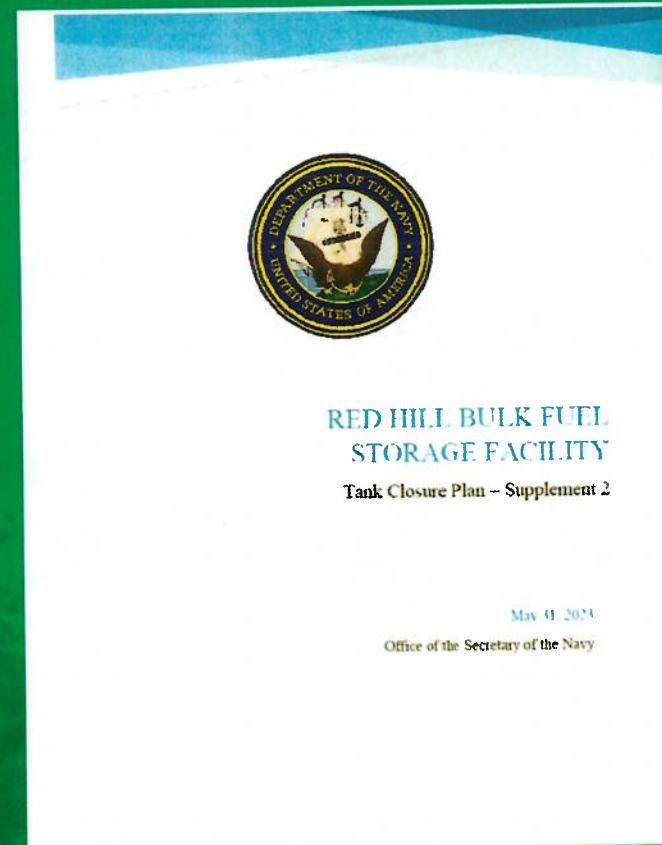
## Beneficial Reuse

Nakupuna Companies

Qualitative and Quantitative Survey on non-fuel reuse of tanks

<https://www.redhillrepurposing.com/>

Tank Closure: August 2027





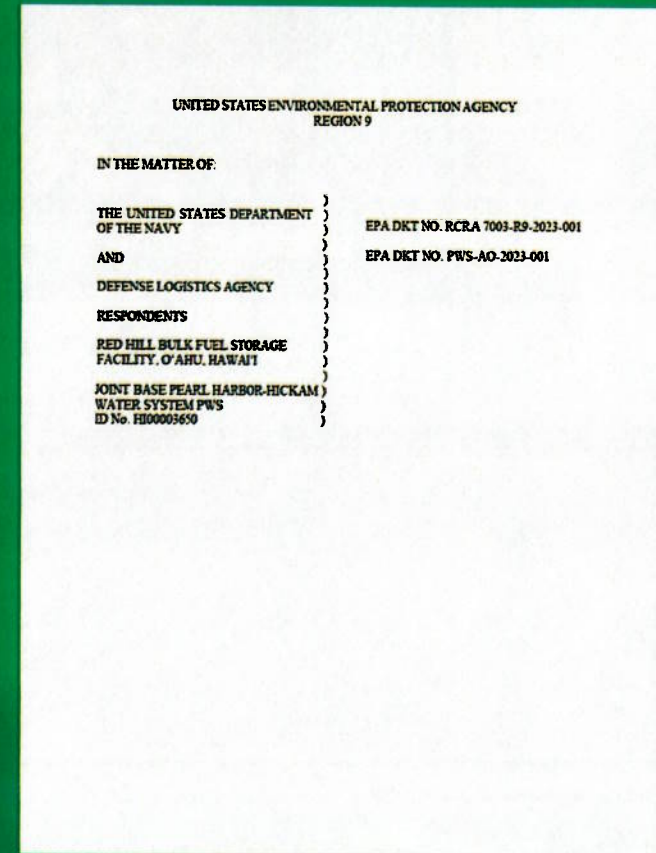
# 2023 Administrative Consent Order

Environmental Protection Agency(EPA) to oversee Navy's defueling and closure of Red Hill Bulk Fuel Storage Facility

- Phase 1: Defuel and Closure of facility
- Phase 2: Site investigation and response to soil, groundwater, and soil vapor that may have been contaminated by the Facility

2015 Administrative Order on Consent

- Investigation and Remediation of Release
- Groundwater Protection and Evaluation



# UPCOMING EVENTS

- Subject Matter Expert Meeting
- Community Representative Initiative (CRI) Group Scope and Information Meeting
  - July 27, time and location to be determined
- Red Hill Remediation Roundtable
  - August 2023







# MAHALO!

June 2023 Red Hill Updates

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

Board of Water Supply

June 26, 2023

Testimony

Susan A. Pcola-Davis

**Reference A1: RESPONSES FROM NAVY TO DOH REGARDING CLOSURE AND SUPPLEMENT**

**Reference A2: RESPONSES FROM NAVY TO EPA REGARDING CLOSURE AND SUPPLEMENT**

**Reference B: MY CLOSURE SUPPLEMENT 2 CONCERNS**

**Reference C: FTAC EXCERPTS**

**Reference D: COMMUNITY QUESTIONS TO FTAC**

**Reference A1: RESPONSES FROM NAVY TO DOH AND EPA REGARDING CLOSURE AND SUPPLEMENT 1**

1. Navy Response to DOH Comments of 15 March 2023 Tank Closure Plan
2. Response to EPA Comments of 7 April 2023 on the Closure Plan, Analysis of Alternatives, and Supplement 1.

This only contains my points of interest in either of the two documents regarding closure.

The recommendation from the Navy to remove all 3 pipelines was first offered in Supplement 2 but has a small reference here also in the comment by the DOH by which the Navy then agrees as early as 15 March 2023.

Of note: Between the requests from the DOH and EPA and the responses to both, the Navy changed course and proposed removing the 3 pipelines.

1. Navy Response to DOH Comments of 15 March 2023 Tank Closure Plan



**As stated by the Navy Response to DOH:** “Most importantly, the Navy did not consider cost as a factor in selecting the preferred alternative of Closure in Place. Instead, Closure in Place was chosen because it provides the safest approach for site workers, the quickest schedule, and the least impact on the environment and local community, while having no significant constraints on engineering feasibility and allowing the potential for beneficial non-fuel reuse of the tanks.

**NAVY:** (Change of course):

Supplement 2 describes the Navy plan to remove the 3 large fuel pipelines under Alternatives 1 and 2, thereby rendering the tanks incapable of being used again for fuel storage.

### Specific Comments

**My Thoughts:** The DOH and Navy have been meeting regularly. Now the proposal to remove the 3 pipelines is suggested.

**Example 1: (DOH)** The Tank Closure Plan’s discussion of ***potentially opening the Facility to the public, for example, as a museum, or a different beneficial reuse***

**Example 2: (DOH)** How will the pipes be cleaned and verified as clean? **Unless recommends all fuel pipelines located in the lower access tunnel and harbor access tunnel be removed.**

**Example 3: (NAVY)** **The Navy concurs with the recommendation, and Supplement 2 describes the Navy plan to remove the fuel pipelines from the lower access tunnel and harbor access tunnel.** The Navy does not expect the existing fuel pipelines to be adequate for any beneficial non-fuel reuse. Instead, new pipelines would need to be installed if required by the selected reuse option.

**Example 4: (DOH)** Due to the historical significance of the site, after closure would the Facility be **transferred to another Federal Agency, such as, the National Park Services?**

**Example 5: (Navy)** At present, the Navy does not anticipate transferring the Red Hill Bulk Fuel Storage Facility to another federal agency.

**Example 6: (DOH)** It is difficult to determine true cost without knowing what the reuse is, as there may also be an **economic benefit from the reuse.**

**My thoughts:** The public has the same question. If the reuse portends use and access to the public, the state gains NO REVENUE from entry fees unless the facility is transferred. It can't be transferred due to the location Red Hill Shaft!

**The Unknown: (Navy)** The Navy will further evaluate the removal of specific metal components when the beneficial non-fuel reuse is selected.

Specific maintenance requirements may also depend on the beneficial non-fuel reuse, so the Navy will submit a plan for monitoring and maintenance of the tanks in a future supplement.

As additional information on the non-fuel reuse becomes available, the Navy will update the closure design and the post-closure monitoring and maintenance program.

Future supplement(s) will provide further information necessary to support the closure in place alternative. The uncertainty exists at present and will remain until the non-fuel reuse option is selected.

**Reference A2: Response to EPA Comments of 7 April 2023 on the Closure Plan, Analysis of Alternatives, and Supplement 1.**

**My Thoughts:** EPA has not been part of the meetings between DOH and the Navy.

**Example 1: (EPA)** Navy states that, “[a]ll four closure alternatives will render the tanks incapable of being used for fuel storage and will effectively eliminate any future possibility of the tanks containing fuel.” EPA disagrees with this statement.

**(NAVY):** Supplement 2 to the Tank Closure Plan provides additional information on how the Navy will render the tanks incapable of being used for fuel storage. The three fuel pipelines will be removed between the tanks and the underground pumphouse, effectively eliminating any future possibility of the facility being used to store fuel.

**Example 2: (EPA)** The report does not evaluate the cost of maintaining the structural integrity of the tanks over the long term. Will this cost be estimated by Navy, and will this review be impacted by tank reuse/closure choice?

**NAVY:** Most importantly, the Navy did not consider cost as a factor in selecting the preferred alternative of Closure in Place. Instead, Closure in Place was chosen because it provides the safest approach for site workers, the quickest schedule, and the least impact on the environment and local community, while having no significant constraints on engineering feasibility and allowing the potential for beneficial non-fuel reuse of the tanks.

**Example 3: (EPA)** How will the piping be managed for different closure options? How will it be cleaned and verified clean? Does Navy expect to find lead-based piping and/or appurtenances that need special handling?

**NAVY:** Piping and appurtenances that are left in place will be maintained by repainting and sealing in accordance with EPA regulations for lead paint management. **No regulated friable asbestos containing material (ACM) has been identified at Red Hill; however, the Navy has identified non-friable ACM in gaskets associated with the pipe flanges.** The contractor’s methods and means for ACM management will be included in the Environmental Protection Plan that will be approved by the Navy and submitted to EPA and DOH for review and comment.

**Example 4: (EPA)** The statement, “[p]otential beneficial reuse must be viable assuming the **DOD will continue to own the property**” is unclear. Please provide clarification to the term, “viable,” in this sentence.

**Navy:** The statement means that the beneficial reuse must work under the condition that DOD still owns the property. In other words, if a potential reuse depends on property transfer to a new owner, then it would not be a viable reuse.

**Example 5: (EPA)** Please provide clarification to the statement, “[p]otential beneficial reuse must be considered viable based on the current DON proposal for tank and pipeline closure...”. Is it correct that reuse cannot involve the removal/destruction of any tanks or pipelines, and that the surge tanks must be filled with inert material?

**NAVY:** The details of tank and pipeline closure are being discussed **at ongoing technical meetings among DOH, EPA, and Navy**. Some of the details may change, but the expectation is that the large USTs will be closed in place and the surge tanks will be filled with inert material. The potential reuse must be viable in the sense that it must work with the conditions that exist following closure activities. For example, if the reuse depends on using the surge tanks, then it would not be viable if the tanks are already filled.

**EPA:** In response 1(g), Navy states, “[w]hile consideration of non-fuel reuse is dependent on the permanent tank closure method selected, it is a separate process from underground storage tank (UST) closure.” Please clarify this response. Is Navy suggesting that reuse is outside the scope of UST closure requirements? Regulatory closure involves permanent tank closure, site assessment, and necessary remediation.

**NAVY:** The Navy agrees that regulatory closure under the HAR 382G involves permanent tank closure, site assessment and necessary remediation, but the HAR 382G **does not address reuse (absolutely true)**. While reuse can only occur if the tanks are properly closed in place, **the Navy believes that reuse is outside the scope of UST closure requirements, and we are not aware of other closed USTs that have been reused for non-fuel purposes**. Beneficial non-fuel reuse will

almost certainly require analysis under the National Environmental Policy Act, and the EPA and the public will have opportunities to provide input.

# Reference B: MY CLOSURE SUPPLEMENT 2 CONCERNS

## Introduction

The SECDEF established that the Joint Task Force-Red Hill (JTF-RH) would lead and execute all defueling activities, after which the Department of the Navy (DON) **[Navy Region Hawaii (NRH)-RADM Barnett]** would commence with the closure of the facility.

### 1.1 Department of the Navy Tank Closure Plan History

With the submission of the third-party analysis, the DON (NRH) formally sought DOH approval for ALTERNATIVE 1: Closure in Place as the permanent closure method. The DON selected this alternative because it will allow for **potential beneficial non-fuel reuse of the tanks** while minimizing impacts to the environment, local community, safety concerns, and closure schedule.

### 1.2 Contents of Tank Closure Plan Supplement 2

This Supplement 2 builds upon the previous November 1, 2022, December 22, 2022, and February 28, 2023 submissions. Supplement 2 provides the following:

- **A plan for removal of the three fuel pipelines (1<sup>st</sup> time Public heard about this!!!)**

## 2. Removal of the Fuel Pipelines

The original Tank Closure Plan (submitted November 1, 2022) and Supplement 1 (submitted February 28, 2023) describe the DON's plan to clean the pipelines associated with the 20 large fuel storage tanks at the RHBFSF. **Based on further analysis since that time, the DON has decided to remove and properly dispose of the three large fuel pipelines, rather than clean them in place as described previously.**

**In general, pipelines must be designed for their intended purpose, so the Navy does not expect the existing fuel pipelines to be adequate for any beneficial non-fuel reuse. Instead, new pipelines would need to be designed and installed if required to support the selected reuse option.**

## 2.2 General Considerations

Adit 3 currently contains a large diameter water line coming from the Harbor Tunnel and other equipment that restrict its use for equipment and material access. **As a result, it is expected that pipe removal** will be performed at Adit 2 or another adit selected by the contractor.

## 2.3 Pipeline Removal

Removal efforts will include the three large fuel pipelines and associated valves, steel frame supports, and other appurtenances.

**Throughout the removal process, the water line from the Harbor Tunnel will be protected.**

### My Thoughts: How will the water line be protected?

Due to the potential presence of residual fuel in low points and behind valves, the contractor will be responsible for primary and secondary containment, as well as proper removal and disposal of any residual fuel, in accordance with applicable environmental laws and regulations.

Space limitations will hinder all removal activities, especially in the Harbor Tunnel where the large water line must remain in place and metal ribs provide structural support for the tunnel.

**My Thoughts: There must be a clearly defined plan on how the large water line and metal ribs will be protected. There must be a safety plan if either of those are compromised.**

The contractor will be responsible for safely cutting the pipe into sections and removing the pipe from the facility. **Multiple solutions may be required**, one for the Harbor and Lower Access Tunnels and one for the Tank Gallery.

**My Thought: Multiple solutions must be delineated and the chosen method accurately defined.**

**My thoughts:** Asbestos is a health hazard. Employees must have proper PPE before removal. Suggest an OSHA Official be involved in the proper PPE. As far as the estimate of 5% of piping containing asbestos is concerned, an estimate is NOT



acceptable. Unidentified friable asbestos is another safety concern. If during removal will the workers be able to identify friable asbestos?

The Navy estimates approximately 5% of the piping between Pearl Harbor (Adit 1) and the Red Hill tank farm may contain asbestos. Prior to cutting and removal of pipe, the contractor will remove and dispose of asbestos wraps in accordance with applicable laws and regulations. No regulated friable asbestos containing material (ACM) has been identified at Red Hill; however, the Navy has identified non-friable ACM in gaskets associated with the pipe flanges. Therefore, if a pipe flange must be disturbed or removed, the work will be conducted in accordance with the NESHAP 40 CFR Part 61, subpart M Standard for Demolition and Renovation, which includes notification 10 days prior to commencing work.

When conducting demolition activities on asbestos-containing pipe flange gaskets, the contractor will establish and maintain worker protections as required by 29 CFR 1926.1101.

***SAFETY INPUT:*** *Non-friable asbestos is a type of asbestos that is not easily crumbled or reduced to dust. It is often found in vinyl floor tiles, roofing products, and adhesives. Non-friable asbestos may become friable if it is damaged, thrown, dropped, or subjected to power tools. Non-friable asbestos removal requires notification, wet methods, careful handling, and disposal by a certified professional. Non-friable asbestos removal is subject to the same requirements as friable asbestos removal if the material becomes friable during the process<sup>12</sup>.*

*Asbestos-containing materials are either friable or non-friable. Friable asbestos is high risk. Friable asbestos can be crumbled, pulverised or reduced to a powder by hand pressure. Non-friable asbestos is lower risk. It is mixed with cement or other hard bonding materials. Non-friable asbestos can become friable if damaged or old<sup>2</sup>.*

***You can't tell if a material contains asbestos just by looking at it.***

*Identifying asbestos requires testing by a licensed asbestos lab*<sup>3</sup>. *If you think you may have asbestos in your home or on your work site, use our Asbestos Checker*<sup>3</sup>. *You can't confirm asbestos by sight or smell*<sup>3</sup>. *Use a licensed asbestos assessor who will test the sample to confirm asbestos*<sup>3</sup>.



The contractor will sever the wall, ceiling, and floor connections as needed. Baseplates, anchors, and a maximum of 6-inches of connecting steel will be abandoned in place. Steel mainline supports (supports directly underneath the pipelines that run the length of the tunnel) in the Tank Gallery will remain as they support electrical, water, and other utilities that must stay in place. Thrust blocks and concrete supports for the largest pipeline will remain.

## 2.5 Schedule

As a rough order of magnitude (ROM) estimate, the duration of pipeline removal activities will be **approximately three years**. **The three-year estimate does not include preliminary processes such as project planning, programming of funds, design, and contractor procurement.**

**BUT MOST IMPORTANT FOR THE PUBLIC IS THIS TIMELINE!!**

JUL 2023	NAVFAC EXWC	Contract Award - Tank Cleaning
NOV 2023	CNRH	Public Stakeholder Engagement – FTAC, Public Outreach Results
NOV 2023	NAVFAC Hawaii	Draft Sampling and Analysis Plan
DEC 2023	CNRH	Press Release
FEB 2024	SECNAV	Beneficial Non-fuel Reuse Report submitted to Congress and report available to public
JUN 2024	CNRH	Press Release (Semi-annually as needed during closure)
NLT JUL 2024	NAVFAC Hawaii	Tank cleaning begins
NLT AUG 2027	NAVFAC Hawaii	Tank cleaning ends
NLT AUG 2027	CNRH	Press Release
NLT SEP 2027	CNRH	UST Closure Assessment Report (within 30 days after UST permanently closed)

## Reference C: FTAC EXCERPTS

**RADM Barnett:**

The closure plan has 4 options for closure. First, option is closure to close in place.

The second option is closed, in place for potential beneficial, not fuel reuse. **This was requested that we look at this by a DOH during a 14 July last year, on a meeting that we had with senior Navy leaders, also with DOH.**

**My Thoughts: Was the public invited, informed or asked for input? EPA?**

The third option is close and fill, and the fourth option is close, and remove the steel liner and fill.

The Navy has formally requested DOH approval and option one which is to close in place and executing this plan will take roughly 3 years. Why? Well, this is the most limited impact to the environment. It's most limited impact to the surrounding community.

Phase 2 is the planning for the beneficial reuse and tanks like I mentioned. **This was at the request of DOH to be included as a plan.** During our meeting confer on July the fourteenth of last year. (July 14, 2021)

Nakapuna (contract to survey public) will present **a final report in November of this year**, categorizing all the input that was that was received.

**My Thoughts: Provide the names of all interviewees. Waiting until November for this report is unacceptable!**

**Navy Region Hawaii (NRH) has a timeline of February 2024 submission of beneficial non reuse report to SECNAV. There is a large gap between November 2023 and February 2024. There is NO indication of a meeting engaging the public.**

**RADM Barnett continues:**

For the regular tanks we have decided to remove and properly dispose of the 3 large fuel pipeline systems rather than clean them in place, as previously described.

With the pipelines removed, the tanks cannot be refilled. Pipeline removal is a clear and tangible demonstration of our commitment to the public and to the regulatory agencies and other stakeholders that we don't want this facility to be ever used for fuel or hazardous material. Again.

**STATING THE OBVIOUS: The Navy has the lease on the land. If there is a plan for non-fuel reuse plan, WHO PAYS FOR IT?**

## Reference D: COMMUNITY QUESTIONS TO FTAC

**Audience Question:** "...My second one is very brief. I was surprised to hear that DOH came up with the idea of the repurposing, that they brought it up. What do they care?

Did somebody suggest that to you and just suggested it? And then just a simple question. Why did you (DOH) bring it up? Of all the agencies who'd be interested in. That's my 2nd question."

**Note Any References to \*HRS 342G or \*\*HAWAI'I 2000 PLAN for Integrated Solid Waste Management, State of Hawai'i, Department of Health Office of Solid Waste Management July 2000 are misrepresented and fabricated.**

### **DOH Solid Waste Branch Answer:**

#### **Joanna Seto:**

Thank you for that question. The state solid waste management priorities consider the following hierarchy, source reduction and reuse.

**Recycling before and disposal. So based on the state solid waste laws we need to follow those, and being that there is *historical value* of the facility. We believe (WHO?) that it's appropriate to consider possible reuse options prior to disposal.**

**We need to look at recycling before disposal. So this is primarily from our solid waste management priorities.**

**I'm going to call up my solid waste branch.** Solid waste, supervisor. This is somebody else is coming out to help me answer that question.

#### **Linae Ichinose:**

**\* HRS Chapter 342. G.** Identifies the State's solid waste hierarchy in which we are required to look at prior to disposal. And so that's a consideration that needs to be done, should be done, but not necessarily have to be done.

I guess it is. It's kind of the reduce, reuse, recycle issue that we want to pursue as far as an environmental protection management strategy.

**\*342G-Statute.pdf (hawaii.gov)**

**Kevin:** How is the reuse of this facility as it's designed? In other words, you want to reuse a facility. It's only been used for fuel.

How can you guys at DOH reuse it in any way that won't have to do with fuel?

**Linae Ichinose:**

So we recognize the historical nature of the facility. So you know, one thought could be, and I think Nakapuna mentioned that some of the input that they received from the public was non liquid reuse. So that's a possibility that could occur.

But you know it's a museum of sorts is the one option. So it's a consideration to be made before a decision is rendered.

**So we're just asking for that consideration.**

**HRS Chapter 342. G.**

**The link is shown above. I thoroughly read that statute and I could not find one iota of what she said.**

**Also I have read the **\*\*Solid Waste Branch Resource****

[Solid & Hazardous Waste Branch | ISWMP \(hawaii.gov\)](#)

**\*\*HAWAI'I 2000 PLAN for INTEGRATED SOLID WASTE MANAGEMENT  
State of Hawai'i Department of Health Office of Solid Waste Management  
July 2000**

I cannot find anything that would even relate to reduce, recycle, reuse related to the closure plan.

It does not exist in either.

**ITEM FOR INFORMATION NO. 2**

“June 26, 2023

**UPDATE ON  
THE DRAFT  
PROPOSED RATE  
SCHEDULE AND  
INPUT FROM  
THE BOARD**

Chair and Members  
Board of Water Supply  
City and County of Honolulu  
Honolulu, Hawaii 96843

Chair and Members:

**Subject: Update on the Draft Proposed Rate Schedule and Input From the Board**

Dave Ebersold of CDM Smith and Joseph Cooper, Waterworks Controller, Finance Division, will present an update on the draft rate schedule.

Respectfully Submitted,

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

Attachment”

The foregoing was for information only.

**DISCUSSION:**

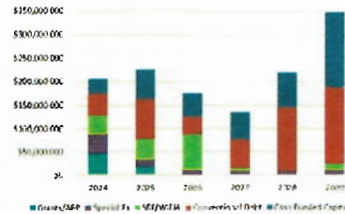
Dave Ebersold, CDM Smith, and Joseph Cooper, Waterworks Controller, Finance Division, gave the report.

Board Member Anthony asked Mr. Dave Ebersold to share how the two rate design alternatives would affect the BWS to reach its goal of replacing 21 miles of pipeline a year.

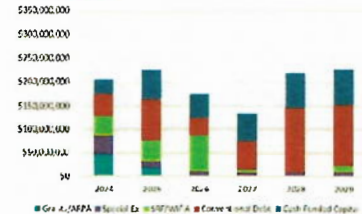
Mr. Dave Ebersold explained that Alternative One returns the BWS more quickly to reaching its goal of replacing 21 miles of pipeline per year with increased spending. Whereas with Alternate Two, the BWS would postpone planning for a big jump in spending in Fiscal Year 2029 and instead wait until the Water Master Plan (WMP) is updated before deciding where to spend its money.

Chair Andaya asked for clarification and referred to the rate design alternate bar graphs. He inquired if the charts indicated the BWS’s Capital Improvement Program (CIP) spending.

**ALTERNATIVE 1: RETURN TO LONG RANGE FINANCIAL PLAN IN FY 2029**



**ALTERNATIVE 2: HOLD FOR WATER MASTER PLAN UPDATE**



Mr. Ebersold confirmed that the two alternate bar graphs presented are of the CIP spending; he stated that the only difference in the two graphs is the amounts in Fiscal Year 2029.

Chair Andaya inquired if the CIP spending levels shown are permanent for the fiscal years indicated in the graphs.

Mr. Ebersold responded that the amounts are not permanent but developed by the BWS staff.

Manager Lau replied that the BWS looked at the projects forecasted between fiscal years 2024 to 2029 and prioritized projects that require immediate attention and deferred projects that could be pushed into the future. He stated that the WMP was originally focused on replacing pipelines to decrease the number of main breaks; however, due to the impact of Red Hill, the BWS shifted its focus to developing new water sources to replace those shut down.

Chair Andaya asked if the cost to replace the sources lost was included in the CIP figures.

Manager Lau responded that the cost is included. He shared that the exploratory and permanent wells are moving toward construction.

Chair Andaya inquired about the slight rate increase, then decrease shown in the graphs.

Manager Lau explained that it is due to the timing of the design and construction of the projects. He stated that as the BWS looks to update the WMP, the BWS will work to steady the rate increase by adding existing projects.

Chair Andaya asked what determines the water rate increase.

Manager Lau explained the BWS determines its water rate increase by factoring in two components of the BWS's revenue requirement: 1) the Operations and Maintenance budget; and 2) the CIP budget.

