**MINUTES**
**FOR THE MEETING OF**
**THE COMMISSION ON WATER RESOURCE MANAGEMENT**

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| DATE: | August 20, 2024 |
| TIME: | 9:00 a.m. |
| PLACE: | DLNR Boardroom, Kalanimoku Bldg.<br>1151 Punchbowl Street, 1st Floor<br>Online via Zoom, Meeting ID: 813 1411 8165 |

Online link to the video recording of the August 20, 2024 Commission on Water Resource Management meeting:

Chairperson Dawn Chang called the meeting of the Commission on Water Resource Management to order at 09:01 a.m. and stated it is a hybrid meeting being held in the Kalanimoku Building boardroom, remotely via Zoom and live streamed via YouTube. It was noted that people may testify via the information provided online. Chairperson Chang reminded the public not to use the chat feature for any comments, as it presents a Sunshine Law issue. She also read the standard contested case statement, took a roll call of Commissioners, and introduced Commission staff.

The following were in attendance and/or excused:

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| **MEMBERS:** | Chairperson Dawn Chang, Dr. Aurora Kagawa-Viviani, Mr. Wayne Katayama, Mr. Paul Meyer, Dr. Lawrence Miike, Ms. Kathleen Ho |
| **STAFF:** | Deputy Dean Uyeno, Ms. Katie Roth, Dr. Ayron Strauch, Ms. Alexa Deike, Ms. ʻIwalani Kaaa |
| **COUNSEL:** | Mr. Joseph McGinley |
| **OTHERS:** | Mr. Mark Vaught- East Maui Irrigation (EMI); Mr. Daniel Orodenker- Land Use Commission (LUC); Mr. Ernie Lau, Mr. Erwin Kawata, Mr. Naʻālehu Anthony- Honolulu Board of Water Supply (BWS); Ms. Tara Sutton- University of Hawaiʻi (UH); Ms. Heidi Kāne- US Geological Survey (USGS) |

*All written testimonies submitted are available for review by interested parties and are posted online on the Commission on Water Resource Management website.*

***20240820 00:06:53***

## A. APPROVAL OF MINUTES

### 1. June 27, 2024 Limited Meeting of the Commission on Water Resource Management to Various Sites along Lower Reach of Punalu‘u Stream

PUBLIC TESTIMONY – None

***20240820 00:07:32***

**MOTION: (MEYER / MIIKE)**
To approve minutes as submitted.
**APPROVE – (MIIKE/MEYER/KATAYAMA/CHANG/HO)**
**ABSTAIN – (KAGAWA-VIVIANI)**

### 2. July 23, 2024

PUBLIC TESTIMONY – None

***20240820 00:09:16***

**MOTION: (MEYER / MIIKE)**
To approve minutes as submitted.
**APPROVE – (MIIKE/MEYER/KATAYAMA/CHANG/HO)**
**ABSTAIN – (KAGAWA-VIVIANI)**

***20240820 00:09:50***

## B. ACTION ITEM

### 1. Approval of Stream Diversion Works Permit Application (SDWP.5951.6) and Special Conditions to East Maui Irrigation, Company, LLC, for Abandonment of Stream Diversion Works No. 184.6, Allowing Applicant to Breach and Remove the Kapala‘alaea Dam, Reseed, and Add Erosion Protection; Papalua (Piiloi) Stream, Ha‘ikū, Maui, Tax Map Key: (2) 2-8-007:001

PRESENTATION OF SUBMITTAL: Deputy Dean Uyeno

Approve Stream Diversion Works Permit Application (SDWP.5951.6) submitted by the East Maui Irrigation, Co., (EMI) that proposes to abandon Stream Diversion

Works No. 184.6, breach and remove the Kapalaʻalaea Dam, reseed, add erosion protection measures, and return the Papalua (Piiloi) Stream to natural conditions. The Papalua Stream is located downstream of the dam. The Piiloi Stream is located upstream of the dam.

QUESTIONS / COMMENTS

CHAIR CHANG: Just a clarification, SHPD (State Historic Preservation Division) did provide a comment?

DEPUTY UYENO: Correct, there were a number of measures that EMI had to comply with, so Mark should be able to speak to that.