Chair Andaya referred to the rate increase alternative tables. He asked if the Annual Revenue Increase is based on the assumption of the water rate increase or what the BWS needs.



## ALTERNATIVE 1: RETURN TO LRFP IN FY 2029

	Jan 1 FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
<b>Annual Revenue Increase</b>	14.4%	8.6%	1.3%	9.2%	7.4%	28.2%
						Cum: 89.0%
<b>Operating Fund Balance</b>						
Beginning of Year Balance	\$29,900,000	\$33,445,900	\$34,950,700	\$36,348,800	\$38,699,900	\$40,054,500
<u>Annual Increase (Decrease)</u>	<u>\$3,545,900</u>	<u>\$1,504,800</u>	<u>\$1,398,100</u>	<u>\$2,351,100</u>	<u>\$1,354,600</u>	<u>\$1,401,900</u>
End of Year Balance	\$33,445,900	\$34,950,700	\$36,348,800	\$38,699,900	\$40,054,500	\$41,456,400
Estimated Working Capital Days	60	60	60	60	60	60

## ALTERNATIVE 2: HOLD FOR WMP UPDATE

	Jan 1 FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
<b>Annual Revenue Increase</b>	14.4%	8.6%	5.2%	5.2%	5.2%	5.2%
						Cum: 52.3%
<b>Operating Fund Balance</b>						
Beginning of Year Balance	\$29,900,000	\$33,445,900	\$34,950,800	\$48,548,200	\$51,533,400	\$46,273,500
<u>Annual Increase (Decrease)</u>	<u>\$3,545,900</u>	<u>\$1,504,900</u>	<u>\$13,597,400</u>	<u>\$2,985,200</u>	<u>(\$5,259,900)</u>	<u>(\$4,817,000)</u>
End of Year Balance	\$33,445,900	\$34,950,800	\$48,548,200	\$51,533,400	\$46,273,500	\$41,456,500
Estimated Working Capital Days	60	60	80	80	69	60

Manager Lau replied that the BWS would need that annual revenue increase based on the WMP and what the CIP needs.

Mr. Ebersold replied the tables indicate the total increase in revenue that the BWS would need. He explained that the tables show that the BWS can maintain rate affordability by deferring some pipeline replacement projects in Fiscal Years 2024-2028. However, in Fiscal Year 2029, the BWS will return its focus on the Long Range Financial Plan (LRFP) and WMP.

Chair Andaya asked, since both tables are similar, except in Fiscal Year 2029, what is the difference in Alternative One and Two with respect to the Annual Revenue Increase?



Mr. Ebersold explained that in Alternative One, the question “What is the least amount of revenue increase needed in Fiscal Years 2024 to 2029 to fund the operations and maintenance, to fund the capital program, and maintain 60 days of Working Capital?” was asked. In Alternative Two, the BWS took a different approach and asked, “What if the Annual Revenue Increase was smoothed equally throughout the fiscal years but still maintained a minimum of 60 days or more of Working Capital”. Both Fiscal Year 2024 and 2025 Annual Revenue Increase remained the same; however, in Fiscal Year 2026-2028, the Annual Revenue Increase are the same each year with an increase of Days in Working Capital but a lower cumulative increase of 52% compared to Alternative One’s cumulative increase of 89%.

Board Member Anthony inquired if the Debt Service is included in the Cost of Service.

Mr. Ebersold responded that the BWS’s Cost of Service includes all costs.

Board Member Kaneshiro inquired about the difference between Alternative Two and Three.

**ALTERNATIVE 3: SINGLE DIGITS ONLY**

	Jan 1 FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	Cumulative
Alt 2: Hold for WMP Update	14.4%	8.6%	5.2%	5.2%	5.2%	5.2%	52.3%
Alt 3: Single Digits Only	9.9%	9.9%	7.1%	6.2%	7.4%	5.0%	54.9%
<b>Operating Fund Balance</b>							
Beginning of Year Balance	\$29,900,000	\$27,938,300	\$26,318,600	\$36,348,900	\$38,699,900	\$40,054,200	
Annual Increase (Decrease)	(\$1,961,700)	(\$1,619,700)	\$10,030,300	\$2,351,000	\$1,354,300	\$1,402,000	
End of Year Balance	\$27,938,300	\$26,318,600	\$36,348,900	\$38,699,900	\$40,054,200	\$41,456,200	
Estimated Working Capital Days	50	45	60	60	60	60	

Mr. Ebersold explained that Alternative Two and Three have exactly the same Operations and Maintenance and CIP expenses. The difference is that the BWS limited the rate increase to a single-digit percentage in Alternative Three.

Board Member Kaneshiro commented that Alternative One is status quo versus Alternative Two and Three which are the same but changing the rate and how it is increased.

Mr. Ebersold agreed with Board Member Kaneshiro’s comment. He explained that both Alternatives are the same; the difference is in shifting the time of the rate increase.

Board Member Kaneshiro asked if an evaluation has been done for the projects that have been deferred due to the increase in CIP spending year over year.

Manager Lau stated that the BWS is limited to its CIP dollars; therefore, the BWS is projecting the rate increase on its revenue needs. He explained that before the Red Hill fuel crisis, the BWS focused on repairing and replacing pipelines to lower the number of main breaks. However, since Red Hill impacted the BWS's supply, the BWS had to reprioritize its projects, to focus on developing new sources to meet the supply demand.

Board Member Kaneshiro inquired if Alternative One and Two are different CIP projects which are infrastructure repairs compared to new sources.

Manager Lau responded that both alternatives are a mix of Renewal and Replacement and Capacity Expansion.

Board Member Kaneshiro asked for clarification on the capital stack between Alternative One and Two.

Manager Lau stated that Alternative One and Alternative Two are different. Alternative One in Fiscal Year 2029 rate increase spikes, whereas in Alternative Two, the BWS tried to balance the issue of the water system capability, capacity, and reliability with the affordability for ratepayers. He further explained that while trying to keep the balance of the water system and cost to the ratepayers, the BWS continues to struggle with workforce capacity. Manager Lau stated that the Red Hill contamination created many unknowns that the BWS will face, such as detections of chemicals at other water sources, which will require the BWS to seek water treatment systems or develop replacement wells in various locations. The BWS will need to re-evaluate and rethink its CIP with the update of the WMP due to the new challenges ahead.

For clarification, Chair Andaya inquired if Alternative One, Two, and Three include all the same CIP.

Mr. Ebersold explained that in Alternative Two, the BWS deliberately downsized Fiscal Year 2029 from what was in the LRFP. He stated that in Alternative One, Fiscal Year 2029, more money would be used to replace and repair pipelines.

Board Member Anthony asked Manager Lau if, by Fiscal Year 2028, there would be a completed new well.

Manager Lau replied that the Kalaeloa Seawater Desalination Plant will be online by Fiscal Year 2026, and in the following years, the Aiea 497 well is expected to be completed.

Board Member Anthony inquired if there is any progress on the Ewa well.

Manager Lau stated that the BWS has exploratory wells in Ewa and Kunia in the current budget. He shared that when the BWS is approved for a construction permit, the BWS will begin the design of multiple production wells, assuming that the quantity and quality of the water is good from the exploratory wells.

Board Member Anthony asked if the BWS would be responsible for bearing the cost of developing new water source wells or repairs without reimbursement in all alternative options.

Manager Lau stated that the BWS is using funds that are in hand. The BWS has requested federal funding, which has not been approved yet, and applied for additional State Revolving Fund (SRF) with hopes of some principal forgiveness, but since those funds are not in hand, it has not been factored into the rate design. The BWS continues to aggressively pursue outside funding so that ratepayers are not paying for all of the cost.

Mr. Ebersold confirmed that funds not in hand are not factored into the rate design.

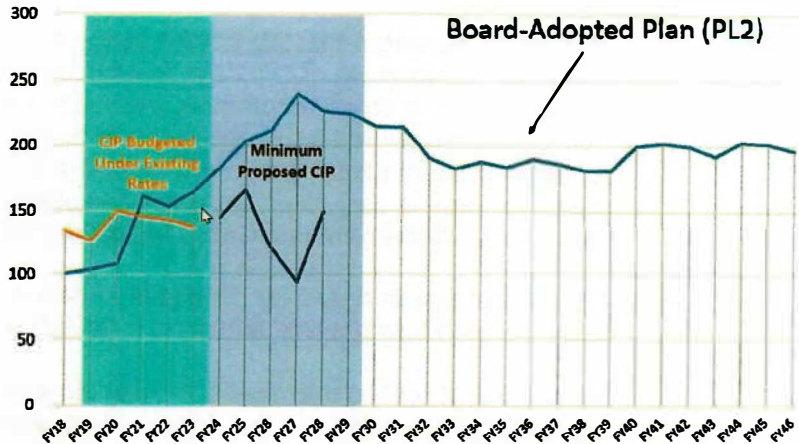
Board Member Kaneshiro asked what the BWS had planned in Fiscal Year 2029 in the previous rate study.

Chair Andaya explained that the BWS planned to replace and repair up to 21 miles of pipeline per year in the previous rate study. However, due to the Red Hill situation, the BWS had to put a hold on replacing and repairing pipelines to focus on developing more water resources. Therefore, the BWS had to come up with an alternative plan. In Alternative One, the goal for Fiscal Year 2029 is to return to its plans of replacing and repairing pipelines, which is why the rate increase is increased.

Board Member Kaneshiro inquired if the amount of money shown in Alternative One, Fiscal Year 2029, is accrued money for deferred maintenance in Fiscal Year 2029.

Mr. Ebersold agreed with Board Member Kaneshiro. He referred to the 30-Year CIP slide and explained that the graph shown depicts the WMP and LRFP anticipated in Fiscal Year 2016 and 2017 timeframe in blue, indicating the BWS's spending for all CIP before accounting for any inflation. The orange line shows the actual amounts that were pretty close to the plan. The dark blue Minimum Proposed CIP line shows the consequence of the Red Hill situation, inflation, and rising energy costs, making it difficult to achieve the same goals anticipated in the previous rate study. Mr. Ebersold stated that if the BWS continued with the plans in blue, the BWS would require a rate increase of over 13% year over year. Therefore, the BWS asked what projects the BWS could defer to try and better maintain affordability for the ratepayers. He explained that the gap between the blue and dark blue lines indicates pipeline replacement projects being deferred until Fiscal Year 2029 or later, when the BWS would resume pipeline replacement projects.

## 30-YEAR CAPITAL IMPROVEMENT PROGRAM (\$ MILLION 2016)



Chair Andaya explained that Alternative Two and Three imply that the BWS should re-evaluate before the BWS decides to proceed with pipeline replacement in Fiscal Year 2029.

Manager Lau added that Alternative Two and Three would allow the BWS to update its CIP. He stated that the idea is to prevent rate shock and balance affordability for ratepayers and the BWS's investments in infrastructure. Manager Lau explained that the rate design balances the revenue requirements and the water rate increase amount, various ratepayer classes.

Mr. Ebersold stated that the rate increase decided on would take effect on January 1, 2024; however, the BWS would have the option to choose to stay on the course of the rate schedule decided on or re-evaluate its options after Fiscal Year 2028.

Vice Chair Sproat commented that rate shock has always been a concern of the BWS. She stated that in the previous rate study, no one could have predicted what is happening now with the Red Hill situation, COVID, and inflation. However, the Red Hill contamination result should not be passed on to the ratepayers but to the Navy. Therefore, the BWS should seek all the available federal funding to develop new water sources. The BWS must manage its rates for the community and continue providing clean, affordable, and reliable water sources.

Manager Lau agreed with Vice Chair Sproat and stated that the BWS is aggressively seeking federal funding and any available funding to ease the cost to ratepayers.

Board Member Anthony echoed Vice Chair Sproat's comments and concerns. He commented that the BWS has no control over inflation or energy cost and expressed his concern about the BWS keeping its 60-day working capital policy. Board Member Anthony commented that it will be crucial that the BWS consider all its options before going into the community since its focus now will be in response to the Red Hill crisis.

Manager Lau stated that the BWS's policy is to have a minimum of 60 days and a maximum of 180 days of working capital to allow less impact on ratepayers in these unforeseen events; it is designed to be a buffer fund. He commented that utilizing the Working Capital and going below its 60 days when necessary is sensible since the BWS would be using the funds for what is essential. Manager Lau stated that the BWS will do its best to rebuild the Working Capital as quickly as possible.

Vice Chair Sproat asked Mr. Ebersold to define the type of water users in each tier and how it would affect the cumulative percentage.

Mr. Ebersold replied that the water users in each tier are residential customers. He explained that residential customers are the only categories with multiple tiers. He stated that Tier One would be the conservative water user, possibly up to three people living in a home.

Manager Lau added that he likes to think Tier One is those on a fixed income, such as our Kupuna's.

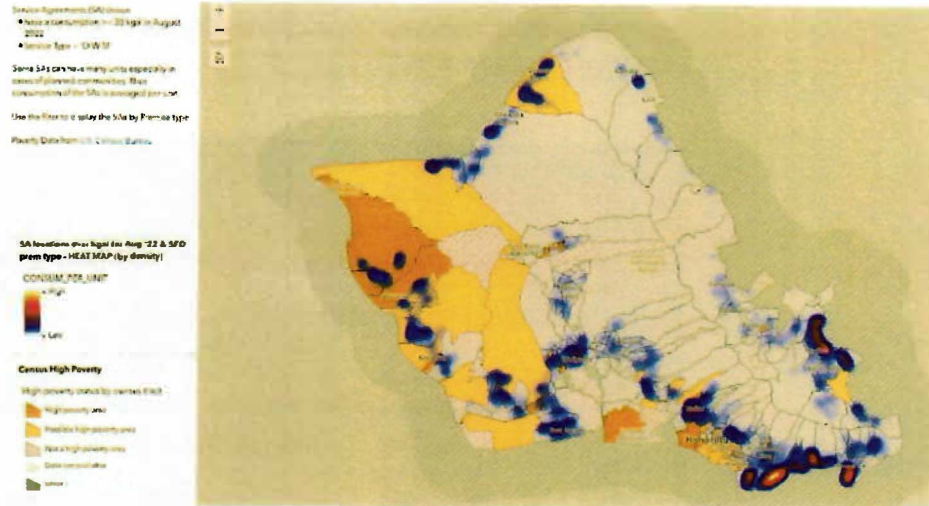
Vice Chair Sproat inquired if the high water users in Tier Four are residential customers with large landscape irrigation.

Mr. Ebersold responded that residential customers belonging to Tier Four make up about 3% of BWS customers and use 30,000 gallons of water a month or more, driven by large landscape irrigation.

Manager Lau added that customers in Tier Four who use over 30,000 gallons of water a month could be multiple families living in a single-family residential home, a home with a swimming pool, or a home with a large landscape irrigation system.

Mr. Ebersold shared a heat map of single-family residential customers using 35,000 gallons per month or more, indicating their geographic concentration and also poverty levels data from the U.S. Census.





Board Member Anthony referred to the heat map and inquired if the BWS could determine if the homes that use over 30,000 gallons of water are due to multi-families living in a home or used for landscape irrigation. He asked if that could be determined would the BWS be able to assign higher costs, such as hotel rates, for high landscape irrigation users.

Mr. Ebersold responded that non-residential customers, including hotels, pay a higher service cost and use the most water.

Board Member Anthony asked if there would be a way to adjust the rate schedule by poverty levels.

Manager Lau stated that it would create a different dynamic. The BWS's current water rate schedule is islandwide, not by location or income.

Chair Andaya commented that the key factor in the rate schedule is by category: Residential, Non-Residential, Agriculture, or Non-Potable, which determines the rate.

Mr. Ebersold shared that the Essential Needs Tier, Tier One, was created to benefit customers using minimal water in the last rate increase. The other tiers were set to better send price signals that would encourage conservation.

Board Member Anthony suggested that when the BWS does community rate study outreach, ratepayers are educated on lowering their water use, controlling the cost, moving to a lower tier, and expanding on low-flow rebates.

Manager Lau stated that there are two components in the BWS's water rate, the customer charge, and the quantity charge. He shared that most of the BWS's revenue comes from the quantity charge based on water usage. Manager Lau explained that all residential customers benefit from the Essential Needs Tier, Tier One. The BWS continues to look into

expanding its conservation programs and providing customers with incentives to save water.

SUMMARY OF TIER SHIFT ALTERNATIVES SINGLE-FAMILY RESIDENTIAL									
	Typical Single-Family Residential Customer Type	Current	Jan 1 FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	Cumulative
Low – 2,000 gal/mo	Alt A - Even	\$21.01	\$23.09	\$25.38	\$27.18	\$28.86	\$31.00	\$32.55	54.9%
	Alt B – EssN 0%	\$21.01	\$22.21	\$23.52	\$24.56	\$25.53	\$26.76	\$27.65	31.6%
	Alt C - Spread	\$21.01	\$22.65	\$24.44	\$25.97	\$27.45	\$29.22	\$30.68	46.0%
Median – 6,000 gal/mo	Alt A - Even	\$42.01	\$46.17	\$50.74	\$54.34	\$57.71	\$61.98	\$65.08	54.9%
	Alt B – EssN 0%	\$42.01	\$45.29	\$48.89	\$51.72	\$54.38	\$57.74	\$60.18	43.2%
	Alt C - Spread	\$42.01	\$45.96	\$50.29	\$53.76	\$57.03	\$61.12	\$65.09	54.9%
Average 9,000 gal/mo	Alt A - Even	\$59.56	\$65.46	\$71.94	\$77.04	\$81.82	\$87.88	\$92.27	54.9%
	Alt B – EssN 0%	\$59.56	\$64.57	\$70.08	\$74.43	\$78.49	\$83.63	\$87.37	46.7%
	Alt C - Spread	\$59.56	\$65.43	\$71.89	\$76.98	\$81.75	\$87.79	\$93.84	57.5%
High 35,000 gal/mo	Alt A - Even	\$228.66	\$251.30	\$276.18	\$295.78	\$314.12	\$337.37	\$354.24	54.9%
	Alt B – EssN 0%	\$228.66	\$260.15	\$294.76	\$322.04	\$347.56	\$379.89	\$422.70	84.8%
	Alt C - Spread	\$228.66	\$253.10	\$280.04	\$300.77	\$319.93	\$344.68	\$370.88	62.1%

Vice Chair Sproat voiced her strong support for the Essential Needs Tier and any rate increases for Tier One customers. However, open to discussing the other three tiers.

Chair Andaya agreed that there should be limited rate increases for customers in the Essential Need Tier, Tier One, and spread amongst the customers with higher usage.

Board Member Kaneshiro stated that he agreed with that as well.

Vice Chair Sproat inquired about the proposed waiver for new small business farmers, which would waive the installation fee and Water System Facility Charge. Would a ¾-inch or a 1-inch meter be sufficient for a larger-scale farm?

Manager Lau responded that most of the BWS's over 300 agriculture customers have the smaller meters installed. Agriculture customers with bigger operations would require a larger water meter. He stated that the new farmer waiver program is tailored to help farmers start their businesses.

Mr. Ebersold confirmed that 2/3 of BWS agriculture customers have 1-inch or smaller meters.

Vice Chair Sproat asked if the BWS requires proof of commercial operation, such as a farm plan and a Schedule F.

Manager Lau shared that stakeholders agree that the waiver for new farmers is a good idea.

Vice Chair Sproat agreed the new farmer's waiver is a good idea. However, she is concerned that it may be complicated even for a legit farmer with its farm plan and Schedule F to prove or qualify for a waiver.

Manager Lau stated that the new farmers' waiver is for the initial installation of the water meter. He explained that they must meet the proposed waiver requirements to qualify for the new farmer's waiver and agriculture water rate.

Vice Chair Sproat stated she understood but was concerned that if the BWS requires more than a farm plan, it may make it difficult for a new farmer to qualify.

Manager Lau explained that the new farmer's waiver was his idea and wanted to see if the Board would support the proposal so the BWS could speak to the agriculture community.

Chair Andaya asked if the BWS was already granted the funds.

Manager Lau stated that the State of Hawaii Legislator and Governor granted the BWS \$1M to drill a new exploratory well in the Kunia area, funded through the Department of Land and Natural Resources (DLNR). The agreement, Memorandum of Understanding (MOU), stated the condition that the funds be used to help offset the cost to farmers limited to \$1M from the State for BWS CIP projects.

Chair Andaya asked if feedback was needed today.

Manager Lau replied that since a Permitted Interaction Group (PIG) has been established, the PIG should meet as soon as possible, review the different alternatives and the feedback received today, then begin community outreach. He stated that if the other Board members had further comments, suggestions, or feedback after today's meeting, please email him.

Board Member Anthony also agreed with Vice Chair Sproat that there should be no or minimal rate increases for the Essential Needs Tier. He mentioned that the discussion on water conservation should continue due to the impacts of Red Hill and how much water is available to the community. Board Member Anthony advised Mr. Ebersold that his recommendations should be based on thorough research with consideration to inflation, rising energy cost, and interest rates since it affects the BWS's ability to move forward with pipeline replacements and other projects.

At 4:53 PM, Chair Andaya called to recess the Board meeting.

At 4:59 PM, Chair Andaya called the Board meeting back to order.





# UPDATE ON THE DRAFT PROPOSED RATE SCHEDULE AND INPUT FROM THE BOARD

Joe Cooper  
Waterworks Controller

David Ebersold  
Senior Vice President, CDM Smith

June 26, 2023  
[www.boardofwatersupply.com](http://www.boardofwatersupply.com)

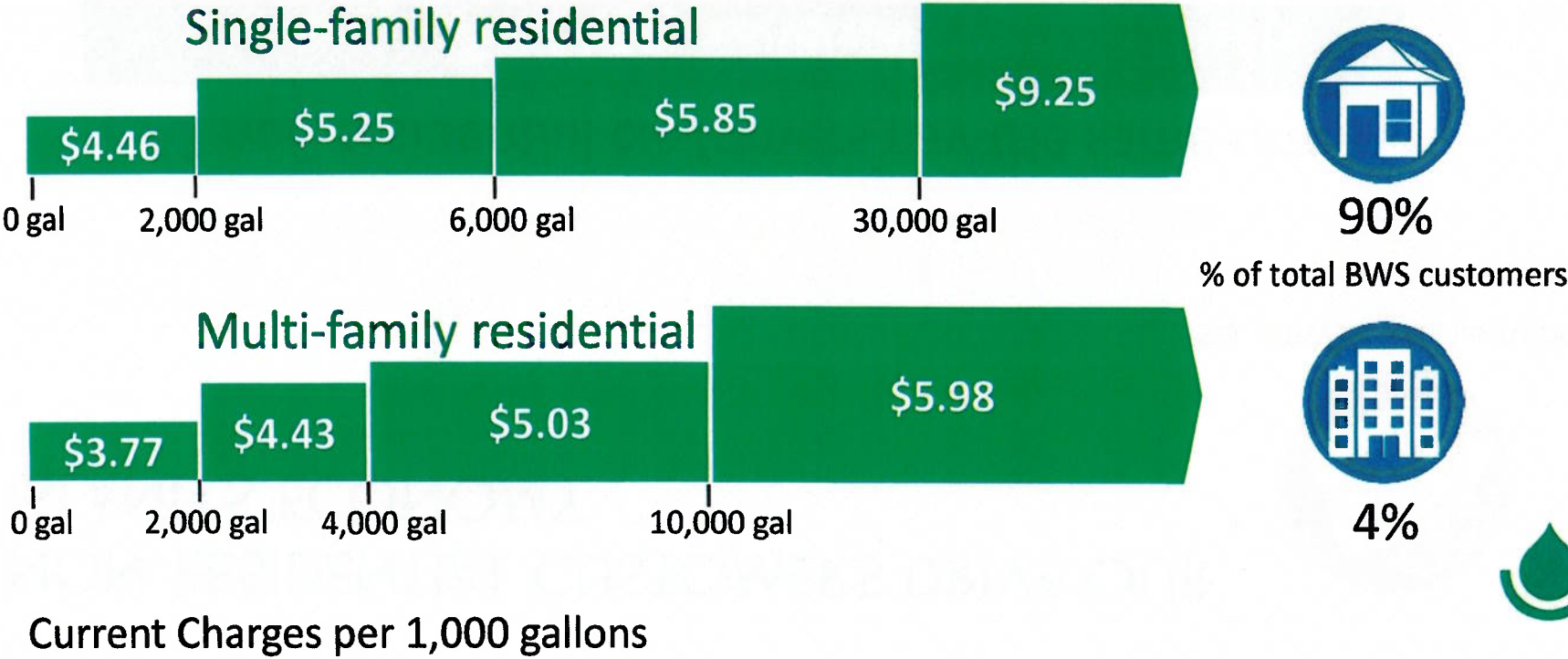
# AGENDA

- Review of existing water rate
- Current conditions
- Consideration of water rate options and input





# RESIDENTIAL CUSTOMERS PAY MORE AS WATER USE INCREASES



# NON-RESIDENTIAL CUSTOMERS DRIVE OUR ISLAND'S ECONOMY



5% of BWS's total customers

All non-residential customers pay the same rate

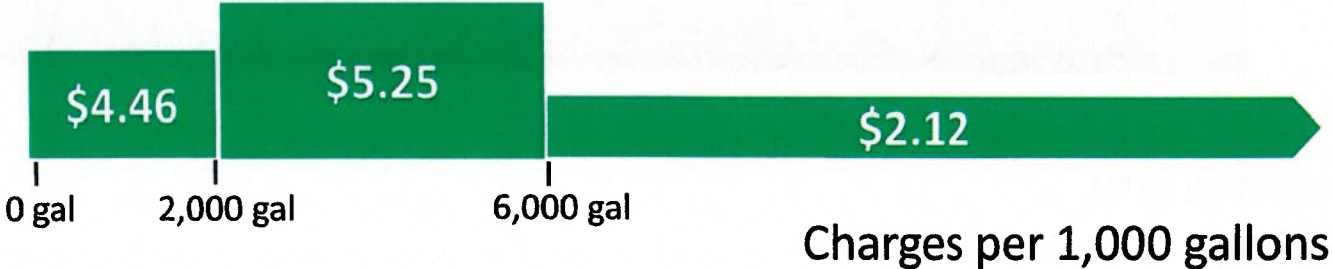
**\$5.27 per 1,000 gallons**



# AGRICULTURAL CUSTOMERS PAY A LOWER RATE



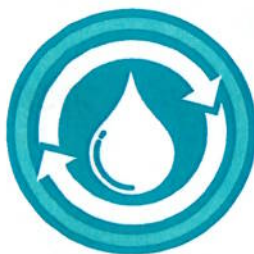
<1% of BWS's total customers



Reduced rates encourage local farming of fresh, healthy produce.  
Rate participation requires application and approval.



# LOWER NON-POTABLE AND RECYCLED WATER RATES BENEFIT ALL CUSTOMERS



1% of BWS's total customers

Customer Type	Current Rate
Non-Potable	\$2.90
R-1 Golf	\$0.65
R-1 Other	\$1.96
RO	\$6.36





# MONTHLY CUSTOMER CHARGE BASED ON METER SIZE



Meter Size	Current Charge
5/8"	\$12.09
3/4"	\$12.09
1"	\$15.28
1.5"	\$17.41
2"	\$43.45
3"	\$53.55
4"	\$101.92
6"	\$181.64
8"	\$276.78
12"	\$598.53

- The Customer Charge covers:
  - Customer service and billing staff
  - Meter maintenance and repair
  - Meter reading
  - Processing and mailing bills



# FIRE METER STANDBY CHARGE

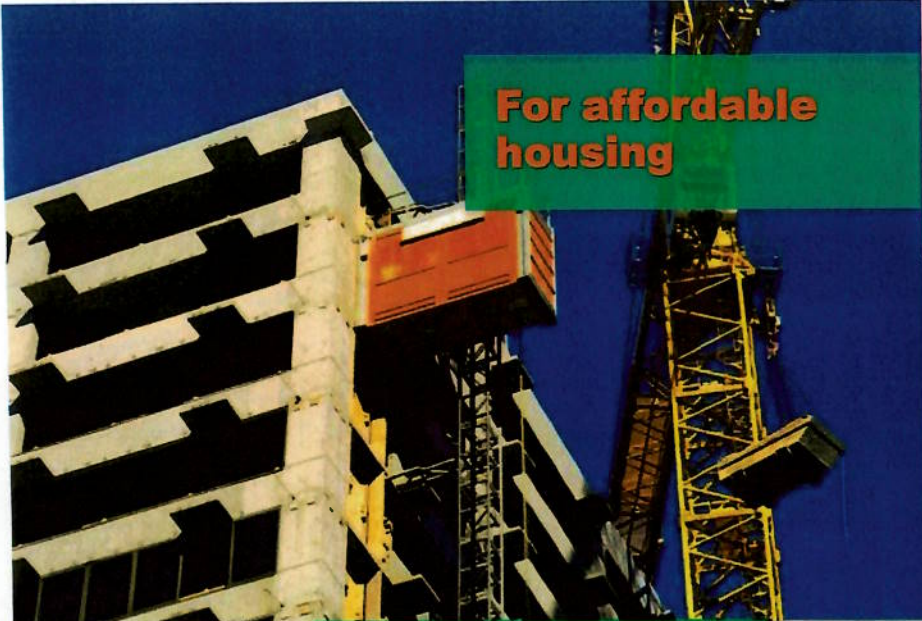
Fire Meter Size	Current Rate
2" and smaller	\$7.99
3"	\$10.29
4"	\$14.23
6"	\$28.44
8"	\$52.94

- For READINESS TO SERVE, applies exclusively to services for private fire protection including automatic fire sprinklers connected to alarms, fire hydrants, and wet stand pipes

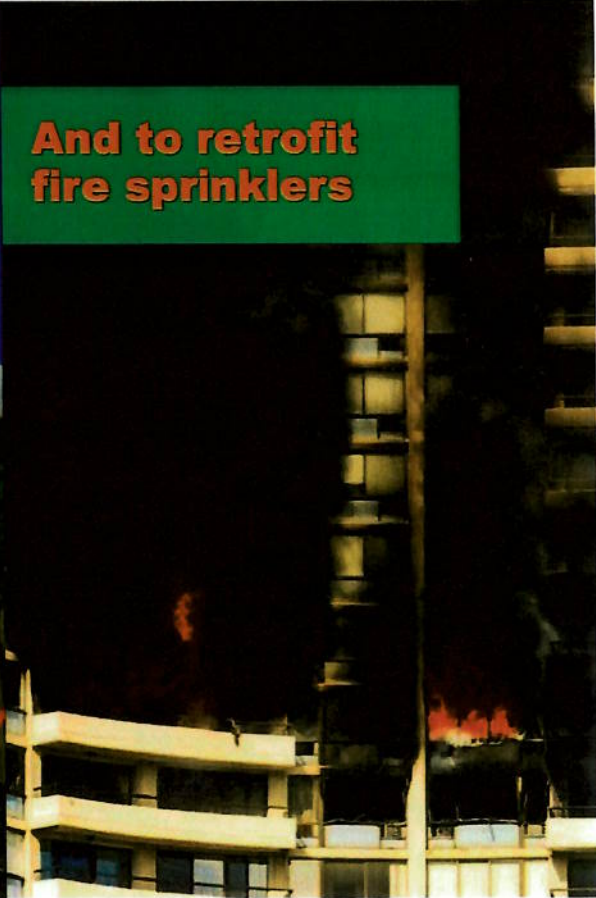




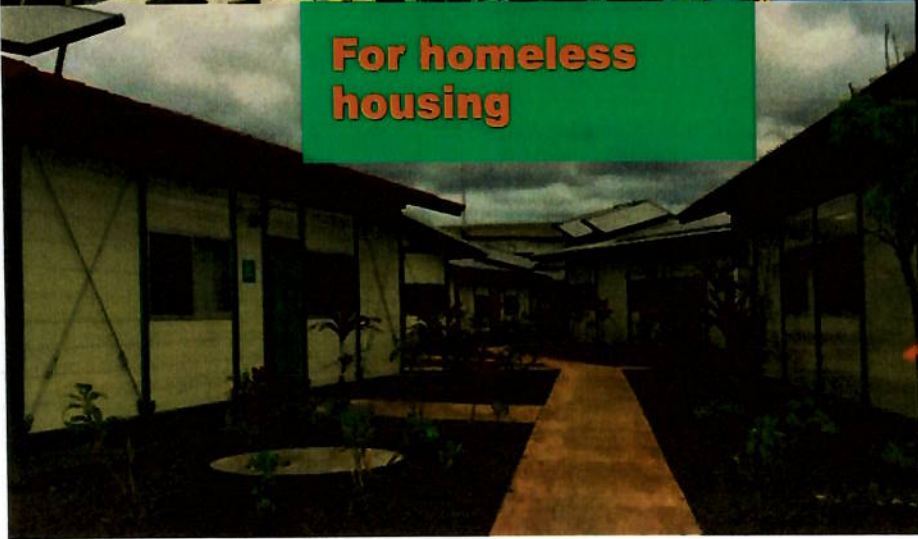
# Fee Waivers



**For affordable housing**



**And to retrofit fire sprinklers**



**For homeless housing**

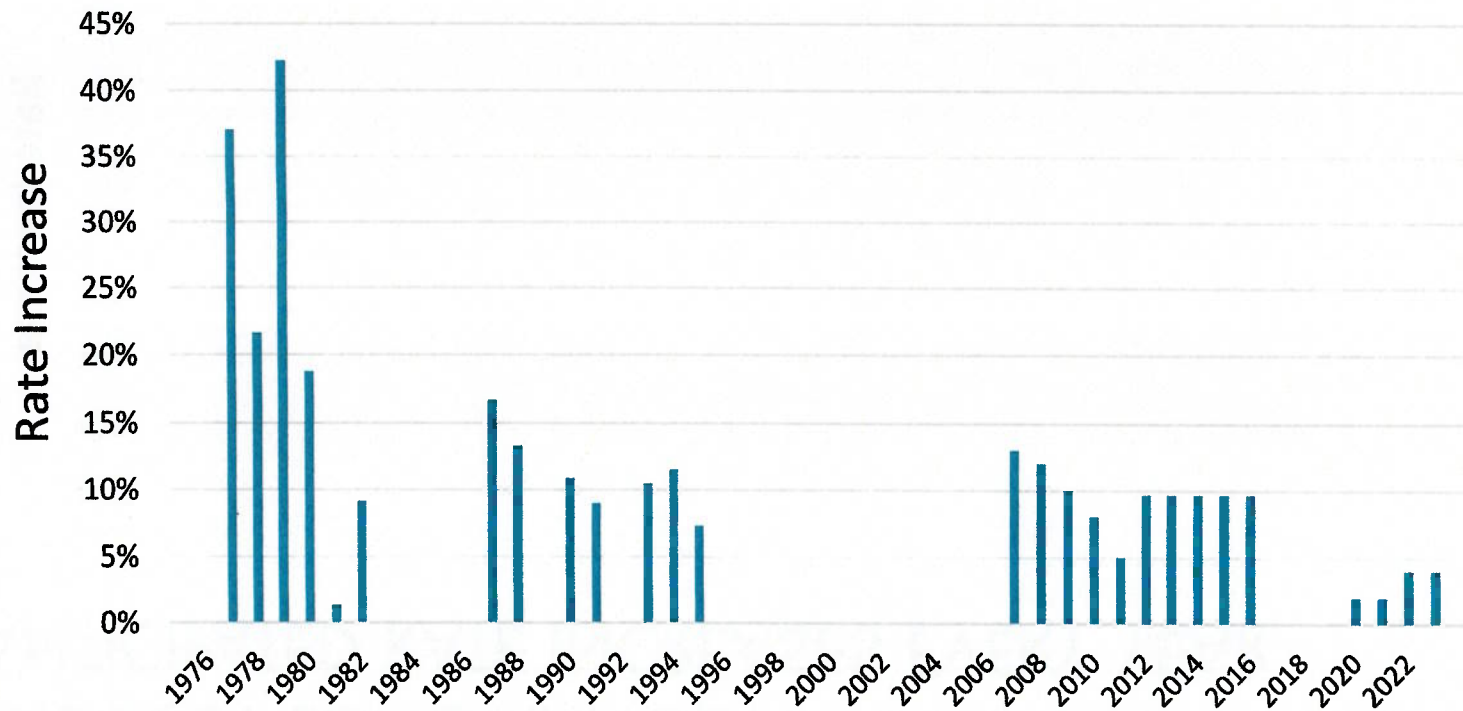


## OTHER BWS CHARGES

- ◆ **Standby Charge** (emergency interconnections)
- ◆ **Power Cost Adjustment**
- ◆ **Environmental Regulations Compliance Fee  
Cost Adjustment**

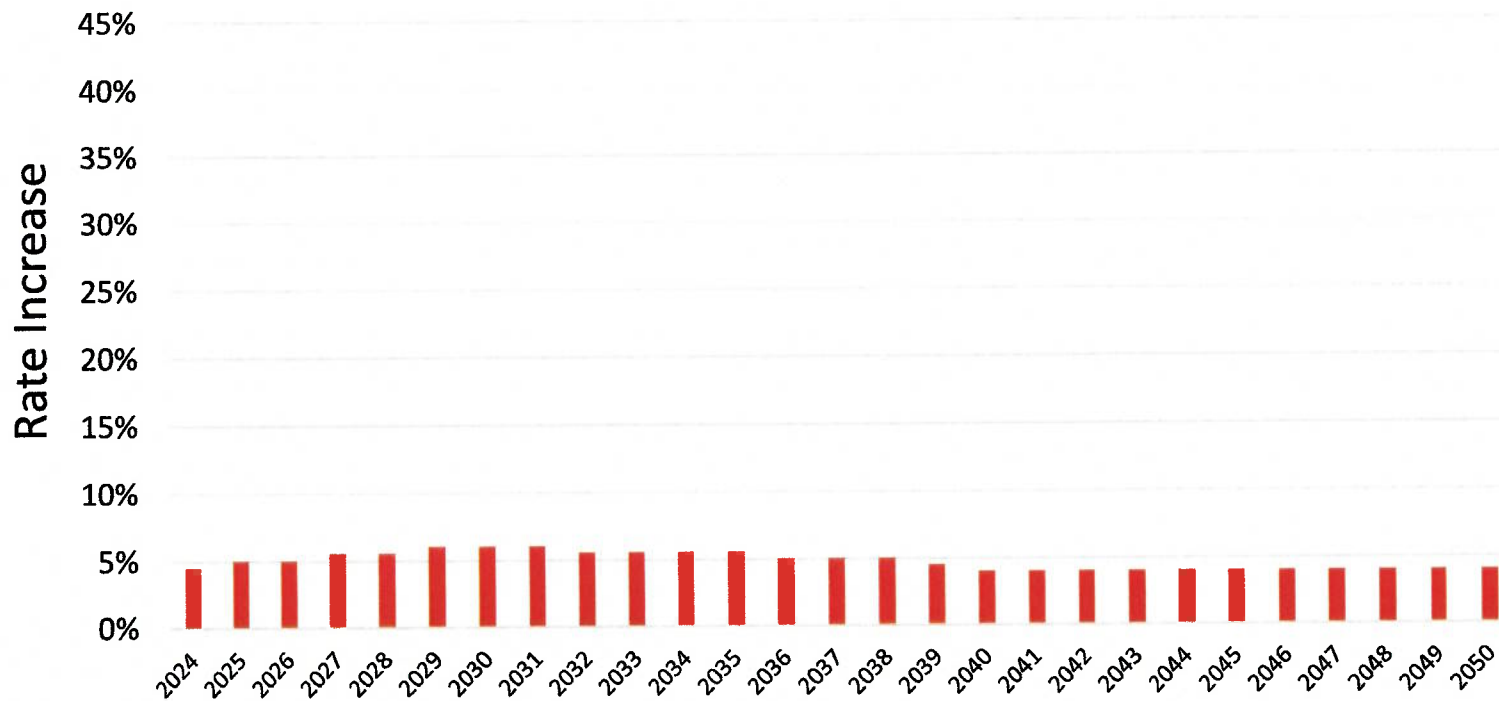


# BWS WATER RATE INCREASES HAVE VARIED THROUGH THE YEARS



# THE 2021 LONG RANGE FINANCIAL PLAN UPDATE

## ANTICIPATED RATE INCREASES EVERY YEAR



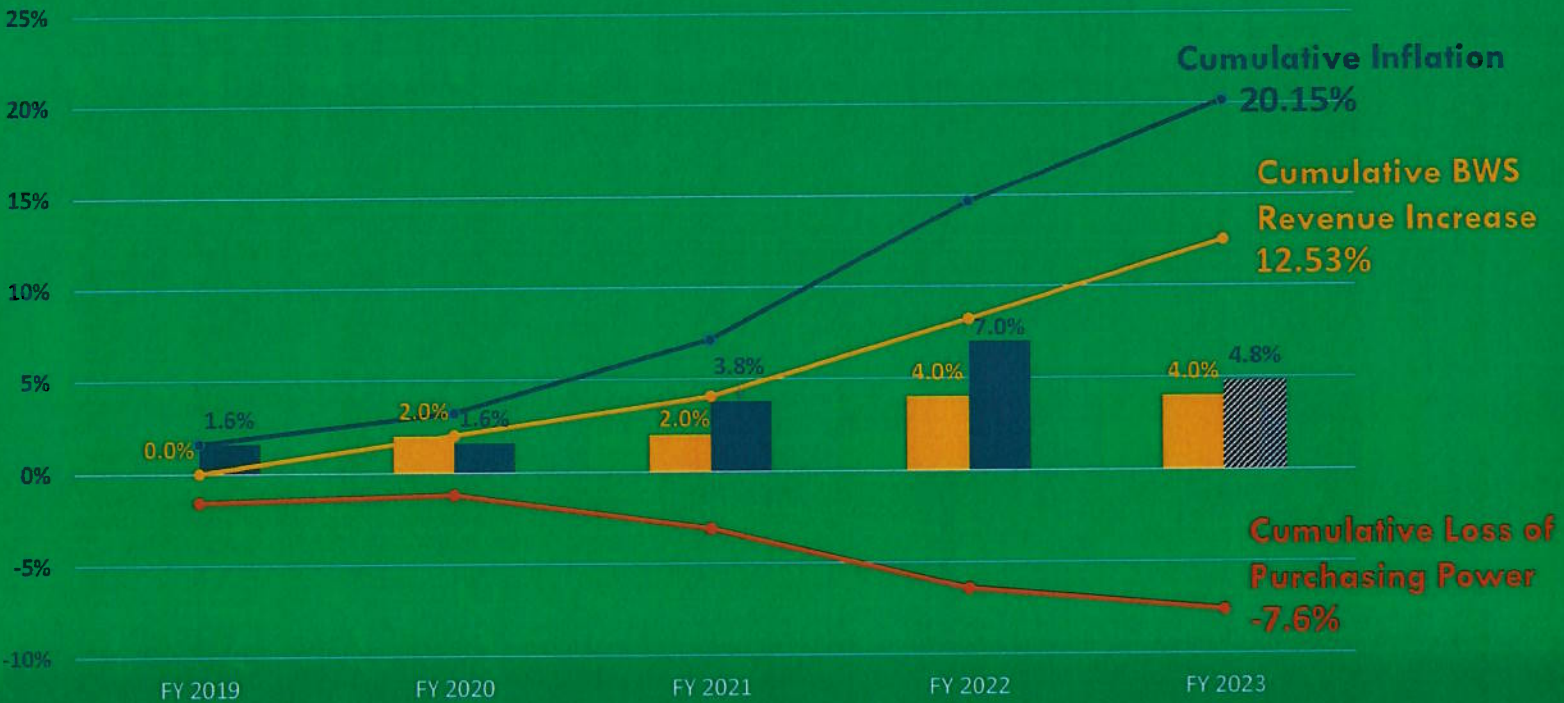


# AGENDA

- Review of existing water rate
- Current conditions
- Consideration of water rate options and input



# INFLATION'S IMPACT ON PURCHASING POWER



■ Annual Inflation Rate  
■ BWS Annual Revenue Increase  
 Inflation data/projections from UHERO, Sept. 2022

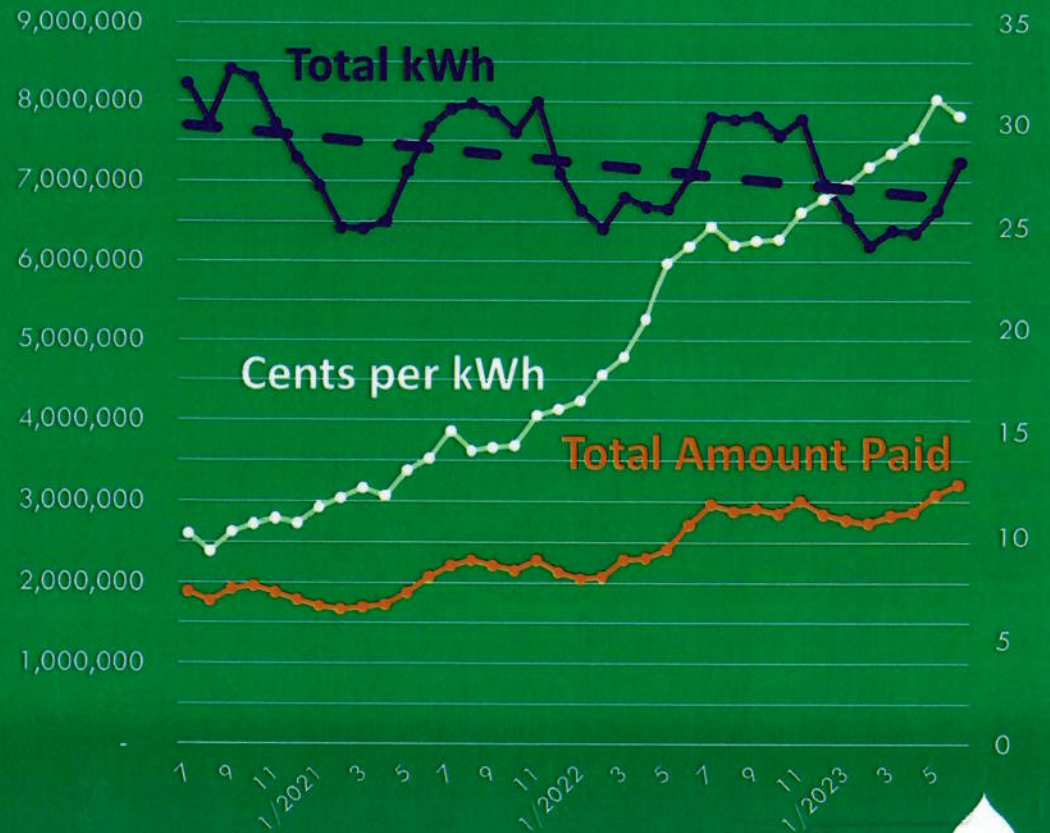




# POWER COSTS TRENDING SHARPLY UPWARD

Per HECO, "Electricity prices in Hawaii are generally higher than on the U.S. mainland due to the cost of imported oil used to power many of the islands' generators. **The fluctuation in the cost of fuel, which makes up roughly 50% of a typical bill, is the biggest driver.**

- Electricity costs as a percentage of total Operating Expense continues to rise.
  - FY20 – 12.9% of the Budget
  - FY21 – 12.1% of the Budget
  - FY22 – 13.4% of the Budget
  - FY23 – 15.7% of the Budget (projected)
- In FY 2023, electricity costs projected to be about \$8 million over budget



## RED HILL RESPONSE REQUIRES INVESTMENTS IN NEW BWS FACILITIES IN EXCESS OF \$200 MILLION

- Monitoring wells for information on how the contamination is moving and exploratory wells to find new sources outside of its path - \$30 million
- Replace 17.5 million gallons per day of potable water well pumping capacity - \$195 million
- Potential additional capital costs yet to be determined
- Does not include any potential increases to Operations & Maintenance costs
- Cost recovery from Navy is undetermined
- BWS has requested assistance from Hawaii Congressional Delegation





# PFAS IMPACTS TO BWS SYSTEM UNKNOWN

- Per- and polyfluoroalkyl substances (PFAS) are a large group of chemicals used since the 1940s in common household and commercial products
- Because they are used in so many everyday products, most people in the US and other industrialized countries now have PFAS in their blood
- Most people's exposure comes from diet. Drinking water and inhaling dust with PFAS are 2 other common exposures
- EPA has proposed a draft Maximum Contaminant Level
  - 4 parts per trillion (ppt) for PFOA
  - 4 ppt for PFOS
  - 1 (unitless, not 1 ppt) Hazard Index for a mixture of PFNA, PFHxS, PFBS and GenX
- BWS currently has 7 sources with detections of PFAS, all below proposed MCL



<https://a2independent.com/wp-content/uploads/Products-Containing-PFAS.jpeg>

Mobile  
Persistent  
Bioaccumulative  
Toxic

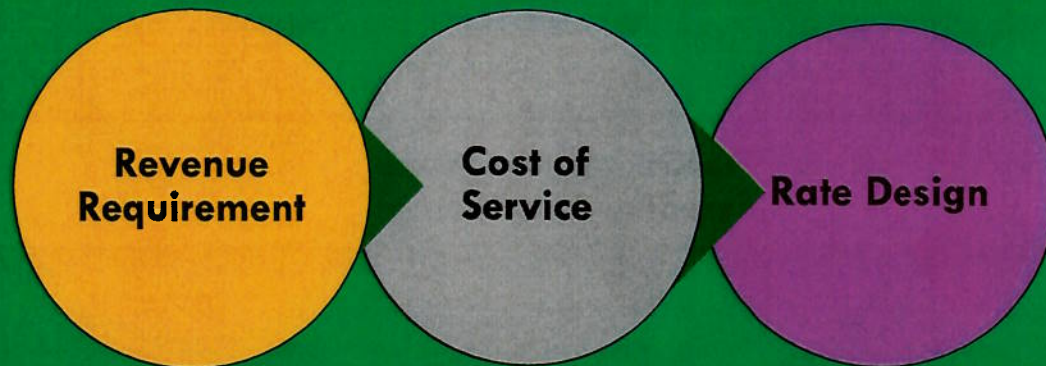


# AGENDA

- Review of existing water rate
- Current conditions
- Consideration of water rate options and input



# THREE PRIMARY STEPS OF RATE MAKING



Compare revenue with operating and capital costs

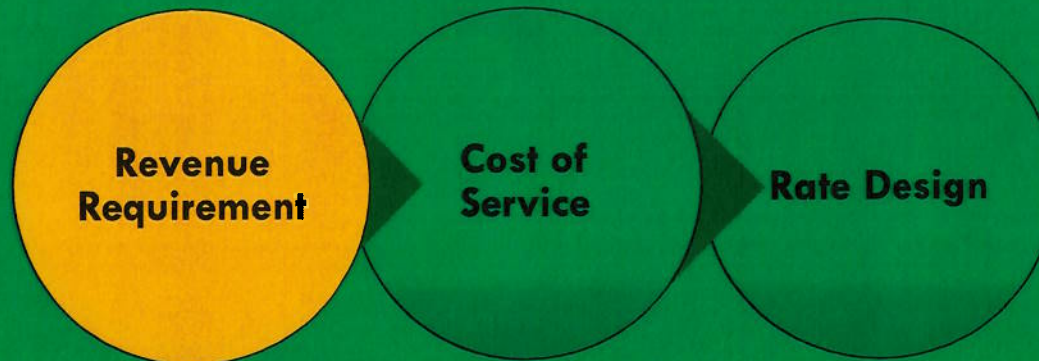
Identify differences in costs to serve each of the customer classes

Consider level and structure of rate design for each class of service





# THREE PRIMARY STEPS OF RATE MAKING



Compare revenue with operating and capital costs

Identify differences in costs to serve each of the customer classes

Consider level and structure of rate design for each class of service



# 4 MAJOR DRIVERS OF REVENUE REQUIREMENT AND RATES

Operations & Maintenance

Operations and maintenance costs

Capital Expenses Paid in  
Cash vs. Debt

How the Capital Improvement Program  
is financed

Reserves and Working  
Capital

Financial policies for credit ratings  
and stability

Trends and Risks

Preparedness to respond to changing  
trends and risks





# RATE INCREASES WILL BE REQUIRED TO MAINTAIN CURRENT LEVELS OF SERVICE

Stay on Plan  
Continue Increasing Pipeline Replacement  
Meet Working Capital Targets  
Maintain Strong Bond Ratings  
Improve Levels of Service

Water Service  
Adequacy & Dependability

Infrastructure  
Rate Affordability

Annual Revenue  
Increases in Excess of  
13% per Year



# RATE INCREASES WILL BE REQUIRED TO MAINTAIN CURRENT LEVELS OF SERVICE





# RATE INCREASES WILL BE REQUIRED TO MAINTAIN CURRENT LEVELS OF SERVICE

Bond Ratings Plummet  
Lose Ability to Borrow Affordably  
Near-Halt to Capital Projects  
16% Cut to O&M  
Layoffs, Water Service Interruptions