CHAIR CHANG: And ʻAha Moku did provide written comment?

DEPUTY UYENO: Correct, supporting the project.

CHAIR CHANG: All right, Water Commissioners, do you have any questions or comments for staff?

COMMISSIONER HO: Dean, do you know if this reservoir is a source of drinking water?

DEPUTY UYENO: No, I do not believe so. There have been, according to Mark, and Mark may be able to answer this better, but because of its location, it doesn't get very full very often.

COMMISSIONER HO: Thank you.

COMMISSIONER MEYER: It is possible that its used for drinking water right at Hāliʻimaile at the Weir, the Wailoa Ditch.

DR. AYRON STRAUCH: It's on the Lowrie.

CHAIR CHANG: I see Mark is also on Zoom. Mark, do you want to introduce yourself?

MARK VAUGHT, EMI: Yes, good morning Chair and Commissioners. Thank you for allowing me to be here. Dr. Strauch is correct that this runs along the Lowrie Ditch so it doesn't have the ability to get up to the Wailoa in Hāliʻimaile to produce drinking water. This is purely an agricultural reservoir.

COMMISSIONER MEYER: Thank you, Mark. I stand corrected.

CHAIR CHANG: Mark, while we've got you on the line, is there anything else you want to add to the submittal?

MARK VAUGHT: Particularly with SHPD, we've had a lot of comments from SHPD and we were able to get through a lot of them and accommodate all of their requests. We just look forward to moving forward with this and if you can find it for this. If you have any questions, I'm here. I appreciate it.

CHAIR CHANG: Thank you very much, Mark. Commissioners, do you have any questions for Mark?

COMMISSIONER KAGAWA-VIVIANI: I do, yes. This is Commissioner Kagawa-Viviani. Maybe it's a little bit for staff, too. I was a little bit confused about the status of the HEC-HMS report to Engineering Division, and County. Where are we in the workflow because I think there are some internal inconsistencies?

DEPUTY UYENO: I don't know if Mark could speak better to that. Those are comments that were provided way back, early last year. Mark, I don't know if you know the status of the HEC.

COMMISSIONER KAGAWA-VIVIANI: HMS.

MARK VAUGHT: I think we had gone through that and they had turned over the HMS information to particularly the Department of Trans(portation) because the Department of Trans(portation) had to talk about the sizing of the culvert. But, they found that the sizing of the culvert, which is under Hana Highway, which is considerable, is able to take any of the water that comes through there as long as the dam is not there. If the dam is no longer there, see Piiloi Stream has a relatively small watershed area. In the past, the way this reservoir was primarily fed was actually through the Lowrie Ditch, but now that we have considerable IIFS (interim instream flow standards) in place, we don't have the ability to utilize the Lowrie Ditch to fill that. It's better for us to put that water and leave that water in the Lowrie Ditch rather than to put it into the reservoir. Majority of the reservoir water that's going to collect is whatever happens in that watershed, which is considerably smaller than what they originally anticipated with the reservoir in place. Thus whatever comes through that Piiloi Stream is able to handle for that downstream Department of Transportation culvert under Hana Highway.

COMMISSIONER KAGAWA-VIVIANI: I guess my concern is as we remove a dam, does that decrease storage and create potential issues? As long as it's getting addressed, we're not exposing the Commission to liability.

MARK VAUGHT: Correct, no, it's being addressed. They basically took that watershed area, they did a calculation to find out under the maximum flow standards, PMF (probable maximum flood), how much water is actually going to be running through there and they found that the culvert downstream by the Department of Transportation under Hana Highway is adequate to handle all that flow.

COMMISSIONER KAGAWA-VIVIANI: That's in the recommendations 2) Pending…

DEPUTY UYENO: It's just a matter of forwarding the report to Maui County Planning Department.

COMMISSIONER KAGAWA-VIVIANI: Thank you.

COMMISSIONER MEYER: Mark, if you might, perhaps you know the answer. Do you have a cost estimate or a guess as to what the remedial work is going to cost for removal of this structure?

MARK VAUGHT: $3 million.

COMMISSIONER MEYER: Thank you.