Water Service Adequacy & Dependability

Infrastructure Costs  
Rate Affordability

No Rate Increases for Now

Bigger Increases Later



# 4 MAJOR DRIVERS OF REVENUE REQUIREMENT AND RATES

Operations & Maintenance

Operations and maintenance costs

Capital Expenses Paid in  
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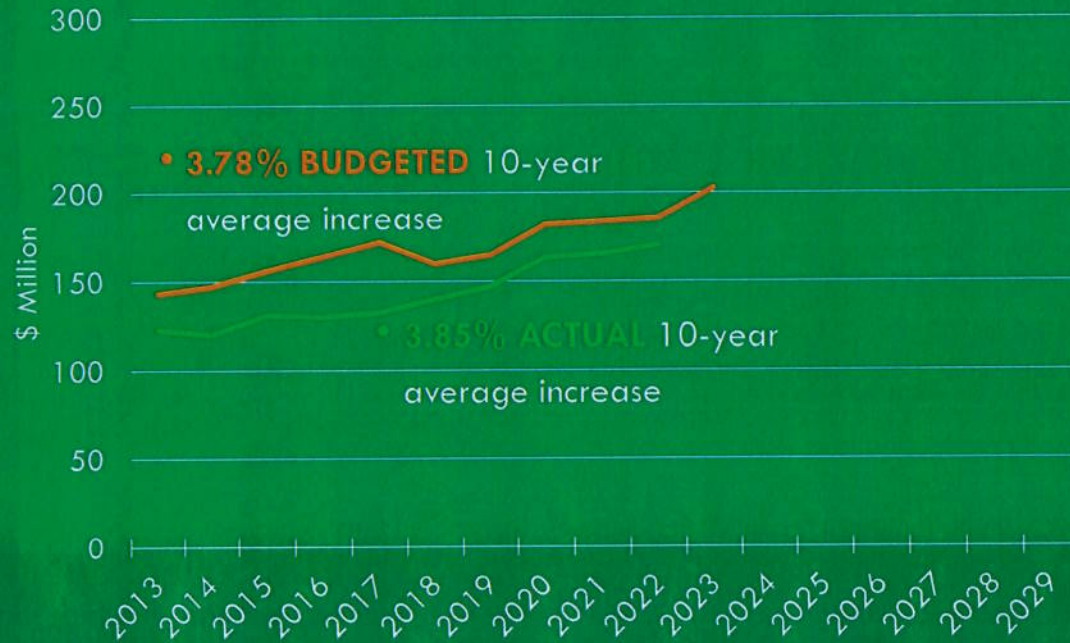
Trends and Risks

Preparedness to respond to changing  
trends and risks



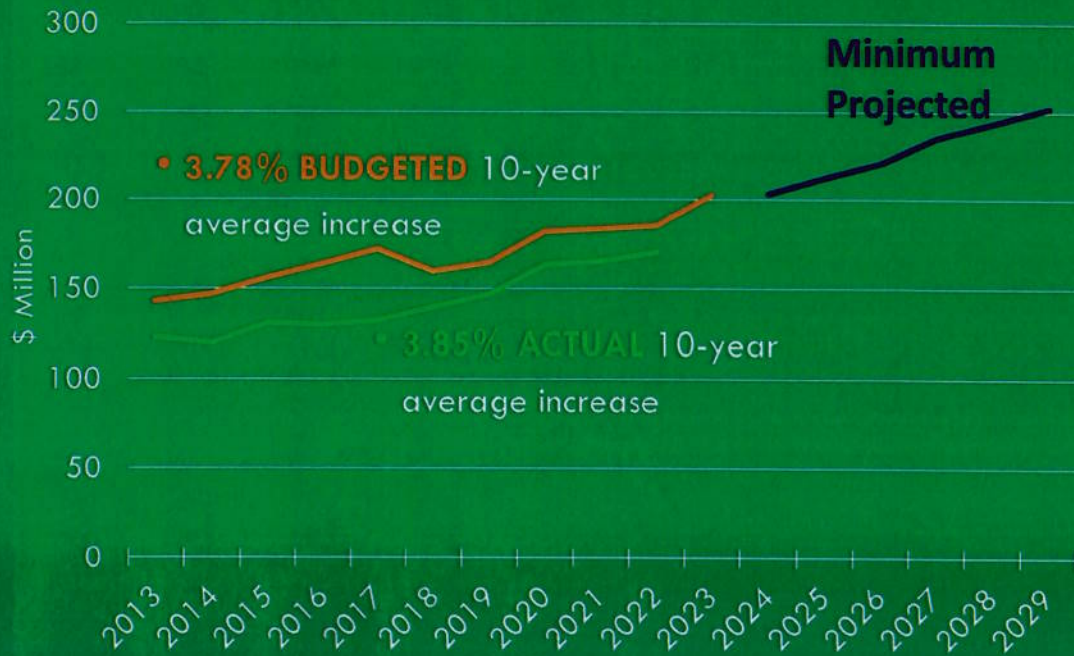


# ACTUAL AND PROJECTED OPERATIONS & MAINTENANCE COSTS (\$ MILLION)





# ACTUAL AND PROJECTED OPERATIONS & MAINTENANCE COSTS (\$ MILLION)



Year	Budgeted Increase	Estimated Inflation
2024	0.2%	5.0%
2025	4.5%	4.5%
2026	6.5%	4.0%
2027	3.5%	3.5%
2028	3.5%	3.5%

Additional \$5.7 million for Kalealoa Desal O&M



# 4 MAJOR DRIVERS OF REVENUE REQUIREMENT AND RATES

Operations & Maintenance

Operations and maintenance costs

Capital Expenses Paid in  
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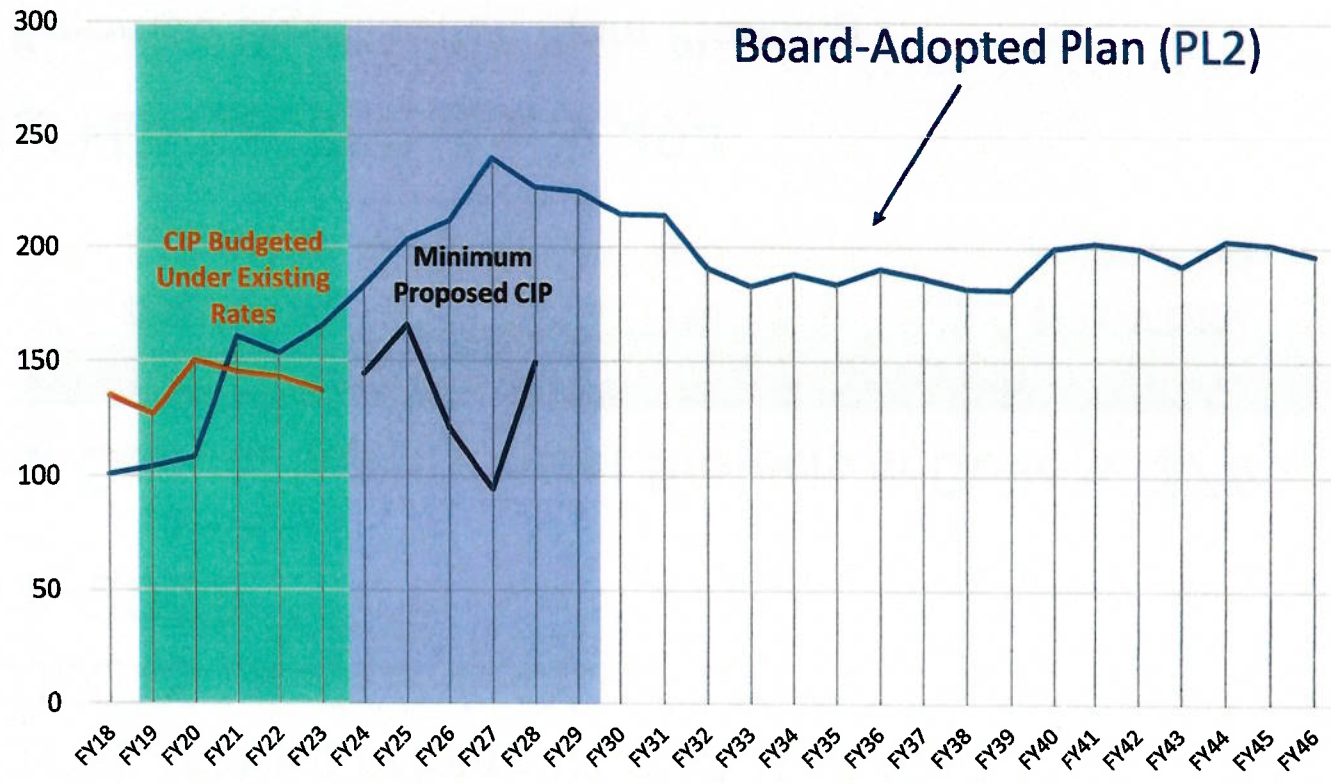
Trends and Risks

Preparedness to respond to changing  
trends and risks





# 30-YEAR CAPITAL IMPROVEMENT PROGRAM (\$ MILLION 2016)



# CAPITAL IMPROVEMENT PROGRAM PROJECTS UNDERWAY 2018-2023

- Total Capital Improvement Projects in Dollars: \$769,541,785

Project Phase	Number of Projects	\$
Planning/Design	196	\$134,472,236
Construction	298	\$635,069,548

- Total Number of Projects: 494
  - Kalaeloa Desalination Plant Planning
  - Pipeline Replacement Projects
  - Facility Repairs and Renovations
  - Pumps and Valves Repairs and Replacements





# 4 MAJOR DRIVERS OF REVENUE REQUIREMENT AND RATES

Operations & Maintenance

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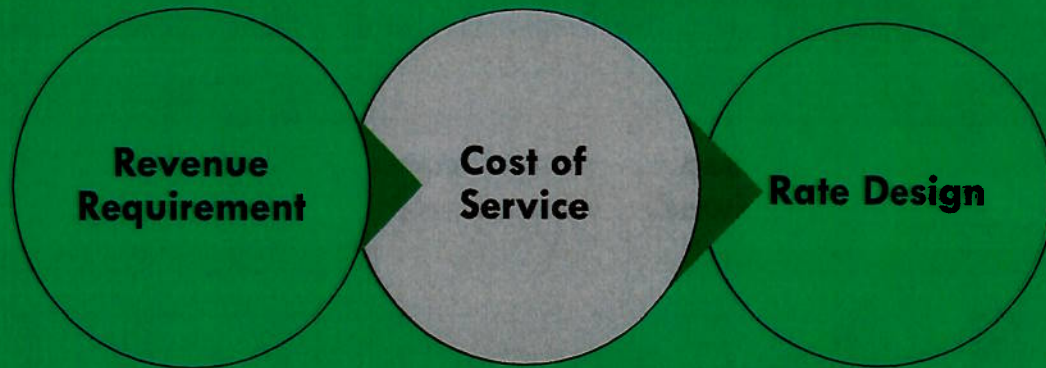
# WORKING CAPITAL TARGET FINANCIAL POLICY

- Objective to maintain 180 days cash on hand
- Purpose is to provide funds for unplanned events such as disaster recovery and rate stabilization
- Target is to be achieved gradually over an approximately 10-year period in order to minimize rate impacts
- Maintain a minimum of 60 days cash on hand





# THREE PRIMARY STEPS OF RATE MAKING



Compare revenue with operating and capital costs

Identify differences in costs to serve each of the customer classes

Consider level and structure of rate design for each class of service



# COST OF SERVICE DEFINED

A Cost of Service (COS) analysis determines the cost of providing water service to each distinct customer class, following guidelines from the AWWA Manual M1: *Principles of Water Rates, Fees and Charges*.



Single-family



Multi-family



Commercial/Industrial



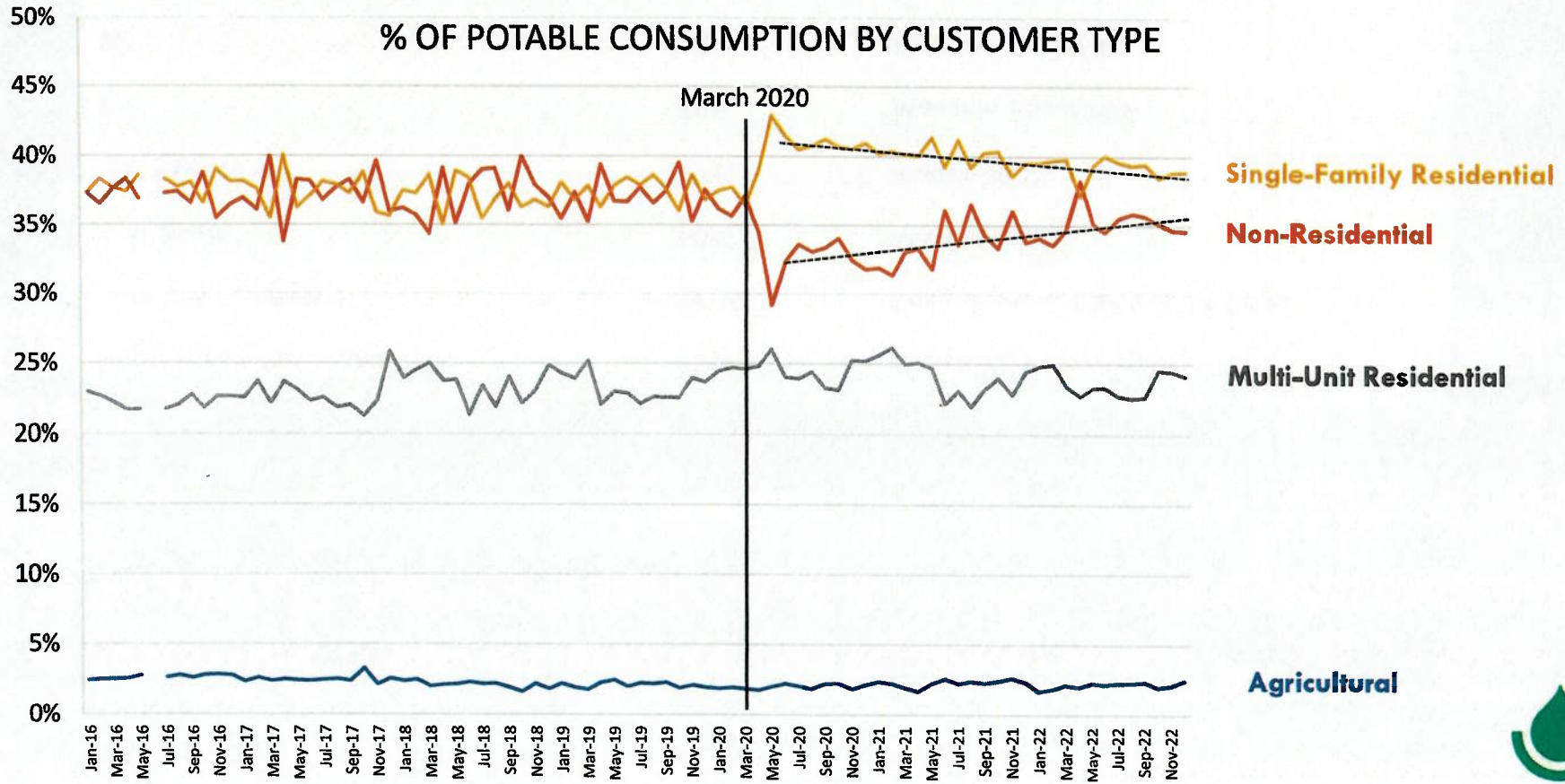
Agricultural

- Compare costs to rate-based revenue
- Show the impact of the rate structure on varied customer classes
- Inform rate policies and decisions about the rate structure





# COVID-19 CAUSED CHANGES IN CUSTOMER WATER USE PATTERNS



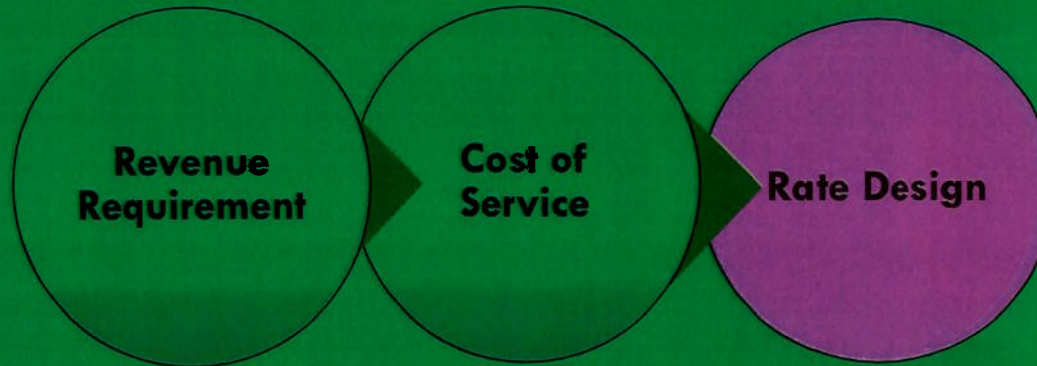
# ADJUSTMENTS TO COST OF SERVICE FROM PREVIOUS RATE STUDY

Customer Class	Cost of Service Recovery FY 2019	Implemented Recommendation
Single-Family Residential	90%	About 95% recovery by FY 2023
Multi-Unit Residential	109%	Bring down to 100% by FY 2023
Agricultural	60%	Maintain 60%
Non-Potable	77%	Bring to 80%
R-1	70%	Maintain about 70%
RO	55%	Bring to about 63%
Non-Residential	120%	Balance downward and provide source of funds for community values, 117%





# THREE PRIMARY STEPS OF RATE MAKING



Compare revenue with operating and capital costs

Identify differences in costs to serve each of the customer classes

Consider level and structure of rate design for each class of service



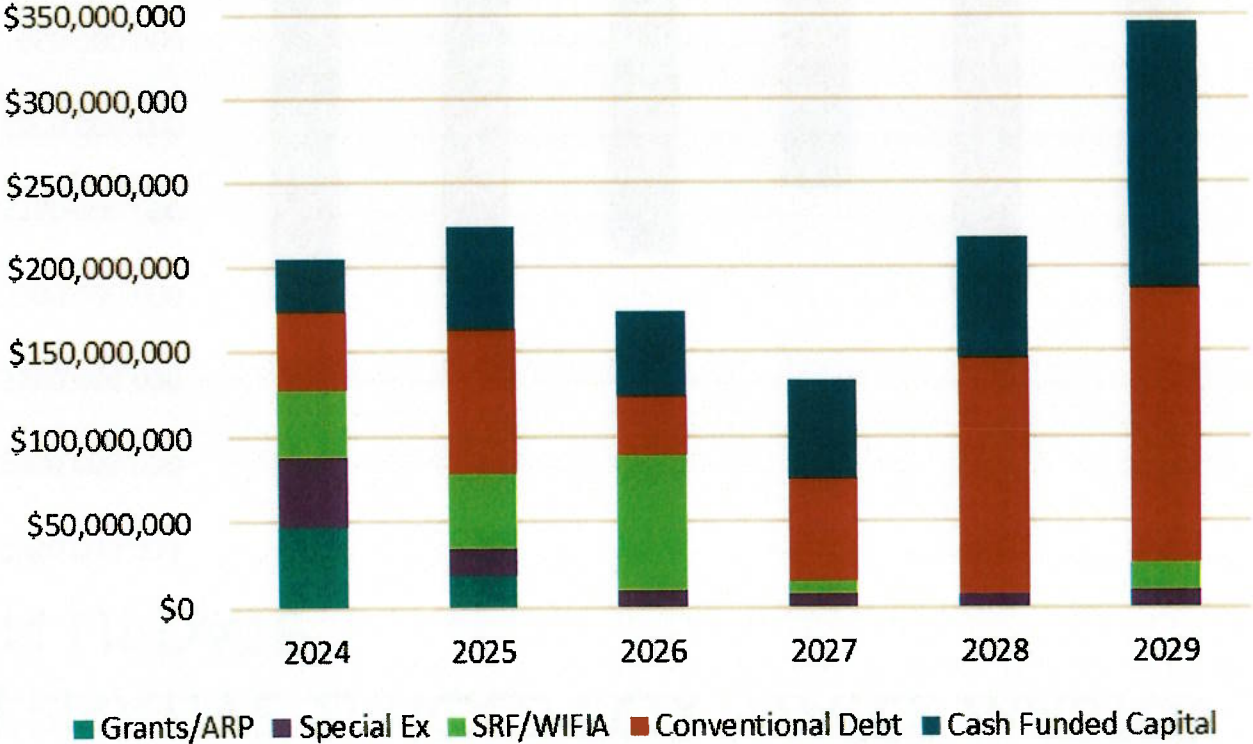
## QUESTIONS FOR BOARD CONSIDERATION

1. Should a return to higher levels of CIP spending planned for in the Long Range Financial Plan be implemented in FY 2029 or should that decision be postponed until an update of the Water Master Plan is completed?
2. To reduce short-term rate impacts, should we temporarily drop below the 60-day working capital requirement?
3. Should we apply increases uniformly across the four residential rate tiers or should we keep increases to the Essential Needs tier lower?

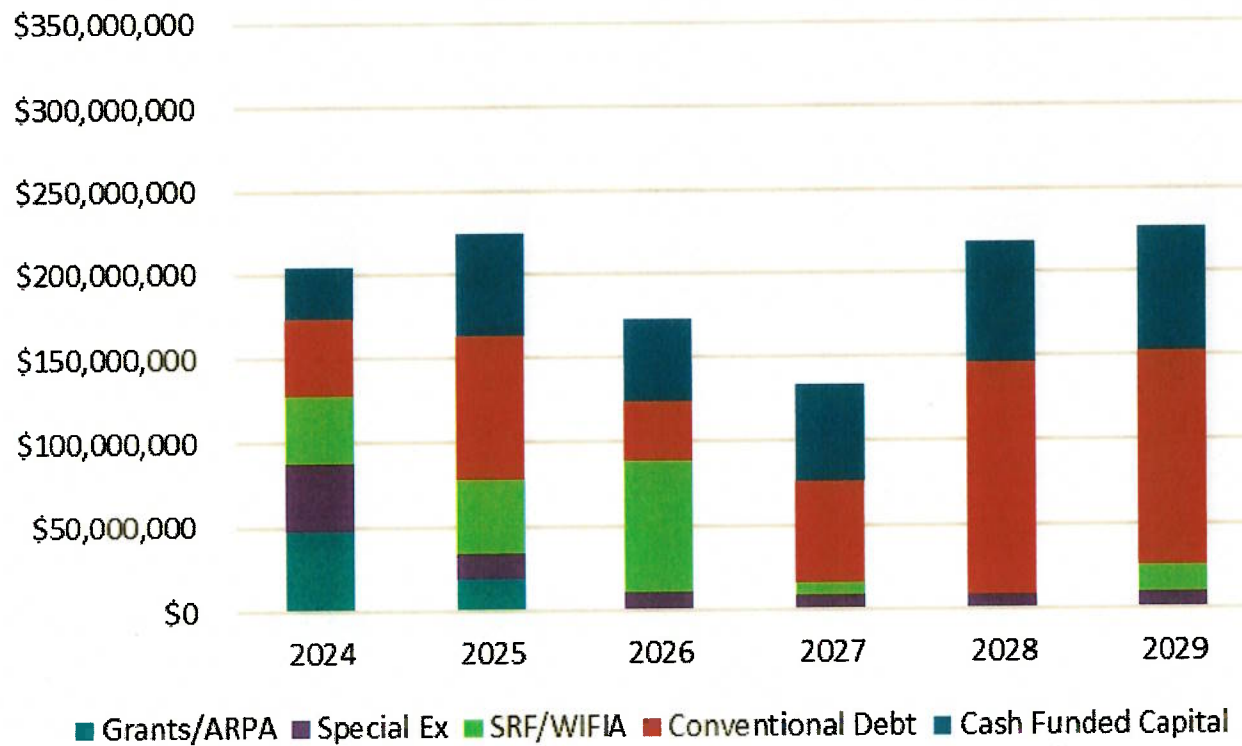




# ALTERNATIVE 1: RETURN TO LONG RANGE FINANCIAL PLAN IN FY 2029



# ALTERNATIVE 2: HOLD FOR WATER MASTER PLAN UPDATE



# ALTERNATIVE 1: RETURN TO LRFP IN FY 2029

	Jan 1 FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Annual Revenue Increase	14.4%	8.6%	1.3%	9.2%	7.4%	28.2%
						Cum: 89.0%
<b>Operating Fund Balance</b>						
Beginning of Year Balance	\$29,900,000	\$33,445,900	\$34,950,700	\$36,348,800	\$38,699,900	\$40,054,500
<u>Annual Increase (Decrease)</u>	<u>\$3,545,900</u>	<u>\$1,504,800</u>	<u>\$1,398,100</u>	<u>\$2,351,100</u>	<u>\$1,354,600</u>	<u>\$1,401,900</u>
End of Year Balance	\$33,445,900	\$34,950,700	\$36,348,800	\$38,699,900	\$40,054,500	\$41,456,400
Estimated Working Capital Days	60	60	60	60	60	60





# ALTERNATIVE 2: HOLD FOR WMP UPDATE

	Jan 1 FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Annual Revenue Increase	14.4%	8.6%	5.2%	5.2%	5.2%	5.2%
						Cum: 52.3%
<b>Operating Fund Balance</b>						
Beginning of Year Balance	\$29,900,000	\$33,445,900	\$34,950,800	\$48,548,200	\$51,533,400	\$46,273,500
<u>Annual Increase (Decrease)</u>	<u>\$3,545,900</u>	<u>\$1,504,900</u>	<u>\$13,597,400</u>	<u>\$2,985,200</u>	<u>(\$5,259,900)</u>	<u>(\$4,817,000)</u>
End of Year Balance	\$33,445,900	\$34,950,800	\$48,548,200	\$51,533,400	\$46,273,500	\$41,456,500
Estimated Working Capital Days	60	60	80	80	69	60





# CHANGES TO MONTHLY BILL AVERAGE SINGLE-FAMILY RESIDENTIAL CUSTOMER 9,000 GAL/MONTH

Alternative	Current	Jan 1 FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	Cumulative
Alt 1: Return to LRFP	\$59.56	\$68.14	\$74.00	\$74.96	\$81.85	\$87.91	\$112.70	89.0%
Alt 2: Hold for WMP Update	\$59.56	\$68.11	\$73.98	\$77.86	\$81.93	\$86.22	\$90.73	52.3%



## QUESTIONS FOR BOARD CONSIDERATION

1. Should a return to higher levels of CIP spending planned for in the Long Range Financial Plan be implemented in FY 2029 or should that decision be postponed until an update of the Water Master Plan is completed?
2. To reduce short-term rate impacts, should we temporarily drop below the 60-day working capital requirement?
3. Should we apply increases uniformly across the four residential rate tiers or should we keep increases to the Essential Needs tier lower?