CHAIR CHANG: I'm sorry, what was that, $3 million?

COMMISSIONER MEYER: Yes.

CHAIR CHANG: $3 million.

PUBLIC TESTIMONY – None

***20240820 00:17:36***

**MOTION: (KAGAWA-VIVANI / MEYER)**
To approve staff recommendation as submitted.
**UNANIMOUSLY APPROVED**
**(MIIKE/KATAYAMA/CHANG/MEYER/KAGAWA-VIVIANI/HO)**

***20240820 00:19:05***

**B. ACTION ITEM**

**2. Approval of the Stream Diversion Works Permit (SDWP.6005.6) Application, Installation of a Portable Submersible Pump; and Find that a Petition to Amend the Interim Instream Flow Standard is Not Required; and Approval of Surface Water Use Permit (SWUP.5998.6) Application for New Use, with Special Conditions, Yas Yamazaki, 3,850 gpd for Diversified Agriculture, Irrigation and Domestic Use; Wailuku River, ʻĪao Surface Water Management Area, Maui, TMK: (2) 3-3-018:006**

PRESENTATION OF SUBMITTAL: Deputy Dean Uyeno

That the Commission on Water Resource Management (Commission) approve the following:

Stream Diversion Works Permit (SDWP.6005.6) application consisting of a 1.25-inch diameter, 8-gallon per minute (gpm) portable submersible pump estimated to pump daily to supplementally fill an existing 15,000 gallon catchment storage tank and 500 gallon tank with triple filtration and ultraviolet (UV) light.

Find that a petition to amend the Interim Instream Flow Standard (IIFS) is not required under HRS 174C-71 and HAR 13-169-36 because 3,850 gpd is less than 5-percent (5%) of the gaged flow readings, is within the stream's natural variability, and is considered a de minimis amount.

Surface Water Use Permit (SWUP.5998.6) Application for new use in the amount of 3,850 gallons per day (gpd) consisting of 3,250 gpd (1.3 acre x 2,500 gpd/acre (gad)) for diversified agriculture and irrigation of ornamentals and 600 gpd (1 unit x 600 gpd) for domestic use.

QUESTIONS / COMMENTS

COMMISSIONER MIIKE: Several questions, first, this is going to be a permit for domestic use and the limit for domestic use other than household and immediate is one acre?

DEPUTY UYENO: Yes.

COMMISSIONER MIIKE: I think that was determined a while ago, but are we going to routinely approve any domestic use if they claim one acre as long as they don't do commercial?

DEPUTY UYENO: I think that's our recommendation for now.

COMMISSIONER MIIKE: Okay, I think I been having second thoughts about one acre as domestic use, so that's one thing. Now, if we approve it is going to be under domestic use and under domestic use they really don't need a permit, but we decided we would have permits so that we can track correctly. Okay, now second of all, which is my main point, I think we should defer the conclusion that the appurtenant rights were extinguished. In 1990, a reservation for the water was reserved in deeds and then transferred and this conclusion that it's extinguished is based on the Commission's decision in its D&O (decision and order) that said that Reppun still holds. Let me read you a few pieces out of that Commission decision and then I want to read the last page of the Supreme Court decision that was just issued. First, on page 261 of the Commission decision, Conclusion of Law 40, it says, "*provisional recognition was not an exclusive determination of claimed and unclaimed appurtenant rights because appurtenant rights were preserved in 1978 by Article 11, Section 7 of the Hawaii Constitution and in 1987*

*by HRS section 174-c63, the State Water Code. Thus at the conclusion of this contested case hearing, claims not recognized or not addressed may still be brought before the Commission*." Then the Commission also said on the Conclusions of Law 79, "*Commission has the duty to adhere to Reppun (the Reppun Decision)*." But with the Reppun Decision, distinguishing between riparian and appurtenant rights by saying that riparian rights had a statutory basis and therefore could not be extinguished, so that if you attempt to extinguish, it still went with the deed to the grantee. But since appurtenant rights was based on case law, they said that it could be extinguished. Now, the conclusion by the Commission was that the Commission has the duty to adhere to Reppun, and quoting from the Supreme Court, "*until the decision has been reversed or overruled by the court of last resort or altered by legislative enactment*." The Commission concluded that until the decision has been reversed or overruled by the court or altered by legislative enactment, it can be extinguished according to Reppun. Now, even though it said altered or reversed by the court or altered by legislative enactment, the Commission never discussed the legislative enactment in the second part of it. As a matter of fact, as the hearings officer on that decision, I had an extensive discussion about legislative enactment which is just eliminated from the Commission decision. Now I want to read to you what the Supreme Court said in the just released decision and this is on page 132. "*The Commission is required to protect the appurtenant rights under Article 11, Section 7 of the Hawaii Constitution. Additionally, many uses with appurtenant rights seek to exercise traditional and customary Native Hawaiian rights protected by the Hawaiian Constitution. Consistent with these constitutional protections, section 174C-63 and 174C-101(a) of the Water Code expressly preserve appurtenant rights*." The court has said basically that the Constitution and the Water Code holds and the Constitution amendment was passed in 1978 and the State Water Code was passed in '97 (1997). Now I know we can't come to a conclusion here because in my informal discussions with the attorney general, she said, no Reppun still holds even though this language in the Supreme Court decision is so clear. I don't have a problem in approving this permit under domestic use, but I cannot accept the fact that we also conclude that appurtenant rights in this case is extinguished. I'm fine with that as long as we're not saying anything about appurtenant rights in this case because I think we need to discuss this among ourselves and the attorney general until we come to a conclusion of…

CHAIR CHANG: I know it's not in the recommendations, but I do wonder…

DEPUTY UYENO: It is. Item 3C.

CHAIR CHANG: So, why are we concluding, is it necessary to conclude that for purposes of addressing because I do notice CWRM making legal conclusions.

DEPUTY UYENO: This is based on the Decision & Order from Nā Wai ʻEhā Contested Case hearing case. We're going based off of Reppun.

COMMISSIONER KAGAWA-VIVIANI: But Commissioner Miike's point is this latest Supreme Court ruling kind of questions that. Maybe the thing would be to modify the recommendation.

DEPUTY UYENO: Or just remove…

COMMISSIONER KAGAWA-VIVIANI: By removing that particular…

COMMISSIONER MIIKE: I don't have a problem with the staff saying that in the transfer of the deed it was reserved, but I don't want legal conclusion in there that said it was therefore extinguished. We got to decide it ourselves and since the Supreme Court has now finally weighed in, by the way, you know the Supreme Court can't weigh in unless the case comes to them. There have been several others that have taken years before it reached there and I know of one in our initial Waiāhole case that has never been implemented under the Supreme Court direction because it's never gone back to them and no way of saying, you better do this. I'm very worried about stuff like this.

COMMISSIONER KAGAWA-VIVIANI: Would you suggest a modification, instead of- appurtenant rights for Parcel 6 were extinguished in the deed- they were reserved by Wailuku Agribusiness in 1990?

COMMISSIONER MIIKE: Just say that in the deed, it was reserved, but make no conclusion about therefore it was extinguished.

COMMISSIONER KAGAWA-VIVIANI: Change the word from ‘extinguished’ to ‘reserved’ in 3C.

COMMISSIONER MIIKE: One last comment, the reason I raised that is that if that land still has appurtenant rights, that person has two ways of getting the permit. Right now I don't have a problem with the domestic use, but I don't want to say that he has no avenue in appurtenant rights.

DEPUTY UYENO: Two ways meaning as a domestic use and appurtenant rights?

COMMISSIONER MIIKE: Yes. In our priority setting, I think those are equal anyway, but the appurtenant rights comes with 150,000 gallons per acre. It's a big difference.

COMMISSIONER KAGAWA-VIVIANI: I have a technical question maybe for you or Ayron Strauch. Can you clarify, I didn't have a good map of the area, but is the IIFS set above those diversions and is this a gaining/losing stream?

DEPUTY UYENO: It’s just below the Wailuku Water Company diversion. Was there also one at the mouth?

DR. AYRON STRAUCH: I think they got rid of it.

DEPUTY UYENO: And it is a losing stream.