# ALTERNATIVE 3: SINGLE DIGITS ONLY

	Jan 1 FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	Cumulative
Alt 2: Hold for WMP Update	14.4%	8.6%	5.2%	5.2%	5.2%	5.2%	52.3%
Alt 3: Single Digits Only	9.9%	9.9%	7.1%	6.2%	7.4%	5.0%	54.9%
<b>Operating Fund Balance</b>							
Beginning of Year Balance	\$29,900,000	\$27,938,300	\$26,318,600	\$36,348,900	\$38,699,900	\$40,054,200	
<u>Annual Increase (Decrease)</u>	(\$1,961,700)	(\$1,619,700)	\$10,030,300	\$2,351,000	\$1,354,300	\$1,402,000	
End of Year Balance	\$27,938,300	\$26,318,600	\$36,348,900	\$38,699,900	\$40,054,200	\$41,456,200	
<b>Estimated Working Capital Days</b>	<b>50</b>	<b>45</b>	60	60	60	60	

DRAFT: For Discussion Only



# CHANGES TO MONTHLY BILL AVERAGE SINGLE-FAMILY RESIDENTIAL CUSTOMER 9,000 GAL/MONTH

Alternative	Current	Jan 1 FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	Cumulative
Alt 1: Return to LRFP	\$59.56	\$68.14	\$74.00	\$74.96	\$81.85	\$87.91	\$112.70	89.0%
Alt 2: Hold for WMP Update	\$59.56	\$68.11	\$73.98	\$77.86	\$81.93	\$86.22	\$90.73	52.3%
Alt 3: Single Digits Only	\$59.56	\$65.46	\$71.94	\$77.04	\$81.82	\$87.88	\$92.27	54.9%





# Multi-unit residential water rates



Tier	Gallons/ du/month	Current	Proposed Rates, Effective Dates					
			Jan 1 FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Alt 3: Single Digits Only			9.9%	9.9%	7.1%	6.2%	7.4%	5.0%
EssN: 1	0 to 2,000	\$3.77	\$4.14	\$4.55	\$4.88	\$5.18	\$5.56	\$5.84
2	2,001 to 4,000	\$4.43	\$4.87	\$5.35	\$5.73	\$6.09	\$6.54	\$6.86
3	4,001 to 10,000	\$5.03	\$5.53	\$6.08	\$6.51	\$6.91	\$7.42	\$7.79
4	More than 10,000	\$5.98	\$6.57	\$7.22	\$7.74	\$8.22	\$8.82	\$9.26

EssN – Essential needs, Rates are in \$ per thousand gallons, du – dwelling unit

**DRAFT: For Discussion Only**



# Non-residential water rates



Current	Proposed Rates, Effective Dates					
	Jan 1 FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Alt 3: Single Digits Only	9.9%	9.9%	7.1%	6.2%	7.4%	5.0%
\$5.27	\$5.79	\$6.37	\$6.82	\$7.24	\$7.78	\$8.16

Rates are in \$ per thousand gallons

Examples: hotels, restaurants, government, shopping centers,  
hospitals, retail



**DRAFT: For Discussion Only**

# Non-potable and recycled water rates



Type	Current	Proposed Rates, Effective Dates					
		Jan 1 FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Alt 3: Single Digits Only		9.90%	9.90%	7.10%	6.20%	7.40%	5.00%
Non-Potable	\$2.90	\$3.19	\$3.50	\$3.75	\$3.98	\$4.28	\$4.49
R-1 Golf	\$0.65	\$0.71	\$0.79	\$0.84	\$0.89	\$0.96	\$1.01
R-1 Other	\$1.96	\$2.15	\$2.37	\$2.54	\$2.69	\$2.89	\$3.04
RO	\$6.36	\$6.99	\$7.68	\$8.23	\$8.74	\$9.38	\$9.85

Rates are in \$ per thousand gallons



**DRAFT: For Discussion Only**



# MONTHLY CUSTOMER CHARGE BASED ON WATER METER SIZE



Meter Size	Current	Jan 1 FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Alt 3: Single Digits Only		9.90%	9.90%	7.10%	6.20%	7.40%	5.00%
5/8"	12.09	13.29	14.60	15.64	16.61	17.84	18.73
3/4"	12.09	13.29	14.60	15.64	16.61	17.84	18.73
1"	15.28	16.79	18.46	19.77	20.99	22.54	23.67
1.5"	17.41	19.13	21.03	22.52	23.92	25.69	26.97
2"	43.45	47.75	52.48	56.20	59.69	64.11	67.31
3"	53.55	58.85	64.68	69.27	73.56	79.01	82.96
4"	101.92	112.01	123.10	131.84	140.01	150.37	157.89
6"	181.64	199.62	219.38	234.96	249.53	267.99	281.39
8"	276.78	304.18	334.30	358.03	380.23	408.36	428.78
12"	598.53	657.78	722.91	774.23	822.23	883.08	927.23



DRAFT: For Discussion Only



# FIRE METER STANDBY CHARGE

Meter Size	Current	Jan 1 FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Alt 3: Single Digits Only		9.90%	9.90%	7.10%	6.20%	7.40%	5.00%
2" and smaller	\$7.99	\$8.78	\$9.65	\$10.34	\$10.98	\$11.79	\$12.38
3"	\$10.29	\$11.31	\$12.43	\$13.31	\$14.14	\$15.18	\$15.94
4"	\$14.23	\$15.64	\$17.19	\$18.41	\$19.55	\$21.00	\$22.04
6"	\$28.44	\$31.26	\$34.35	\$36.79	\$39.07	\$41.96	\$44.06
8"	\$52.94	\$58.18	\$63.94	\$68.48	\$72.73	\$78.11	\$82.01

DRAFT: For Discussion Only



## QUESTIONS FOR BOARD CONSIDERATION

1. Should a return to higher levels of CIP spending planned for in the Long Range Financial Plan be implemented in FY 2029 or should that decision be postponed until an update of the Water Master Plan is completed?
2. To reduce short-term rate impacts, should we temporarily drop below the 60-day working capital requirement?
3. Should we apply increases uniformly across the four residential rate tiers or should we keep increases to the Essential Needs tier lower?





# ALT. A: UNIFORM INCREASE ACROSS ALL TIERS

Typical Single-Family Residential Customer Type	Current	Jan 1 FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	Cumulative
Alt 3: Single Digits Only		9.9%	9.9%	7.1%	6.2%	7.4%	5.0%	54.9%
Low – 2,000 gal/mo	\$21.01	\$23.09	\$25.38	\$27.18	\$28.86	\$31.00	\$32.55	54.9%
Median – 6,000 gal/mo	\$42.01	\$46.17	\$50.74	\$54.34	\$57.71	\$61.98	\$65.08	54.9%
Average 9,000 gal/mo	\$59.56	\$65.46	\$71.94	\$77.04	\$81.82	\$87.88	\$92.27	54.9%
High 35,000 gal/mo	\$228.66	\$251.30	\$276.18	\$295.78	\$314.12	\$337.37	\$354.24	54.9%
		Percentage Changes by Tier						
Quantity Charge Increases	EssN: Tier 1	9.90%	9.90%	7.10%	6.20%	7.40%	5.00%	
	Tier 2	9.90%	9.90%	7.10%	6.20%	7.40%	5.00%	
	Tier 3	9.90%	9.90%	7.10%	6.20%	7.40%	5.00%	
	Tier 4	9.90%	9.90%	7.10%	6.20%	7.40%	5.00%	
Customer Charge Increase		9.9%	9.9%	7.1%	6.2%	7.4%	5.0%	

DRAFT: For Discussion Only





# ALT. B: NO INCREASE IN ESSENTIAL NEEDS QUANTITY CHARGE, SHIFT ALL TO T4

Typical Single-Family Residential Customer Type	Current	Jan 1 FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	Cumulative
Alt 3: Single Digits Only		9.9%	9.9%	7.1%	6.2%	7.4%	5.0%	54.9%
Low – 2,000 gal/mo	\$21.01	\$22.21	\$23.52	\$24.56	\$25.53	\$26.76	\$27.65	31.6%
Median – 6,000 gal/mo	\$42.01	\$45.29	\$48.89	\$51.72	\$54.38	\$57.74	\$60.18	43.2%
Average 9,000 gal/mo	\$59.56	\$64.57	\$70.08	\$74.43	\$78.49	\$83.63	\$87.37	46.7%
High 35,000 gal/mo	\$228.66	\$260.15	\$294.76	\$322.04	\$347.56	\$379.89	\$422.70	84.8%
		Percentage Changes by Tier						
Quantity Charge Increases	EssN: Tier 1	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
	Tier 2	9.90%	9.90%	7.10%	6.20%	7.40%	5.00%	
	Tier 3	9.90%	9.90%	7.10%	6.20%	7.40%	5.00%	
	Tier 4	30.96%	25.98%	16.25%	13.08%	14.66%	26.09%	
Customer Charge Increase		9.9%	9.9%	7.1%	6.2%	7.4%	5.0%	





# ALT. C: 5% INCREASE IN ESSENTIAL NEEDS QUANTITY CHARGE, SHIFT TO TIERS 2, 3 AND 4

Typical Single-Family Residential Customer Type	Current	Jan 1 FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	Cumulative
Alt 3: Single Digits Only		9.9%	9.9%	7.1%	6.2%	7.4%	5.0%	54.9%
Low – 2,000 gal/mo	\$21.01	\$22.65	\$24.44	\$25.97	\$27.45	\$29.22	\$30.68	46.0%
Median – 6,000 gal/mo	\$42.01	\$45.96	\$50.29	\$53.76	\$57.03	\$61.12	\$65.09	54.9%
Average 9,000 gal/mo	\$59.56	\$65.43	\$71.89	\$76.98	\$81.75	\$87.79	\$93.84	57.5%
High 35,000 gal/mo	\$228.66	\$253.10	\$280.04	\$300.77	\$319.93	\$344.68	\$370.88	62.1%
		Percentage Changes by Tier						
Quantity Charge Increases	EssN: Tier 1	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	
	Tier 2	10.98%	10.92%	7.51%	6.43%	7.86%	7.84%	
	Tier 3	10.98%	10.92%	7.51%	6.43%	7.86%	7.84%	
	Tier 4	10.98%	10.92%	7.51%	6.43%	7.86%	7.84%	
Customer Charge Increase		9.9%	9.9%	7.1%	6.2%	7.4%	5.0%	



DRAFT: For Discussion Only



# SUMMARY OF TIER SHIFT ALTERNATIVES SINGLE-FAMILY RESIDENTIAL

	Typical Single-Family Residential Customer Type	Current	Jan 1 FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	Cumulative
Low – 2,000 gal/mo	Alt A - Even	\$21.01	\$23.09	\$25.38	\$27.18	\$28.86	\$31.00	\$32.55	54.9%
	Alt B – EssN 0%	\$21.01	\$22.21	\$23.52	\$24.56	\$25.53	\$26.76	\$27.65	31.6%
	Alt C - Spread	\$21.01	\$22.65	\$24.44	\$25.97	\$27.45	\$29.22	\$30.68	46.0%
Median – 6,000 gal/mo	Alt A - Even	\$42.01	\$46.17	\$50.74	\$54.34	\$57.71	\$61.98	\$65.08	54.9%
	Alt B – EssN 0%	\$42.01	\$45.29	\$48.89	\$51.72	\$54.38	\$57.74	\$60.18	43.2%
	Alt C - Spread	\$42.01	\$45.96	\$50.29	\$53.76	\$57.03	\$61.12	\$65.09	54.9%
Average 9,000 gal/mo	Alt A - Even	\$59.56	\$65.46	\$71.94	\$77.04	\$81.82	\$87.88	\$92.27	54.9%
	Alt B – EssN 0%	\$59.56	\$64.57	\$70.08	\$74.43	\$78.49	\$83.63	\$87.37	46.7%
	Alt C - Spread	\$59.56	\$65.43	\$71.89	\$76.98	\$81.75	\$87.79	\$93.84	57.5%
High 35,000 gal/mo	Alt A - Even	\$228.66	\$251.30	\$276.18	\$295.78	\$314.12	\$337.37	\$354.24	54.9%
	Alt B – EssN 0%	\$228.66	\$260.15	\$294.76	\$322.04	\$347.56	\$379.89	\$422.70	84.8%
	Alt C - Spread	\$228.66	\$253.10	\$280.04	\$300.77	\$319.93	\$344.68	\$370.88	62.1%



DRAFT: For Discussion Only

## CONSIDERING WAIVERS FOR NEW FARMERS

- Waive installation fee and Water System Facilities charge for new  $\frac{3}{4}$ -inch and 1-inch meters connecting to BWS system for the first time
- Limited to \$1 million granted by State of Hawaii for new exploratory well in Kunia (Memorandum of Understanding dated March 30, 2021)
- Require proof of commercial agricultural operation
- Require water use plan





# EXISTING WATER CONSERVATION PROGRAM SUMMARY

- 4 Residential Measures
- 12 Commercial Measure
- Last 12 Months
  - Launched Toilet Measure in Q3 2022
  - Launched Cooling Tower Rebate in Q4 2022
  - Launched Trade Ally Network in Q2 2023





# CURRENT SECTORS AND MEASURES

Measures	Residential	Commercial Kitchen	Commercial Plumbing	Commercial Landscape	Commercial Mechanical
Toilet	X		X		
Clothes Washer	X		X		
Rain Barrel	X			X	
WBIC	X			X	
Pre-Rinse Spray Valve		X			
Dipper Wells		X			
Commercial Dishwasher		X			
Ice Maker		X			
Shower Heads			X		
Aerators			X		
Urinals			X		
Cooling Tower Equipment					X



# RESIDENTIAL PROGRAM HIGHLIGHTS BY THE NUMBERS

772,423,940

Estimated Lifetime Gallons Saved

10,190

Rebates Issued

8,465

Clothes Washers

743

Rain Barrels

627

Toilets

355

WBICs

WBIC: Weather-Based Irrigation Controller





# COMMERCIAL PROGRAM HIGHLIGHTS BY THE NUMBERS

7,225,120

Estimated Lifetime Gallons Saved

Food Service Incentives

Started Jan 2019

Commercial  
Rebates

Started Feb 2022

57

Pre-Rinse Nozzles

106

Faucet Aerators

27

Rebates Issued





# CONSIDERING NEW WATER CONSERVATION PROGRAMS

- Top water user outreach
  - Contact top water users and work with them on reducing water use
  - Initial focus on businesses, condos and townhomes
- Direct install for kupuna living on their own
  - Referrals from city, state and private agencies that work with seniors
  - Perform water audit of home and replace fixtures as needed
  - For larger plumbing replacements – ensure they are getting appropriate rebates



# QUESTIONS / DISCUSSION







MAHALO!

THERE IS NO  
SUBSTITUTE FOR PURE  
WATER!

[boardofwatersupply.com](http://boardofwatersupply.com)



ITEM FOR INFORMATION NO. 3

"June 26, 2023

DISCUSSION  
ON POWER  
COST  
ADJUSTMENT

Chair and Members  
Board of Water Supply  
City and County of Honolulu  
Honolulu, Hawaii 96843

Chair and Members:

Subject: Discussion on Power Cost Adjustment

Raelynn Nakabayashi, Executive Assistant I, Executive Support Office, will present the Power Cost Adjustment

Respectfully Submitted,

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

Attachment"

The foregoing was for information only.

DISCUSSION:

Raelynn Nakabayashi, Executive Assistant I, Executive Support Office, gave the report.

Board member Anthony asked if the Power Cost Adjustment was implemented from 2019 to 2022, what would have been the total amount collected?

Ms. Raelynn Nakabayashi responded that if the Power Cost Adjustment of \$0.16 for Fiscal Year 2022 was applied, the BWS would be recapturing about \$8M in Fiscal Year 2024 and a total of up to \$22M for Fiscal Years 2019-2022. She shared that the BWS brings \$260M in revenue annually.



# DISCUSSION ON POWER COST ADJUSTMENT

Raelynn Nakabayashi

June 26, 2023

[boardofwatersupply.com](http://boardofwatersupply.com)

Authority to Charge a  
“Power Cost Adjustment”

Calculating the “Power  
Cost Adjustment”





## POWER COST ADJUSTMENT AUTHORITIES (REVISED CHARTER OF THE CITY & COUNTY OF HONOLULU)

Section 7-109. Rates, Revenues and Appropriations -- The board shall have the power to fix and adjust reasonable rates and charges for the furnishing of water and for water services so that the revenues derived therefrom shall be sufficient to make the department self-supporting. Such revenues shall be sufficient to meet all necessary expenditures, including expenditures for (a) operating and maintenance expenses; (b) repairs, replacements, additions and extensions; (c) accident reserve, pension charges and compensation insurance; (d) payment of principal and interest on all bonds, including reserves therefor, issued for the acquisition or construction of waterworks and extensions thereto, and (e) reserve funds under Section 7-112 of this charter.



## POWER COST ADJUSTMENT AUTHORITIES (REVISED CHARTER OF THE CITY & COUNTY OF HONOLULU)

Section 7-106. Powers, Duties and Functions of the Manager and Chief Engineer

- - The manager and chief engineer shall:

(a) Administer the affairs of the department, including the rules and regulations adopted by the board.

...

(f) Prepare bills, collect and, by appropriate means including discontinuance of service and civil action, enforce the collection of charges for the furnishing of water and for water services.





BOARD OF WATER SUPPLY  
CITY AND COUNTY OF HONOLULU

RESOLUTION NO. 470, 1979

RESOLUTION ADOPTING SCHEDULE OF RATES AND CHARGES  
FOR THE FURNISHING OF WATER AND WATER SERVICE

WHEREAS, after notice of publication, a public hearing was held by the Board of Water Supply on February 22, 1979, for the purpose of considering proposed changes in the Schedule of Rates and Charges for the Furnishing of Water and Water Service to Consumers of the Board of Water Supply in the City and County of Honolulu; and

WHEREAS, testimony presented at said hearing and received in writing through March 15, 1979 on the proposed changes in the Schedule of Rates and Charges was given due consideration;

NOW, THEREFORE, BE IT RESOLVED by the Board of Water Supply, City and County of Honolulu, State of Hawaii, that the following Schedule of Rates and Charges for the Furnishing of Water and Water Service to Consumers of the Board of Water Supply is hereby adopted and that said rates and charges shall become effective from and after July 1, 1979.

ADOPTED:

*Yoshie H. Fujinaka*

YOSHIE H. FUJINAKA  
Chairman

Date:

*April 19, 1979*

INITIAL ADOPTION & INCLUSION IN RATE SCHEDULE





# REVISION TO THE SCHEDULE OF RATES AND CHARGES FOR THE FURNISHING OF WATER AND WATER SERVICE

RESOLUTION NO. 470, 1979, EFFECTIVE JULY 1, 1979

**Power Cost Adjustment:** The General Quantity and Agricultural Quantity rates per 1,000 gallons shall be increased by \$0.01 per 1,000 gallons for each \$300,000 or fraction thereof, by which electric power cost to the Board of Water Supply exceeds \$3.63 million.





**BOARD OF WATER SUPPLY  
CITY AND COUNTY OF HONOLULU**

**RESOLUTION NO. 889, 2018**

**ADOPTING THE REVISIONS TO THE SCHEDULE OF RATES AND CHARGES FOR THE FURNISHING OF WATER AND WATER SERVICE FOR FISCAL YEARS 2019 – 2023, EFFECTIVE SEPTEMBER 10, 2018 THROUGH JUNE 30, 2023**

WHEREAS, after notices of publication, five public hearings were held by the Board of Water Supply on April 26, 2018, May 14, 2018, May 15, 2018, May 24, 2018, and August 27, 2018, for the purpose of considering proposed revisions to the Schedule of Rates and Charges for the Furnishing of Water and Water Service; and

WHEREAS, testimonies presented at said hearings and received in writing through August 27, 2018 on the proposed revisions were given due consideration; and

WHEREAS, the Board of Water Supply held 27 meetings with a Stakeholder Advisory Group to solicit feedback and gather input on the Water Master Plan, Infrastructure Investment Plan, Long Range Financial Plan, and proposed changes to the water rates and charges; and

WHEREAS, the mission of the Board of Water Supply is to provide safe, dependable, and affordable water now and into the future; and

WHEREAS, a Water Master Plan adopted in October 2016 identifies the needs of the Board of Water Supply in order to meet its mission; and

WHEREAS, an Infrastructure Investment Plan was developed from the findings of the Water Master Plan to identify and schedule capital improvements to implement the findings and recommendations in the Water Master Plan in order to meet the mission of the Board of Water Supply; and

WHEREAS, a Long Range Financial Plan adopted by the Board of Water Supply in March 2018 was developed and included a projection of ten-year revenue requirements, evaluation of financing strategies, supporting revised Financial Policies adopted by the Board of Water Supply in May 2017, and assessment of long-term (30-year) trends and risks associated with supporting the Infrastructure Investment Plan; and

WHEREAS, a five-year cost of service and rate study were completed to determine the necessary revenue adjustments to support implementation of the findings in the Water Master Plan and the Infrastructure Investment Plan; and

WHEREAS, the Board of Water Supply seeks to increase its annual replacement of pipeline to 21 miles per year over the next decade; and

WHEREAS, the cost of service analysis identified opportunities to adjust rates and charges to better align revenues with the costs to serve different customer classes; and

WHEREAS, the rate study identified opportunities to incentivize efficient use of water within the residential customer classes by changing tiers and rates; and


WHEREAS, the Board of Water Supply recognizes the importance of affordable water to meet essential household needs; and

WHEREAS, the Board of Water Supply recognizes the benefits of a viable local agricultural industry on Oahu and the importance of an affordable supply of water for that industry; and

WHEREAS, the Board of Water Supply recognizes the benefit of encouraging the use of recycled and non-potable water resources as a way to manage and sustain the potable water resources on Oahu; now, therefore

**BE IT RESOLVED** by the Board of Water Supply, City and County of Honolulu, that in support of these objectives and the mission of the Board of Water Supply, the Schedule of Rates and Charges be revised, as attached hereto, and that said rates and charges shall become effective from and after September 10, 2018.

ADOPTED:

  
BRYAN P. ANDAYA  
Chair

Honolulu, Hawaii  
August 27, 2018

**APPROVED**

RESOLUTION NO. 889, 2018, ADOPTING THE REVISIONS TO THE SCHEDULE OF RATES AND CHARGES FOR THE FURNISHING OF WATER AND WATER SERVICE FOR FISCAL YEARS 2019-2023, EFFECTIVE SEPTEMBER 10, 2018 THROUGH JUNE 30, 2023 WAS ADOPTED ON AUGUST 27, 2018

	AYE	NO	COMMENT
BRYAN P. ANDAYA	X		
KAPUA SPROAT	X		
DAVID C. HULIHEE			ABSENT
KAY C. MATSUI	X		
RAY C. SOON	X		
ROSS S. SASAMURA	X		
JADE T. BUTAY			ABSENT

**MOST RECENT MODIFICATION TO THE CALCULATION**





# REVISION TO THE SCHEDULE OF RATES AND CHARGES FOR THE FURNISHING OF WATER AND WATER SERVICE

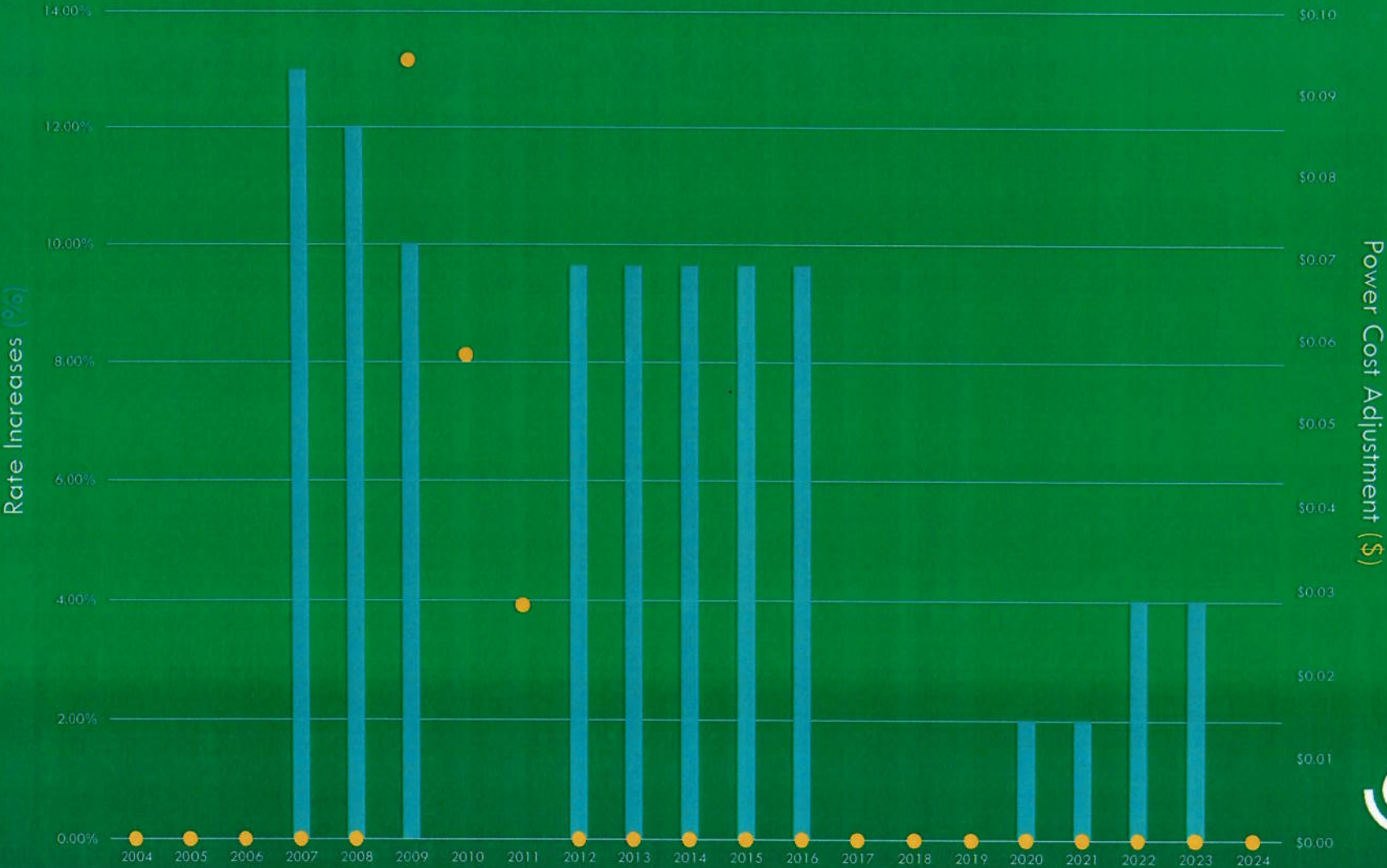
AMENDED BY RESOLUTION NO. 889, 2018, EFFECTIVE JULY 1, 2019 AND RESOLUTION NO. 963, 2023 EFFECTIVE APRIL 24, 2023

**Power Cost Adjustment:** When total power, or electricity, costs to the Board of Water Supply exceed the amount used in calculating the annual Schedule of Rates and Charges, then the Quantity Charge may be increased \$0.01 per 1,000 gallons for every \$500,000 incremental power cost overage in the following fiscal year.