COMMISSIONER KAGAWA-VIVIANI: It is losing. I guess my concern is with those pretty steep trends and decreased flow, the applicant, when I read the actual permit application, seems very conservative in their use but they're asking for the maximum because they can. They literally say that. Was their water shortage plan included in this application?

DEPUTY UYENO: No.

COMMISSIONER KAGAWA-VIVIANI: So, if they're going off of catchment, their use of the stream is going to be in the dry season and that's when everybody's going to be needing water in the dry season. If we care about what happens in the estuary, we're not going to have sufficient flow and run into problems. My question would be, can we have the applicant submit a water shortage plan and then also we need to consider even if it's less than 5%, everybody asking for less than 5% starts adding up, especially in the dry season. Do the staff have recommendations?

DEPUTY UYENO: We're currently trying to figure out how to apply a water storage plan for this region, recognizing that every applicant is supposed to have some type of water shortage plan. We want to provide some guidance through a regional water shortage plan for Nā Wai ʻEhā, so that's something that we're in the process of working out and trying to figure out how to do that.

COMMISSIONER KAGAWA-VIVIANI: Do other applicants have water shortage plans?

DEPUTY UYENO: No one has a plan.

COMMISSIONER KAGAWA-VIVIANI: So it would be inconsistent to…but we could request they start working on one?

DEPUTY UYENO: The hard thing is we want to provide guidance. I mean what's supposed to be included in it and that's something that we've been actively discussing how to…

COMMISSIONER KAGAWA-VIVIANI: For this area, I know on Oʻahu we use IWREDSS (Irrigation Water Requirement Estimation Decision Support System). Is that applied in this area because you don't need to water African tulip trees?

DEPUTY UYENO: The IWREDSS was not applied specifically to this, but it's something that we should be using.

COMMISSIONER MEYER: Thank you. You said in the application that there's no County water service to this property. What's the nearest access point if you know? You have any idea?

DEPUTY UYENO: I believe they're located above the water tank on Wailuku River.

DR. AYRON STRAUCH: Do you know the water tank on the north side?

COMMISSIONER MEYER: I mean the nearest water line that you could tap a meter into? Seems like there's homes on either side that probably do have County water service.

DR. AYRON STRAUCH: It'd be a few thousand feet probably.

COMMISSIONER MEYER: 50,000 feet?

DR. AYRON STRAUCH: No, a few.

DEPUTY UYENO: Because the County line, I believe, runs down the south side of Wailuku River from the wells, but these properties are located on the north side above the water tank.

COMMISSIONER MEYER: It's surrounded by other homes in the area.

DEPUTY UYENO: Yeah.

COMMISSIONER MEYER: I'm just curious, thank you.

COMMISSIONER KAGAWA-VIVIANI: One more question. How many downstream users? I couldn't tell from table 2, but how many downstream users are below this applicant?

DEPUTY UYENO: I believe there are…on page 15, there are three surface water use permit holders located downstream and those, I believe, are the spring sources that are located outside of the stream channel. The other one was a Spreckels Ditch diversion which has since been modified to only take high flows. That one's in the channelized portion of Wailuku River. The only others are Lozano, Sevilla, and it's on page 17 in the table. Lozano, Sevilla, and Almeida which are spring sources.

COMMISSIONER KAGAWA-VIVIANI: Do we have a way to assure, is there any flow monitoring on those sources because they may be?

DEPUTY UYENO: The spring sources?

COMMISSIONER KAGAWA-VIVIANI: Yeah.

DEPUTY UYENO: No, what we saw is that once the flow was returned to Wailuku River, those spring sources started returning. I believe it's recharging under the channelized section.

COMMISSIONER KAGAWA-VIVIANI: Thank you. I think in the future it would help to have some map for all of us who are new to…

DEPUTY UYENO: Yeah, we can provide a…where the other diversions are or uses.

CHAIR CHANG: I do have Yas Yamazaki, the applicant.

'IWALANI KAAA: Chair, it looks like he lost connection. He was in the Zoom meeting and now he is no longer participating.

CHAIR CHANG: Can we email him or text him?

'IWALANI KAAA: We have been emailing.

PUBLIC TESTIMONY

TARA ROJAS: Aloha, Tara Rojas. No, I'll pass on this one, I just wanted to hear first. Mahalo.

***20240820 00:36:32***

**MODIFICATION TO RECOMMENDATION 3c**
The appurtenant rights for Parcel 6 were ~~extinguished~~ reserved in the deed from Wailuku Agribusiness Co., Inc., in 1990. See Exhibit 9

**MOTION: (MIIKE / HO)**
To approve staff submittal with modifications to recommendation 3C.
**UNANIMOUSLY APPROVED**
**(MIIKE/KATAYAMA/CHANG/MEYER/KAGAWA-VIVIANI/HO)**

***20240820 00:37:02***

**B. ACTION ITEM**

**3. Request and Delegation of Authority to Chairperson to Enter into a Joint Funding Agreement with the U.S. Geological Survey for Statewide Hydrologic Data Collection and Water Resource Monitoring for Federal Fiscal Year (FFY) 2025; and**

**Declare that Project is Exempt from Environmental Assessment Requirements under Hawaii Revised Statutes Chapter 343, and Hawaii Administrative Rules Chapter 11-200.1**

PRESENTATION OF SUBMITTAL: Dr. Ayron Strauch, Stream Protection and Management Acting Branch Chief

Staff recommends that the Commission on Water Resource Management (Commission) enter into a Joint Funding Agreement (Agreement) with the U.S. Geological Survey (USGS) for the inventory and investigation of Hawai'i's water resources.

QUESTIONS / COMMENTS

COMMISSIONER MEYER: Just an observation, thank you very much, Ayron. This is a lot of money, nevertheless this is the kind of program that we really need right now with global warming, lower rainfall, etc. These are vital in terms of reacting to drought conditions and conserving this important resource. I just want to say I support this.

DR. AYRON STRAUCH: Thank you.

CHAIR CHANG: We do, too. Does this include the legislative funding portions of the legislative funding we got last year?

DR. AYRON STRAUCH: The additional money that we will be putting towards stream flows, gaging will go into this, yes. Part of the increasing cost from last year is just the rising cost per station, but also we are expanding the network strategically in order to address our management concerns and to monitor for climate impacts. Some of that money will be going towards this.

CHAIR CHANG: And Paul, to your point, we are trying to look for other sources to generate other sources independent within the Department to pay for, to finance more monitoring. Without good data, hard to make informed decisions.

COMMISSIONER MEYER: Not the Commissioners' salary.

CHAIR CHANG: Zero from zero.

DEPUTY UYENO: If I may, I just want to make a correction on recommendation 3 for the Administrative Rule reference- should be 11-200.1-15(c)(5).

CHRIS CURRAN, USGS: Aloha, Chairperson and Commissioners. I'm Chris Curran, I'm with the USGS, I'm the assistant director for hydrologic data and happy to help answer questions. I think Ayron has covered the changes that are in the agreement this year relative to last year and I'd like to point out that USGS has also increased its federal contribution. We increased about almost 4% from last year, so yes costs increase with time, but I think we did a good job this year of actually providing more of a federal match for this important monitoring program. Thank you.

CHAIR CHANG: Thank you for your support, Chris.

COMMISSIONER KAGAWA-VIVIANI: I do have one and I don't know if this is you, Chris, but we are working with USGS also on water use data, right? Not just water resource data? That was a separate funding agreement, but I know that's not an agendized item, but can be kind of…

DR. AYRON STRAUCH: The only thing as it ties to water use in this agreement is the Wahiawā Ditch monitoring station. I believe the water use estimate models that USGS are using for Hawai'i is based on land cover and population density and hydropower production and those sort of things. They're not going out and measuring water flowing for the water use.

COMMISSIONER KAGAWA-VIVIANI: Sorry, this one isn't surface water. It's on the consumption side and aggregating - it's a national effort to get that usage data up to speed.

DR. AYRON STRAUCH: But it's not measuring flows.

COMMISSIONER KAGAWA-VIVIANI: Sure, but will it be sort of accessible through the same data portal?

DR. AYRON STRAUCH: It's a different product.