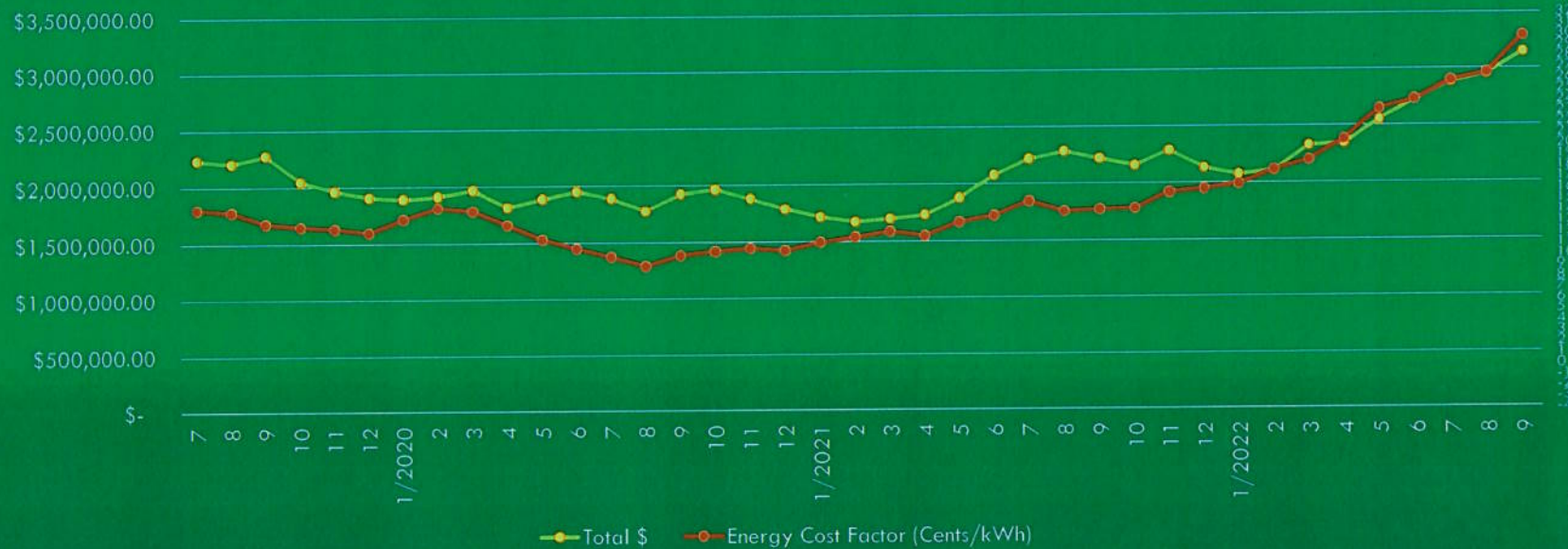
# Rate Increases & Power Cost Adjustment



# POWER COSTS VARY GREATLY

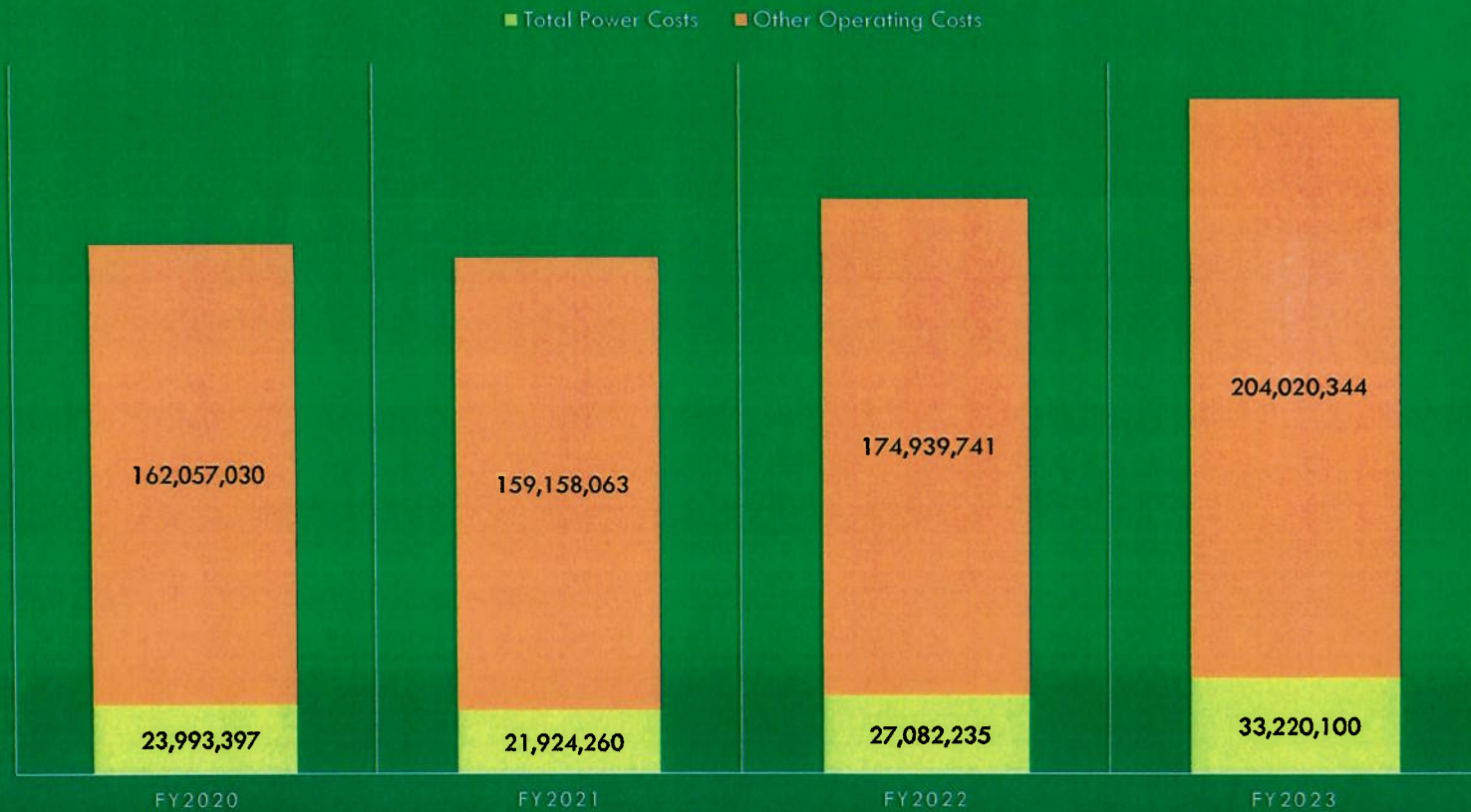
Per HECO, "Our fuel costs are constantly changing. All increases or decreases in these costs are passed on to our customers through the energy cost recovery clause."

BWS HECO Charges July 2020 - September 2022





# POWER IS A LARGE, NON-DISCRETIONARY, OPERATING COST



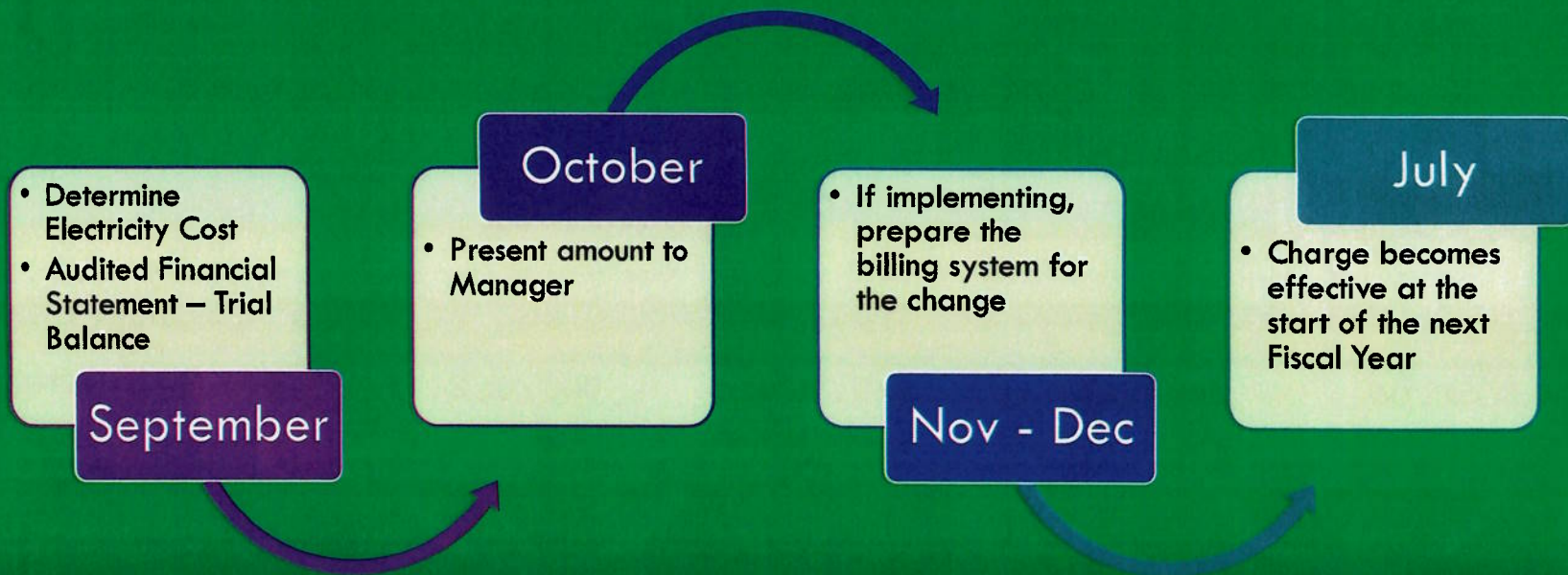


Authority to Charge a  
“Power Cost Adjustment”

Calculating the “Power  
Cost Adjustment”



## THE CALCULATION (CURRENT PROCESS)





# POWER COST ADJUSTMENT CALCULATION (NOT IMPLEMENTED)

Electricity Cost	FY2019 <small>July 1, 2018 to June 30, 2019</small>	FY2020 <small>July 1, 2019 to June 30, 2020</small>	FY2021 <small>July 1, 2020 to June 30, 2021</small>	FY2022 <small>July 1, 2021 to June 30, 2022</small>
Actual Expenditures	\$25,773,921	\$24,025,483	\$22,195,982	\$28,108,683
Factored into Rate	18,987,300	19,367,046	19,754,387	20,149,475
Difference	6,786,621	4,658,437	2,441,595	7,959,208
÷ by 500,000	13.57324	9.31687	4.88319	15.91842
Additional Charge per 1,000 Gallons	<b>\$0.14</b>	<b>\$0.09</b>	<b>\$0.05</b>	<b>\$0.16</b>
Effective dates, if implemented	<b>FY2021</b> 07/01/2020	<b>FY2022</b> 07/01/2021	<b>FY2023</b> 07/01/2022	<b>FY2024</b> 07/01/2023





# SAMPLE MONTHLY BILLS – NO POWER COST ADJUSTMENT

EXISTING/CURRENT MONTHLY BILL				
	July 1, 2020 (FY2021)	July 1, 2021 (FY2022)	July 1, 2022 (FY2023)	July 1, 2023 (FY2024)
<b>Average SFR User</b> 9Kgal./mo.	\$ 52.62	\$ 55.82	\$ 59.56	\$ 59.56
<b>High SFR User</b> 35Kgal./mo.	\$ 204.82	\$ 215.82	\$ 228.66	\$ 228.66
<b>Hi-Rise MUR</b> (6", 206 d.u., 824kgal./mo.)	\$ 3,494.47	\$ 3,512.04	\$ 3,560.04	\$ 3,560.04
<b>Hotel</b> 1,950 Kgal./mo.	\$ 10,427.18	\$ 10,638.78	\$ 10,875.03	\$ 10,875.03
<b>Restaurant</b> 250 Kgal./mo.	\$ 1,280.78	\$ 1,306.50	\$ 1,334.91	\$ 1,334.91
<b>Large Industrial</b> 32,000Kgal./mo.	\$ 162,178.76	\$ 165,386.57	\$ 168,916.78	\$ 168,916.78



# SAMPLE MONTHLY BILLS – W/ POWER COST ADJUSTMENT

MONTHLY BILL WITH POWER COST ADJUSTMENT				
	July 1, 2020 (FY2021)	July 1, 2021 (FY2022)	July 1, 2022 (FY2023)	July 1, 2023 (FY2024)
<b>Average SFR User</b> 9Kgal./mo.	\$ 53.88	\$ 56.63	\$ 60.01	\$ 61.00
<b>High SFR User</b> 35Kgal./mo.	\$ 209.72	\$ 218.97	\$ 230.41	\$ 234.26
<b>Hi-Rise MUR</b> (6", 206 d.u., 824Kgal./mo.)	\$ 3,609.83	\$ 3,586.20	\$ 3,601.24	\$ 3,691.88
<b>Hotel</b> 1,950 Kgal./mo.	\$ 10,700.18	\$ 10,814.28	\$ 10,972.53	\$ 11,187.03
<b>Restaurant</b> 250 Kgal./mo.	\$ 1,315.78	\$ 1,329.00	\$ 1,347.41	\$ 1,374.91
<b>Large Industrial</b> 32,000Kgal./mo.	\$ 166,658.76	\$ 168,266.57	\$ 170,516.78	\$ 174,036.78





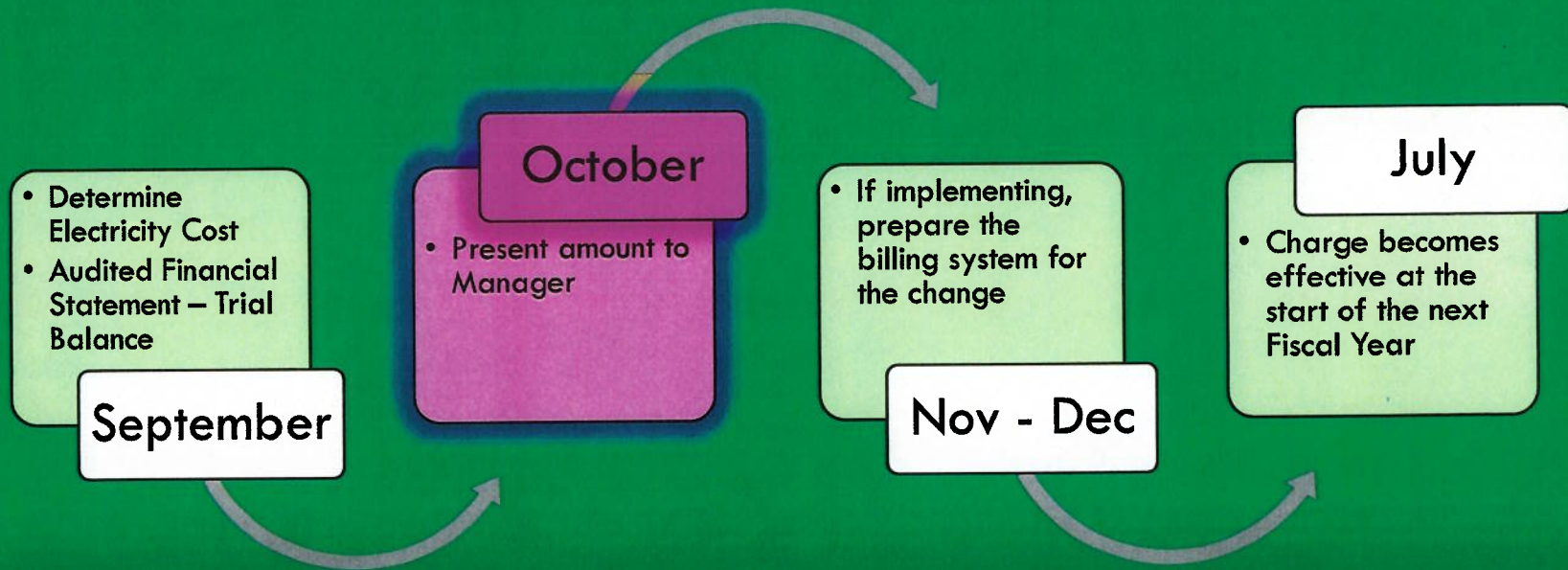
# IMPACTS ON MONTHLY BILLS IF IMPLEMENTED

CHANGE IN MONTHLY BILL				
	July 1, 2020 (FY2021)	July 1, 2021 (FY2022)	July 1, 2022 (FY2023)	July 1, 2023 (FY2024)
<b>Average SFR User</b> 9Kgal./mo.	\$1.26	\$0.81	\$0.45	\$1.44
<b>High SFR User</b> 35Kgal./mo.	\$4.90	\$3.15	\$1.75	\$5.60
<b>Hi-Rise MUR</b> (6", 206 d.u., 824Kgal./mo.)	\$115.36	\$74.16	\$41.20	\$131.84
<b>Hotel</b> 1,950 Kgal./mo.	\$273.00	\$175.50	\$97.50	\$312.00
<b>Restaurant</b> 250 Kgal./mo.	\$35.00	\$22.50	\$12.50	\$40.00
<b>Large Industrial</b> 32,000Kgal./mo.	\$4,480.00	\$2,880.00	\$1,600.00	\$5,120.00





# THE CALCULATION (CURRENT PROCESS)



# KEY FACTORS CONSIDERED – OCTOBER 2019

- Should BWS add an additional Power Cost Adjustment of \$0.14 per 1,000 Gallons effective July 1, 2020?
- New rate schedule adopted, and 1<sup>st</sup> rate increase was effective July 1, 2019
- Customers facing 2-4% rate increases annually

Monthly Customer Charge (per meter)						
Meter Size	2018	2019	2020	2021	2022	2023
5/8-inch or 1/4-inch*	\$9.26	\$9.26	\$10.42	\$10.80	\$11.38	\$12.09
1-inch	\$9.26	\$9.26	\$13.31	\$13.79	\$14.45	\$15.28
1 1/2-inch	\$9.26	\$9.26	\$15.23	\$15.78	\$16.50	\$17.41
2-inch	\$9.26	\$9.26	\$28.87	\$40.18	\$41.61	\$43.45
3-inch	\$9.26	\$9.26	\$47.95	\$49.64	\$53.25	\$53.55
4-inch	\$9.26	\$9.26	\$91.74	\$94.95	\$97.96	\$101.92
6-inch	\$9.26	\$9.26	\$163.91	\$169.63	\$174.84	\$181.64
8-inch	\$9.26	\$9.26	\$288.63	\$308.76	\$266.57	\$276.78
12-inch	\$9.26	\$9.26	\$541.21	\$560.18	\$576.79	\$598.51

\* Typical for Single-Family Residential use

Single-Family Residential Water Rates, 2018-2022							
Tier	Billing		Assessed Rates (Monthly Rates)				
	Capacity (cu. feet)	Rate	2018	2019	2020	2021	2022
Essential	0 to 2,000	\$4.42	\$4.42	\$4.79	\$4.94	\$4.87	\$4.46
1	0 to 8,000	\$4.42	\$4.42	\$4.46	\$4.60	\$4.90	\$4.25
2	8,000 to 20,000	\$5.33	\$5.33	\$5.38	\$5.20	\$5.39	\$5.25
3	More than 20,000	\$7.94	\$7.94	\$8.40	\$8.60	\$8.90	\$9.25

Each Essential tiered - 0 to 2,000 gal. - Rates are in \$ per thousand gallons

Multi-Unit Residential Water Rates, 2018-2022							
Tier	Billing		Assessed Rates (Monthly Rates)				
	Capacity (cu. feet)	Rate	2018	2019	2020	2021	2022
Essential	0 to 8,000	\$4.42	\$4.42	\$4.90	\$4.71	\$4.72	\$4.71
1	0 to 8,000	\$4.42	\$4.42	\$4.30	\$4.36	\$4.38	\$4.43
2	8,000 to 20,000	\$5.33	\$5.33	\$4.91	\$4.86	\$4.98	\$5.00
3	More than 20,000	\$7.94	\$7.94	\$8.30	\$8.14	\$8.33	\$8.38

Each Essential tiered - 0 to 2,000 gal. - Rates are in \$ per thousand gallons





## KEY FACTORS CONSIDERED – OCTOBER 2020

- Should BWS add an additional Power Cost Adjustment of \$0.09 per 1,000 Gallons effective July 1, 2021?
  - Global pandemic declared March 2020 – BWS Focused on sustaining operations while protecting workers
  - Unemployment Rates exceeded 20% in 2020
  - BWS suspended water shut off for non-payment (and continued this through July 31, 2021)





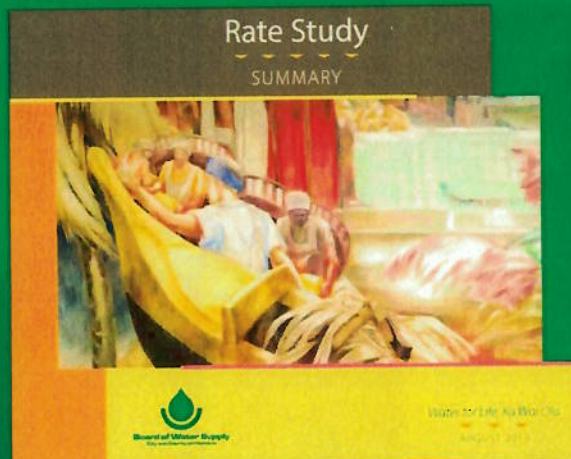
## KEY FACTORS CONSIDERED – OCTOBER 2021

- Should BWS add an additional Power Cost Adjustment of \$0.05 per 1,000 Gallons effective July 1, 2022?
  - COVID-19 Delta Variant causes surge in cases & corresponding preventive policies implemented – delaying economic recovery (abrupt tourism pullback)



# KEY FACTORS CONSIDERED - OCTOBER 2022

- Should BWS add an additional Power Cost Adjustment of \$0.16 per 1,000 Gallons effective July 1, 2023?
- Rate Study underway



### Public Involvement in Rate Setting

One of the hallmarks of the BWS's rate setting process was the commitment to transparency, open public communications, and local-based community engagement. Understanding the sensitivity of rate increases and benefits of keeping people informed, BWS reached out across the island to share results of the 2018 Rate Study, communicating proposed rates and the reasoning behind them. In total, these outreach efforts reached approximately 500,000 people.

Public outreach and engagement related to rates included:

- Four regional public hearings were held across Oahu. All of the hearings were telecasted on Oicfo, and the recorded videos were posted on the BWS website.
- Fifteen neighborhood board presentations were conducted, with more than 500 attendees.
- Ten interest group presentations were conducted with groups such as ANEP Chamber of Commerce Hawaii, developers, farmers, golf course manager, Hawaiian Electric, and the Honolulu Board of Realtors.
- Six City Council briefings were held, including the Mayor's cabinet of top City leadership.
- A prominent section of the BWS website was dedicated to proposed rate changes and received over 20,000 page views.
- A special edition of Water Matters, the BWS customer newsletter, was distributed to all 170,000 account holders.
- Three articles in the local newspaper plus TV news coverage and social media posts.
- BWS staff participated in radio and TV interviews discussing the proposed rates.
- Two surveys drew over 1,400 participants expressing their values and understanding of the new rates.

Public involvement activities including public hearings, neighborhood board presentations, and City Council briefings.





# Mahalo!

## BOARD OF WATER SUPPLY

Discussion on Power Cost Adjustment

Raelynn Nakabayashi

(808) 748-5177, [rnakabayashi@hbws.org](mailto:rnakabayashi@hbws.org)

[boardofwatersupply.com](http://boardofwatersupply.com) for more information

June 26, 2023

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



ITEM FOR INFORMATION NO. 4

“June 26, 2023

WATER SYSTEM  
REVENUE  
BONDS -  
COMPLIANCE  
WITH RATE  
COVENANT

Chair and Members  
Board of Water Supply  
City and County of Honolulu  
Honolulu, Hawaii 96843

Chair and Members:

Subject: Water System Revenue Bonds – Compliance with Rate  
Covenant

In accordance with Article VIII, Section 8.02, Rates and Charges, of the Water System Revenue Bonds, Resolution No. 717, 2001, we have completed a review of the financial condition of the Board of Water Supply for the purpose of estimating whether the Net Revenues for the current fiscal year and the next succeeding fiscal year will be sufficient to comply with the rate covenant in Section 8.02.

Our review included an examination of the financial and accounting records which we considered necessary to express an opinion on the adequacy of the department's rates and other charges such that Net Revenues shall not be less than the Net Revenue Requirement in each fiscal year.

In our opinion, Net Revenues for fiscal years 2023 and 2024 will not be less than the Net Revenue Requirement for such fiscal years.

The attached schedules present the actual and estimated revenues and expenditures in compliance with the above rate covenant.

Respectfully Submitted,

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

Attachment”

The foregoing was for information only.

DISCUSSION: Joseph Cooper, Waterworks Controller, Finance Division, gave the report. There were no comments or discussion.



BOARD OF WATER SUPPLY  
CITY AND COUNTY OF HONOLULU  
SUPPLEMENTAL SCHEDULE OF NET REVENUE REQUIREMENT  
PROJECTED AS OF JUNE 30, 2023

		<u>Amount</u>
<b>REVENUES</b>		
Water sales	\$	247,339,000
Interest		5,090,000
Other		4,653,000
		<u>257,082,000</u>
Total revenues		<u><u>257,082,000</u></u>
<b>DEDUCTIONS</b>		
Operating expenses		215,918,000
Less depreciation expense		(48,463,000)
		<u>167,455,000</u>
Total deductions		<u>167,455,000</u>
Net revenues	\$	<u><u>89,627,000</u></u>
<b>NET REVENUE REQUIREMENT</b>		
Greater of:		
1) Aggregate debt service	\$	27,244,000
Required deposits - subordinate obligation fund		<u>27,244,000</u>
		<u><u>27,244,000</u></u>
2) Aggregate debt service		27,244,000
	x	<u>1.20</u>
Net revenue requirement	\$	<u><u>32,692,800</u></u>
Target New Requirement of 1.7		46,314,800
Current ratio		3.29

Note: Subject to change after year end adjustments



ITEM FOR INFORMATION NO. 5

"June 26, 2023

STATUS  
UPDATE OF  
GROUNDWATER  
LEVELS AT  
ALL INDEX  
STATIONS

Chair and Members  
Board of Water Supply  
City and County of Honolulu  
Honolulu, Hawaii 96843

Chair and Members:

Subject: Status Update of Groundwater Levels at All Index Stations

Four aquifer index stations were in low groundwater condition for the production month of May 2023. Kaimuki, Pearl City, Punaluu and Waiialua are in Caution Status. The monthly production average for May 2023 was 127.12 million gallons per day.

The Board of Water Supply rainfall index for the month of May 2023 was 111 percent of normal, with a 5-month moving average of 121 percent. As of June 6, 2023, the Hawaii Drought Monitor shows zero drought conditions across Oahu. The National Weather Service is forecasting below-normal precipitation between June and December 2023.

Most monitoring wells exhibited relatively stable head levels for the month of May 2023, likely reflecting the lower overall groundwater production and recent increased rainfall. Average monthly production for May 2023 was lower than in May 2022, and lower than 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.

**PRODUCTION, HEAD AND RAINFALL REPORT  
MONTH OF MAY 2023**

**POTABLE**

STATION	MGD
HONOLULU (1)	
KULIOUOU	0.00
WAILUPE	0.08
AINA KOA	0.00
AINA KOA II	0.55
MANOA II	0.93
PALOLO	1.00
KAIMUKI HIGH	1.79
KAIMUKI LOW	1.05
WILDER	8.96
BERETANIA HIGH	2.55
BERETANIA LOW	1.49
KALIHI HIGH	0.00
KALIHI LOW	5.08
KAPALAMA	1.35
KALIHI SHAFT	8.51
MOANALUA	0.90
HALAWA SHAFT	0.00
KAAMILO	0.56
KALAUAO	9.05
PUNANANI	12.03
KAAHUMANU	0.26
HECO WAIU	0.00
MANANA	0.25
WAIALAE IKI	0.53
WELLS SUBTOTAL:	56.91
MANOA TUNNEL	0.17
PALOLO TUNNEL	0.00
GRAVITY SUBTTL:	0.17
HONOLULU SUBTTL:	57.08

STATION	MGD
WINDWARD (2)	
WAIMANALO II	0.18
WAIMANALO III	0.00
KUOU I	0.00
KUOU II	0.15
KUOU III	0.73
LULUKU	0.86
HAIKU	0.23
IOLEKAA	0.00
KAHALUU	0.70
KAHANA	0.82
PUNALUU I	0.00
PUNALUU II	2.87
PUNALUU III	0.00
KALUANUI	1.62
MAAKUA	0.24
HAUULA	0.26
WELLS SUBTOTAL:	8.65
WAIM. TUNNELS I & II	0.00
WAIM. TUNNELS III&IV	0.19
WAIHEE INCL. WELLS	0.66
WAIHEE TUNNEL	3.97
LULUKU TUNNEL	0.20
HAIKU TUNNEL	0.36
KAHALUU TUNNEL	1.49
GRAVITY SUBTOTAL:	6.87
WIND. SUBTOTAL:	15.52

STATION	MGD
NORTH SHORE (3)	
KAHUKU	0.38
OPANA	0.99
WAIALEE I	0.16
WAIALEE II	0.03
HALEIWA	0.00
WAIALUA	1.84
N.SHORE SUBTOTAL:	3.40

STATION	MGD
MILILANI (4)	
MILILANI I	1.89
MILILANI II	0.00
MILILANI III	0.60
MILILANI IV	1.29
MILILANI SUBTOTAL:	3.78

STATION	MGD
WAHIAWA (5)	
WAHIAWA	1.15
WAHIAWA II	1.47
WAHIAWA SUBTOTAL:	2.62

STATION	MGD
PEARL CITY-HALAWA (6)	
HALAWA 277	0.00
HALAWA 550	0.00
AIEA	0.00
AIEA GULCH 497	0.00
AIEA GULCH 550	0.20
KAONOHI I	1.71
WAIMALU I	0.00
NEWTOWN	1.70
WAIU	1.74
PEARL CITY I	0.84
PEARL CITY II	1.05
PEARL CITY III	0.22
PEARL CITY SHAFT	0.92
PEARL CITY-HALAWA SUBTOTAL:	8.38

STATION	MGD
WAIPAHU-EWA (7)	
WAIPIO HTS.	1.10
WAIPIO HTS. I	0.00
WAIPIO HTS. II	0.20
WAIPIO HTS. III	1.21
WAIPAHU	6.18
WAIPAHU II	1.88
WAIPAHU III	3.45
WAIPAHU IV	2.81
KUNIA I	2.36
KUNIA II	1.88
KUNIA III	0.89
HOAEAE	6.48
HONOULIULI I	0.88
HONOULIULI II	2.94
MAKAKILO	0.12
WAIPAHU-EWA SUBTOTAL:	32.38

STATION	MGD
WAIANAE (8)	
MAKAHA I	0.79
MAKAHA II	0.00
MAKAHA III	0.11
MAKAHA V	0.17
MAKAHA VI	0.00
MAKAHA SHAFT	0.00
KAMAILE	0.07
WAIANAE I	0.29
WAIANAE II	0.11
WAIANAE III	0.71
WELLS SUBTOTAL:	2.24
WAI. C&C TUNNEL	1.40
WAI. PLANT. TUNNELS	0.30
GRAVITY SUBTOTAL:	1.70
WAIANAE SUBTOTAL:	3.94

**NONPOTABLE**

NONPOTABLE	MGD
KALAUAO SPRINGS	0.55
BARBERS POINT WELL	1.10
GLOVER TUNNEL NP	0.29
NONPOTABLE TOTAL:	1.94

**RECYCLED WATER (APRIL 2023)**

RECYCLED WATER	MGD
HONOULIULI WRF R-1	5.23
HONOULIULI WRF RO	1.35
RECYCLED TOTAL:	6.58

**PRODUCTION, HEAD AND RAINFALL REPORT  
MONTH OF MAY 2023**

**PRODUCTION SUMMARIES**

TOTAL WATER	MGD
PUMPAGE	118.38
GRAVITY	8.74
POTABLE TOTAL:	127.12
NONPOTABLE	1.94
RECYCLED WATER	6.58
TOTAL WATER:	135.63

CWRM PERMITTED USE AND BWS ASSESSED YIELDS FOR BWS POTABLE SOURCES				
WATER USE DISTRICTS		A	B	C
		PERMITTED USE/ BWS YLDS	MAY 2022	DIFF. A-B
1	HONOLULU	83.32	56.91	26.41
2	WINDWARD	25.02	15.52	9.50
3	NORTH SHORE	4.70	3.40	1.29
4	MILILANI	7.53	3.78	3.75
5	WAHIAWA	4.27	2.62	1.65
6	PEARL CITY-HALAWA	12.25	8.38	3.87
7	WAIPAHAU-EWA	50.63	32.38	18.25
8	WAIANAEE	4.34	3.94	0.40
TOTAL:		192.06	126.95	65.11

CWRM PERMITTED USE FOR BWS NONPOTABLE SOURCES				
WATER USE DISTRICTS		A	B	C
		PERMITTED USE	MAY 2022	DIFF. A-B
7	WAIPAHAU-EWA (BARBERS POINT WELL)	1.00	1.10	-0.10
TOTAL:		1.00	1.10	-0.10

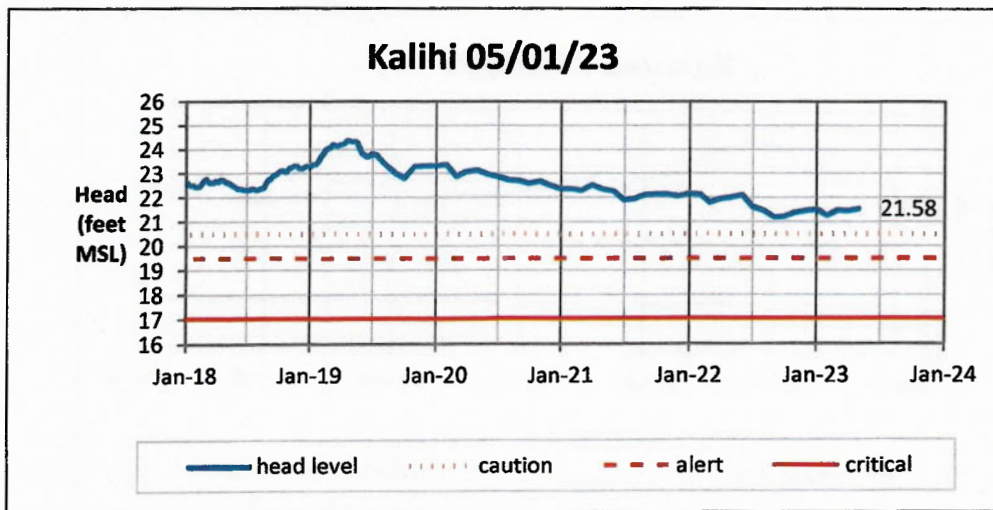
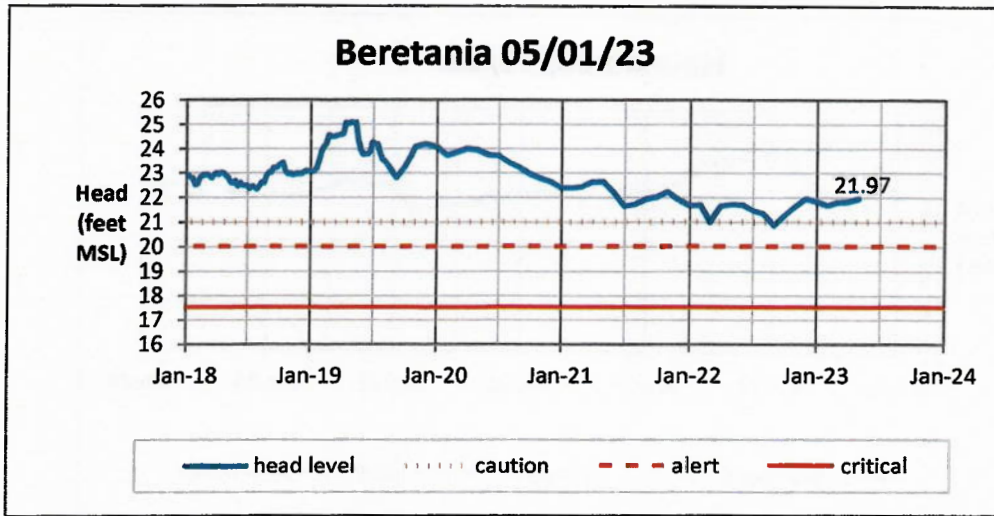
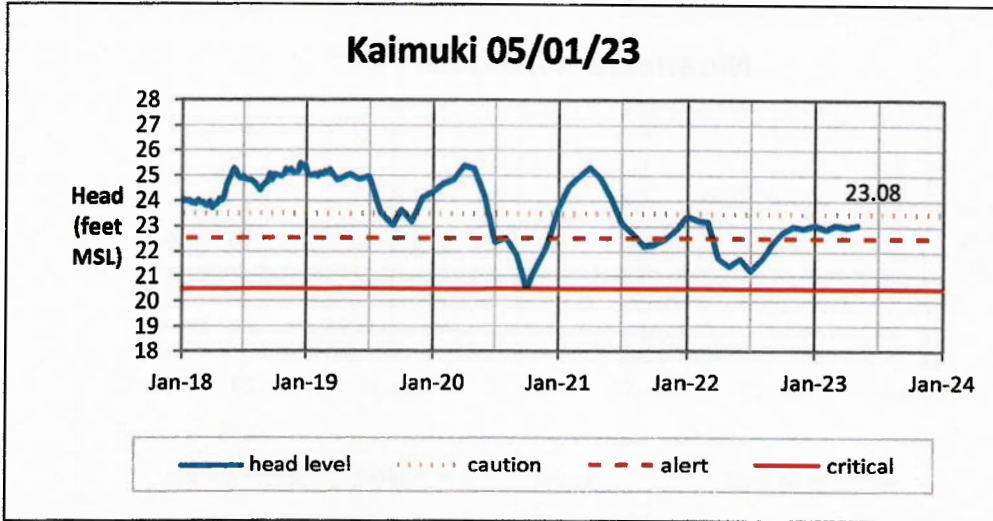
**EFFECTIVE WATER DEMAND PER DISTRICT**

IMPORT/EXPORT BETWEEN WATER USE DISTRICTS			
FROM	TO		MGD
2	1	WINDWARD EXPORT	0.02
7	8	BARBERS PT LB	4.72

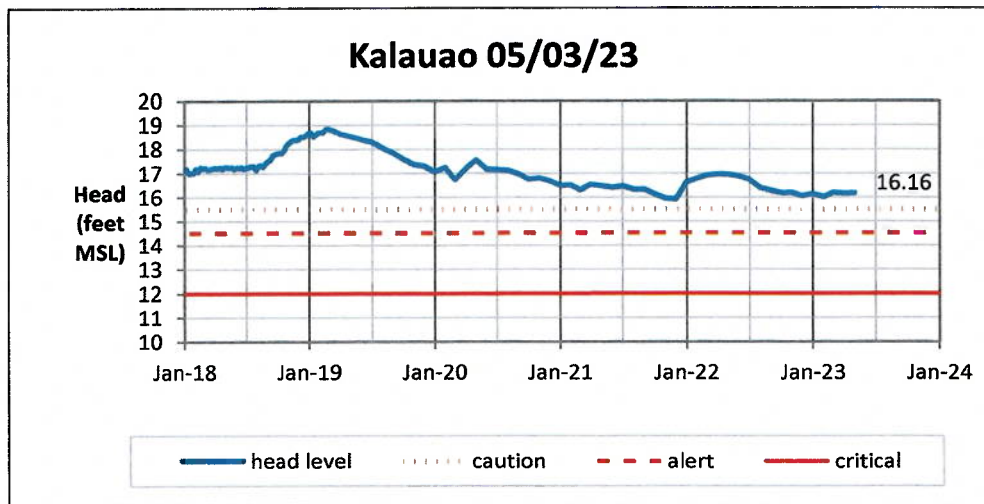
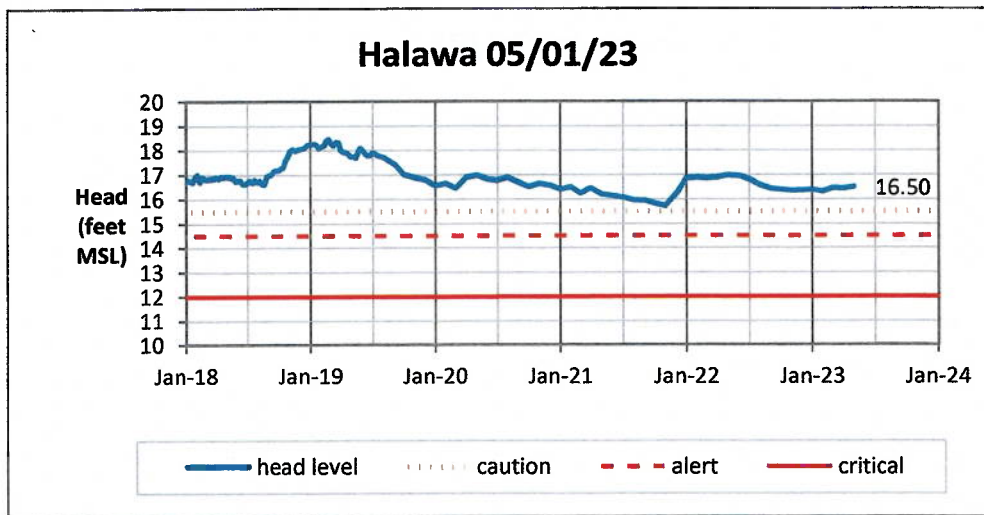
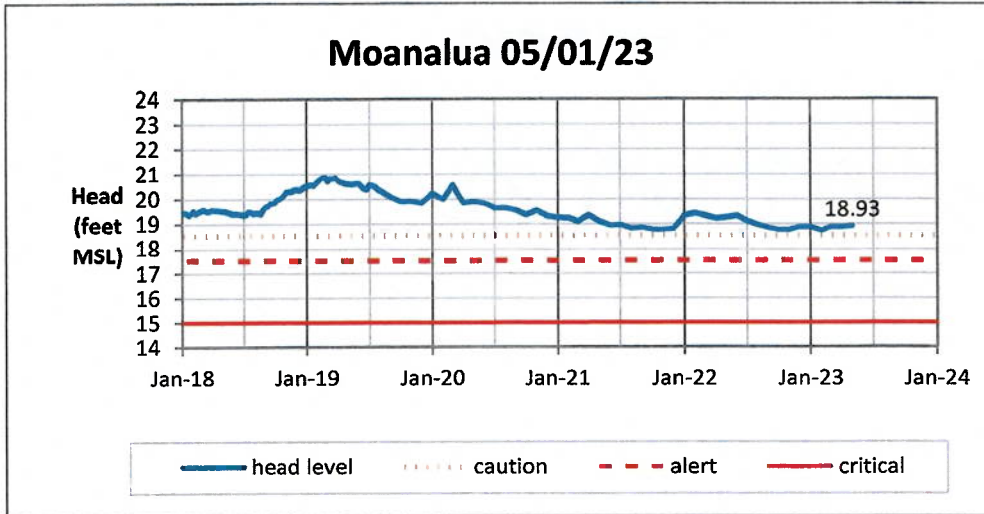
WATER USE DISTRICTS		SUBTOTAL	IMPORT	EXPORT	EFFECTIVE WATER DEMAND
1	HONOLULU	57.08	0.02	-	57.10
2	WINDWARD	15.52	-	0.02	15.50
3	NORTH SHORE	3.40	-	-	3.40
4	MILILANI	3.78	-	-	3.78
5	WAHIAWA	2.62	-	-	2.62
6	PEARL CITY-HALAWA	8.38	-	-	8.38
7	WAIPAHAU-EWA	32.38	-	4.72	27.66
8	WAIANAEE	3.94	4.72	-	8.67
TOTAL:		127.12	4.74	4.74	127.12



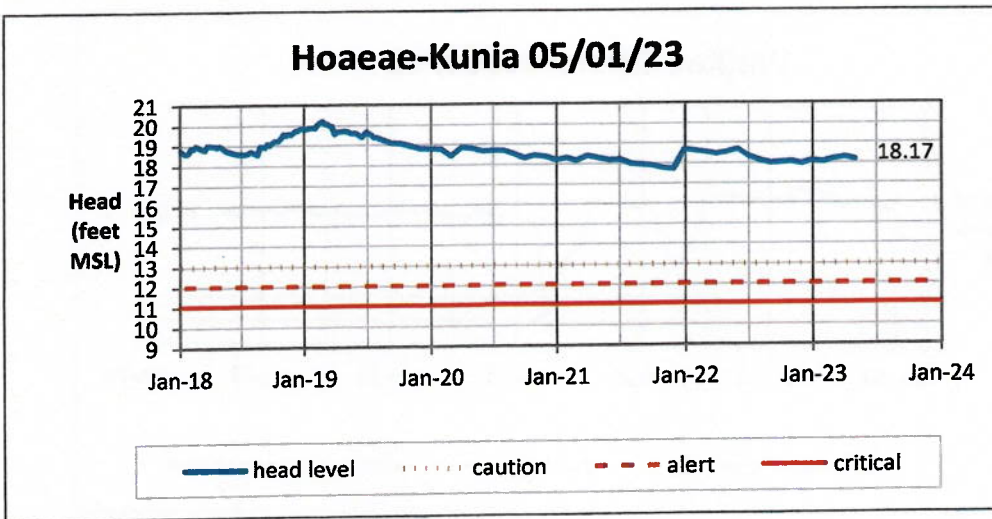
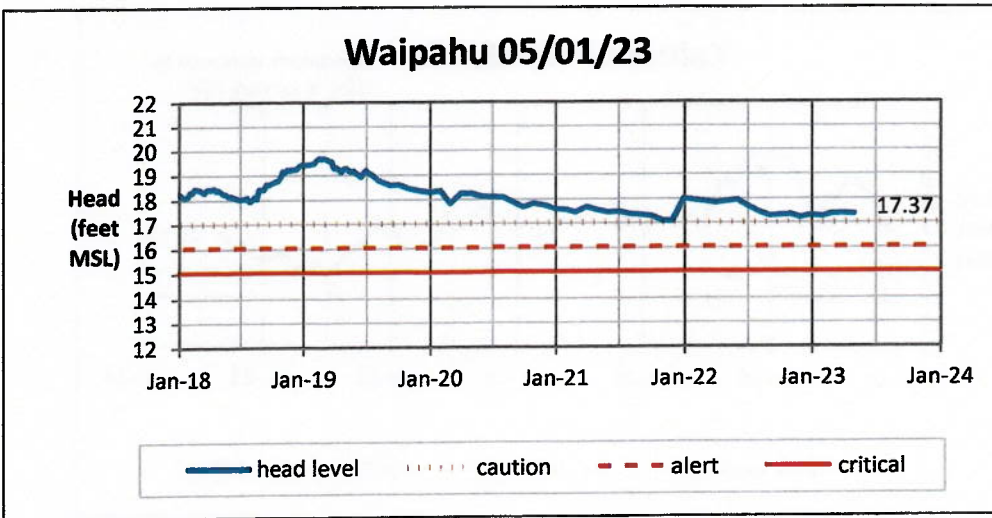
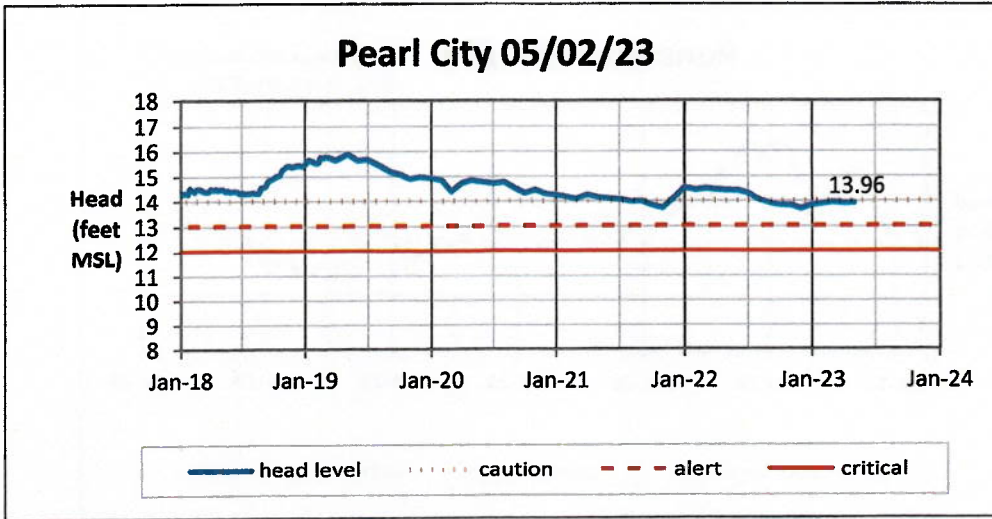
# Head Report



# Head Report

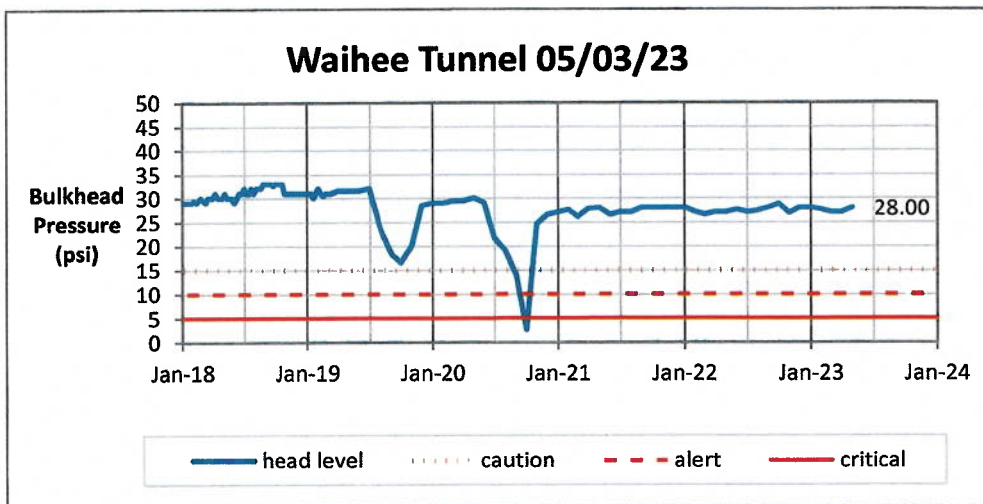
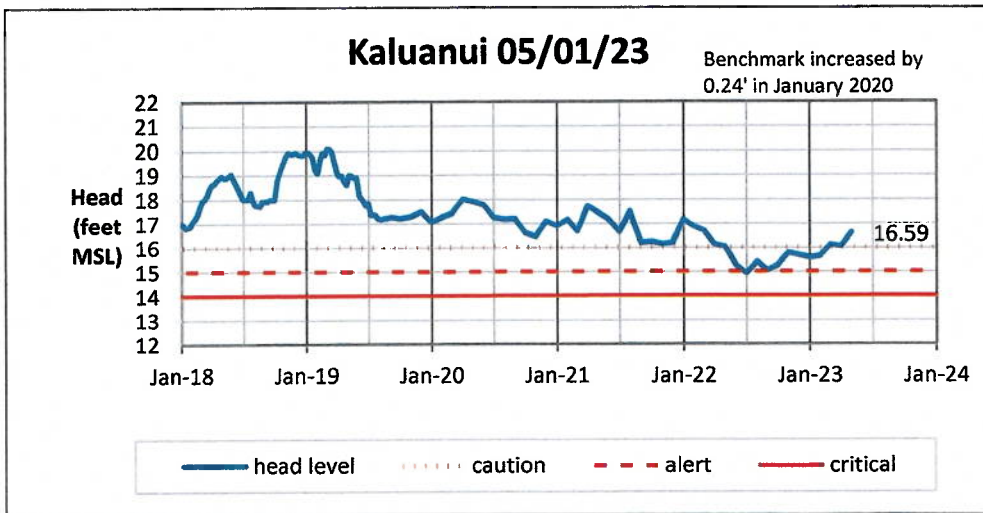
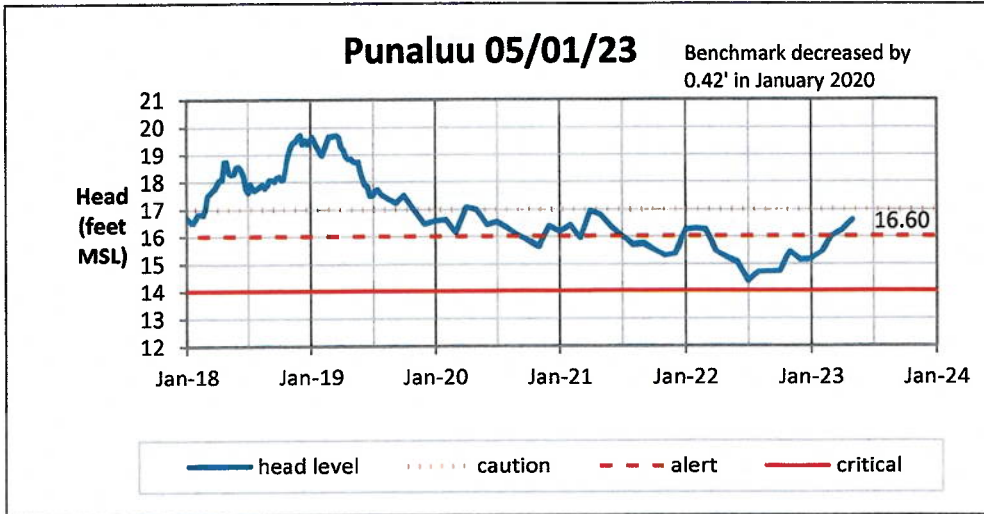


# Head Report

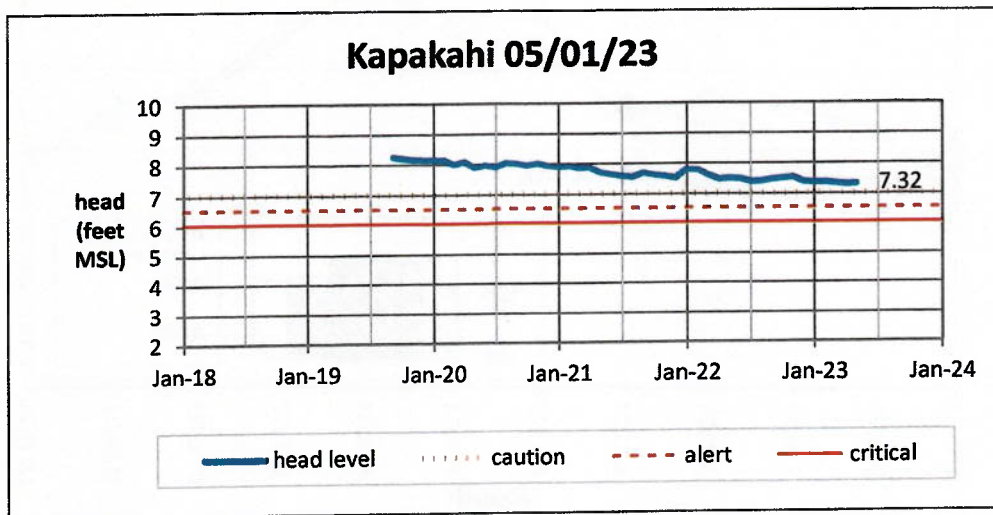
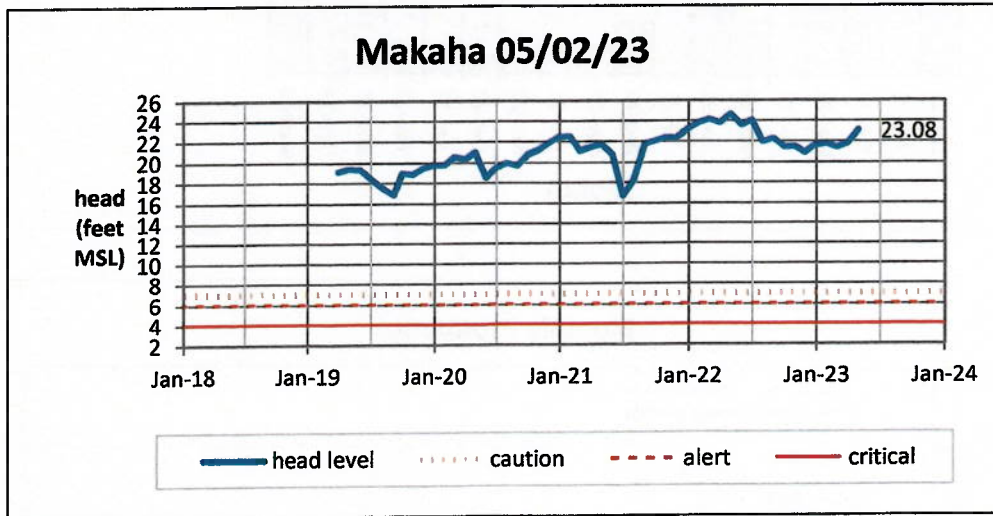
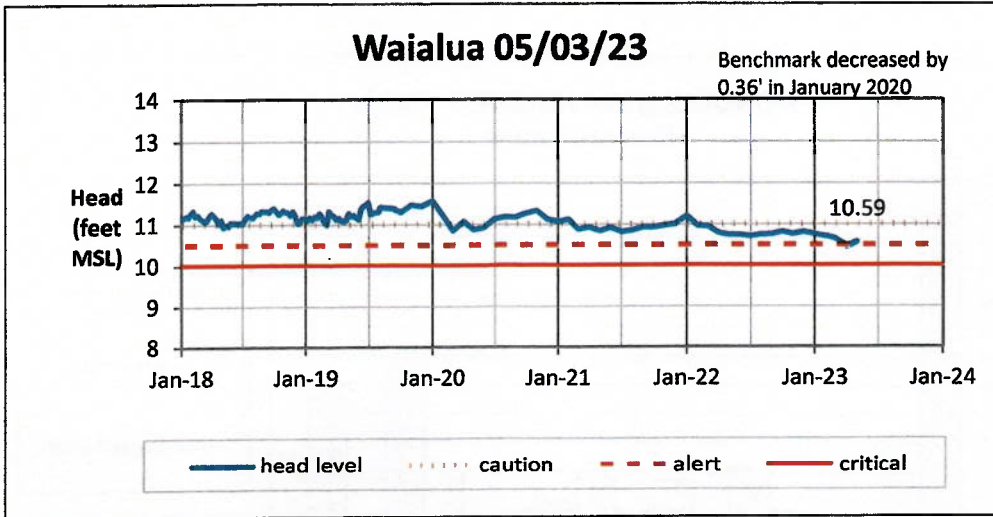


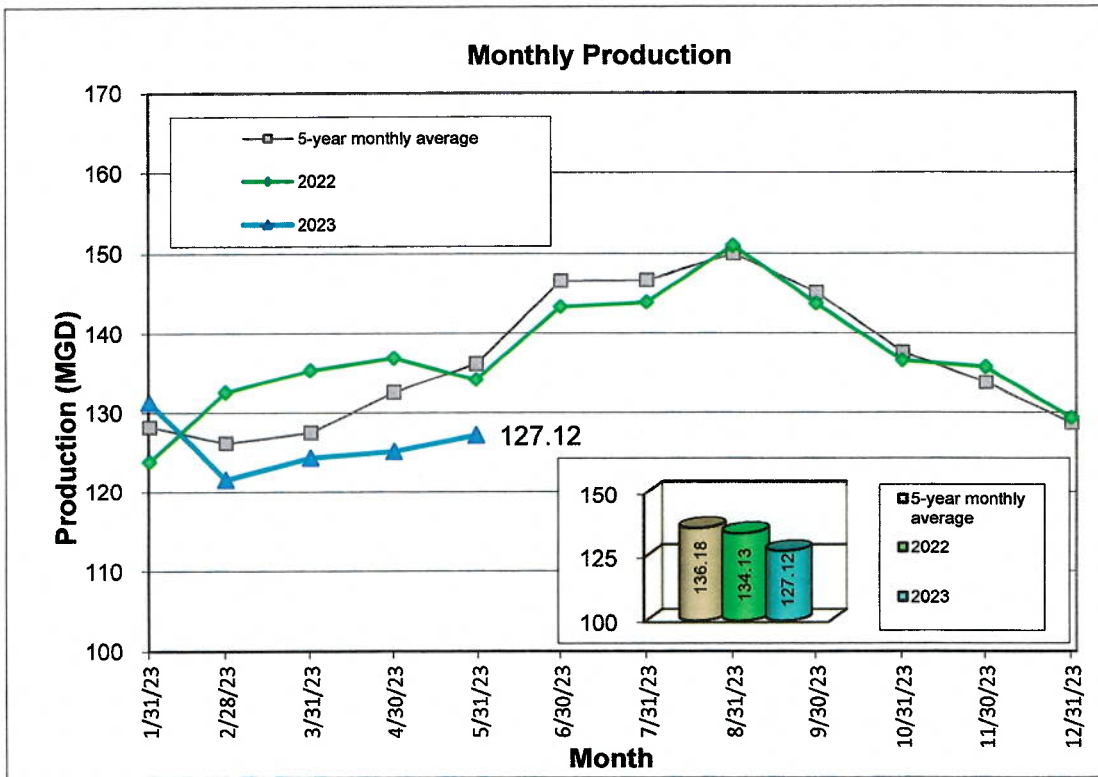
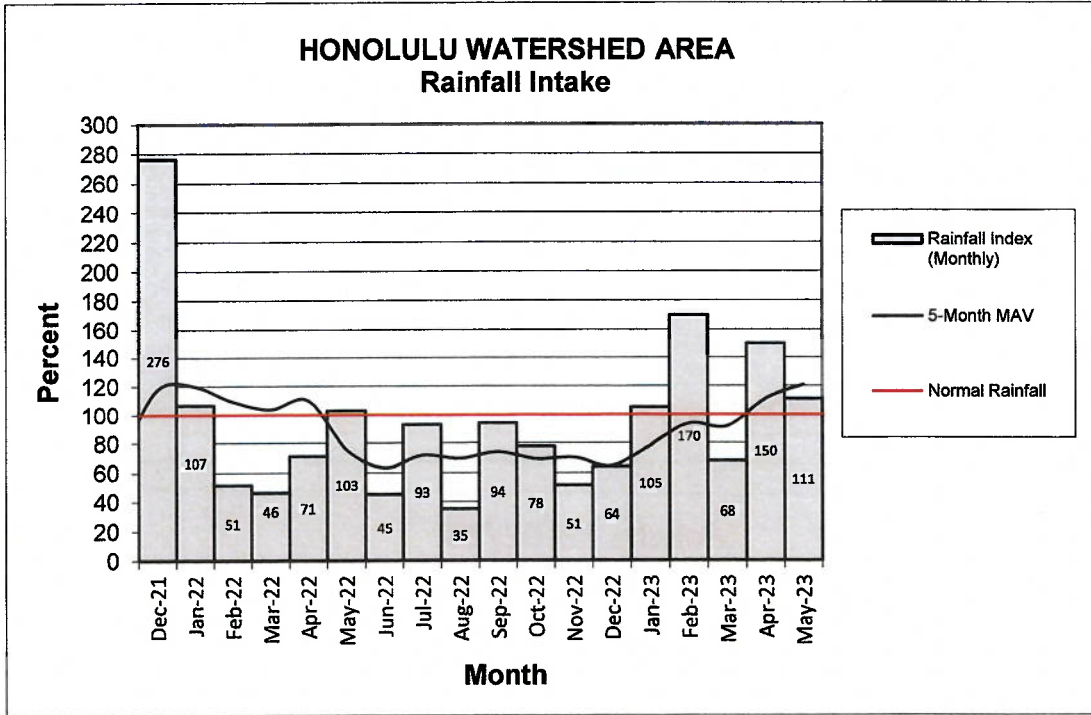


# Head Report



# Head Report







ITEM FOR INFORMATION NO. 6

“June 26, 2023

WATER MAIN  
REPAIR  
REPORT FOR  
MAY 2023

Chair and Members  
Board of Water Supply  
City and County of Honolulu  
Honolulu, Hawaii 96843

Chair and Members:

Subject: Water Main Repair Report for May 2023

Jason Nikaido, Program Administrator, Field Operations Division, will report on water main repair work for the month of May 2023.

Respectfully submitted,

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

Attachment”

The foregoing was for information only.

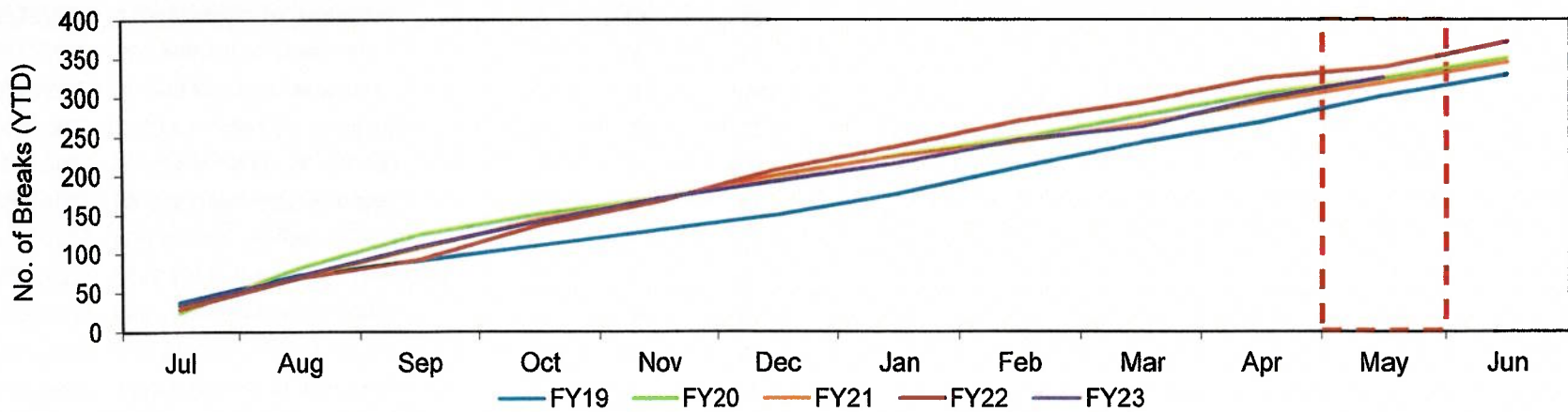
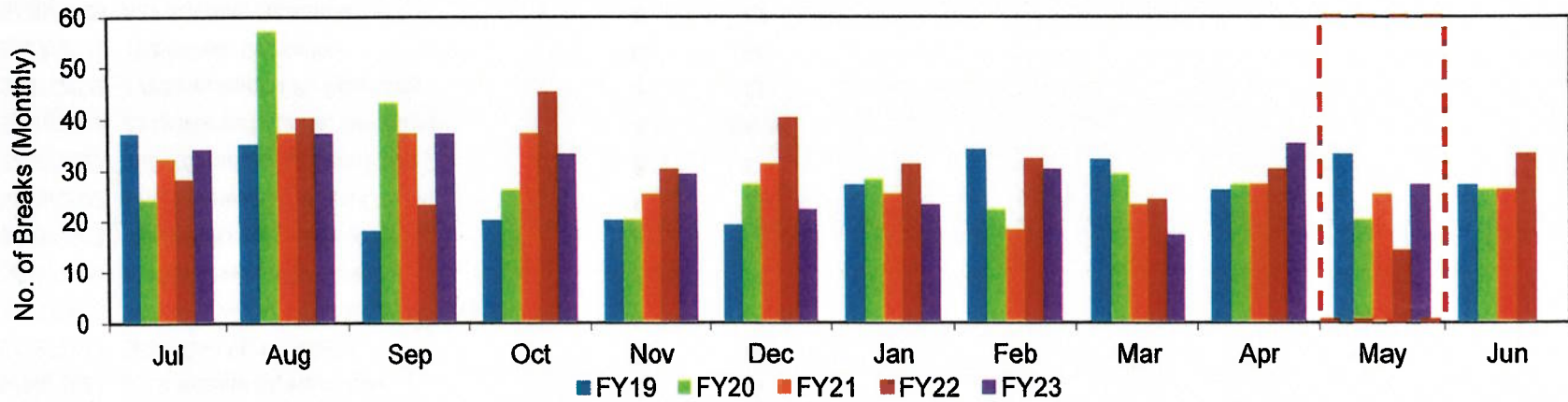
DISCUSSION:

Jason Nikaido, Program Administrator, Field Operations Division, gave the report. There were no comments or discussion.

**WATER MAIN REPAIR REPORT  
for May 2023**

**Monthly Main Breaks**

FY	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
2023	34	37	37	33	29	22	23	30	17	35	27		324
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
2020	24	57	43	26	20	27	28	22	29	27	20	26	349
2019	37	35	18	20	20	19	27	34	32	26	33	27	328



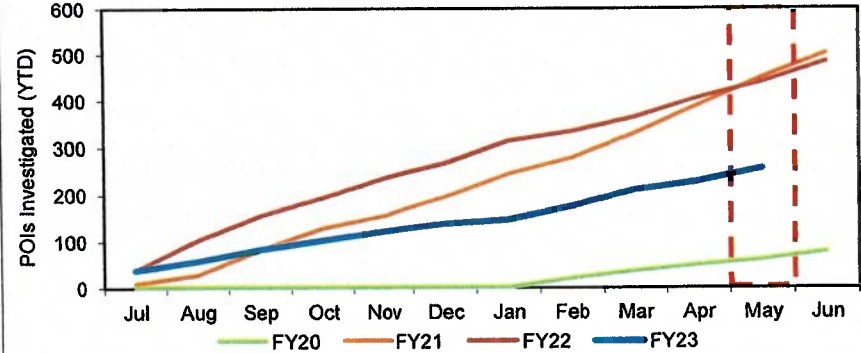
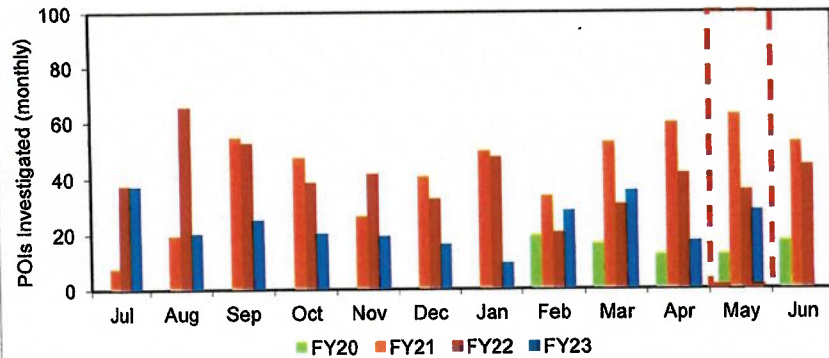
Date	Address	Size (In)	Pipe Type
5/1/2023	2204 Kula Kolea Dr, Honolulu	6	CI
5/2/2023	2292 Halehaka St, Honolulu	8	CI
5/2/2023	838 Pohukaina St, Honolulu	8	CI
5/3/2023	838 Pohukaina St, Honolulu	8	CI
5/3/2023	2056 Ala Mahamoe Pl, Honolulu	4	CI
5/4/2023	99-865 Aiea Heights Dr, Aiea	4	CI
5/4/2023	92-318 Nohona Pl, Kapolei	8	CI
5/5/2023	92-524 Waokele St, Kapolei	8	PVC
5/9/2023	1350 Kaweloka St, Pearl City	8	CI
5/10/2023	86-233 Kawili St, Waianae	8	PVC
5/12/2023	382 Anolani St, Honolulu	4	CI
5/13/2023	2608 Halekoa Dr, Honolulu	12	CI
5/14/2023	3654 Manoa Rd, Honolulu	8	CI
5/18/2023	2512 Hoenui St, Honolulu	6	CI
5/19/2023	1630 Kino St, Honolulu	8	CI
5/21/2023	87-136 Auyong Homestead Rd, Waianae	8	CI
5/23/2023	87-150 Maaloa St, Waianae	8	CI
5/25/2023	79 S Nimitz Hwy, Honolulu	8	CI
5/25/2023	1740 Hoowae St, Pearl City	8	CI
5/26/2023	600 Hoomoana St, Pearl City	8	CI
5/26/2023	2348 Maunalaha Rd, Honolulu	4	GALV
5/27/2023	1788 Hooihoi Pl, Pearl City	4	CI
5/27/2023	1029 Keolu Dr, Kailua	12	AC
5/28/2023	627 6th Ave, Honolulu	6	CI
5/28/2023	94-806 Lumikuke Loop, Waipahu	8	CI
5/30/2023	878 Hoomalu St, Pearl City	8	CI
5/30/2023	1030 Holoholo St, Kailua	8	AC



**LEAK DETECTION  
for May 2023**

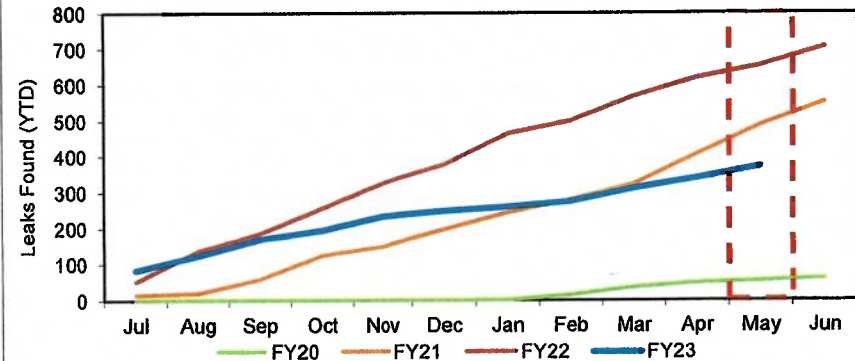
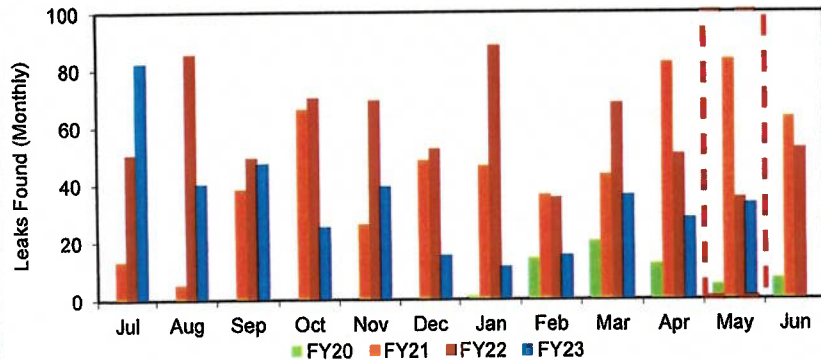
**POIs Investigated**

FY	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
2023	37	20	25	20	19	16	9	28	35	17	28		254
2022	37	65	52	38	41	32	47	20	30	41	35	44	482
2021	7	19	54	47	26	40	49	33	52	59	62	52	500
2020								19	16	12	12	17	76



**Leaks Found**

FY	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
2023	82	40	47	25	39	15	11	15	36	28	33		371
2022	50	85	49	70	69	52	88	35	68	50	35	52	703
2021	13	5	38	66	26	48	46	36	43	82	83	63	549
2020							1	14	20	12	5	7	59



**MOTION TO  
RECESS INTO  
EXECUTIVE  
SESSION**

There being no further business Chair Andaya at 5:21 PM called for a motion to adjourn the Open Session. Jonathan Kaneshiro so moved; seconded by Warren Mamizuka and unanimously carried.

Upon unanimous approved motion, the Board recessed into Executive Session Pursuant to [HRS § 92-5 (a)(4)] at 5:22 PM to Consider Issues Pertaining to Matters Posted for Discussion at an Executive Session.

**OPEN  
SESSION**

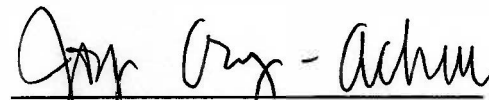
The Board reconvened in Open Session at 6:28 PM.

**MOTION TO  
ADJOURN**

There being no further business Chair Andaya at 6:29 PM, called for a motion to adjourn the Regular Session. Jonathan Kaneshiro so moved, seconded by Max Sword, and unanimously carried.

The Amended minutes of the Regular Meeting held on June 26, 2023, are respectfully submitted,

THE AMENDED MINUTES OF THE REGULAR MEETING HELD ON JUNE 26, 2023, WERE APPROVED AT THE AUGUST 28, 2023, BOARD MEETING			
	AYE	NO	COMMENT
NA'ALEHU ANTHONY	X		
KAPUA SPROAT			ABSENT
BRYAN P. ANDAYA	X		
MAX J. SWORD	X		
JONATHAN KANESHIRO			ABSENT
EDWIN H. SNIFFEN			ABSENT
GENE C. ALBANO	X		

  
JOY CRUZ-ACHIU

APPROVED:

  
NA'ALEHU ANTHONY  
Chair of the Board

**AUG 28 2023**

Date