COMMISSIONER KAGAWA-VIVIANI: Completely different? Okay.

DR. AYRON STRAUCH: Yeah.

COMMISSIONER KAGAWA-VIVIANI: That was just me being opportunistic, thank you. I support this…appreciate the monitoring that USGS does.

COMMISSIONER KATAYAMA: Hi Ayron, looking at the FY25 (Fiscal Year 2025) budget, what portion of that is for new installations and what portion is that for maintenance of the ongoing program?

DR. AYRON STRAUCH: The breakdown, I guess the breakdown is included in this. The stations that are existing that we are just maintaining the operation and maintenance of, carried over from previous years. The total cost, Chris correct me if I'm wrong, but it's about $26,000 and then there's a helicopter surcharge for a few of them. Some of them cost $29,000 but that is the total cost, that's not the cost to CWRM. The Commission's cost varies depending on other cooperators- if there is joint funding or cost sharing with the Department of Transportation for high flows, for example. Commission cost might be $14,000 to $16,000 and the USGS contribution might be $3,000 or $4,000, up to $5,000- it varies depending on the site, the other cooperators, for example. It's hard to say.

COMMISSIONER KATAYAMA: Well Ayron, I guess just from a high level, if you look at that $1.1 (million) budget for FY25, what is the new installation portion of that?

In other words, expanding our monitoring versus maintaining what we have in place, roughly?

CHRIS CURRAN: I think I can answer that one, just running the numbers here real quick. The new installations are going to be a total cost of about $63,000 in FY25, but I also want to point out that the USGS match increase for FY25 is $67,000. Essentially, we are covering the cost of the new installations with the increased Federal matching funds.

COMMISSIONER KATAYAMA: Very good, thank you very much.

PUBLIC TESTIMONY

TARA ROJAS: Aloha, no just want to make a quick comment, Tara Rojas, that as a regular community member trying to read this and understand. I just want to put it out there that if this is for good, then I support it. However, just know that we, the community, are watching as water flow and water accessibility is of utmost importance, so just mahalo.

COMMISSIONER KAGAWA-VIVIANI: Can I make a quick comment and reply to Tara? USGS stream gaging data is some of the most accessible, valuable information that the public can easily now access on your phone. If you haven't tried it out, check it out. You can watch streams in real time, so this is one of the best investments that the Commission does make and that data is very high quality.

***20240820 00:53:57***

**MOTION: (KAGAWA-VIVIANI / MEYER)**
To approve staff recommendation as submitted.
**UNANIMOUSLY APPROVED**
**(MIIKE/KATAYAMA/CHANG/MEYER/KAGAWA-VIVIANI/HO)**

***20240820 00:54:21***

## B. ACTION ITEM

### 4. Authorize the Chairperson to Enter into a Memorandum of Understanding (MOU) with the State of Hawai'i Land Use Commission (LUC) to Encourage Information Sharing and Collaboration Between the Agencies and Delegate to the Chairperson to Finalize an MOU and Make Non-Substantial Edits as Appropriate

PRESENTATION OF SUBMITTAL: Katie Roth, Planning Branch Manager

That the Commission on Water Resource Management (Commission) authorize the Chairperson to enter into a Memorandum of Understanding (MOU) with the State of Hawai'i Land Use Commission (LUC) to share information and collaborate on matters related to water resources that appear before the Commission and LUC.

QUESTIONS / COMMENTS

COMMISSIONER MIIKE: Is the LUC (Land Use Commission) the one that was handling the water leases off the streams in East Maui?

KATIE ROTH: I don't believe so.

CHAIR CHANG: That's DLNR, that's Land Board.

COMMISSIONER MIIKE: No, the reason I raised that was that they were making water decisions for about the past 20 years and I had no way or I talked to the Attorney General and told them, would you please stop because the Circuit Judge is making water decisions. That delayed a finalization of that for probably 15 years. I don't want that to happen in any of these things, so as long as you get to talk to each other, we know what we're doing, it's fine with me.

COMMISSIONER MEYER: I don't want to be intrusive either, but I think it'd be nice on an informal basis to have the Commissioners review a draft of that so that we could provide you with our counsel in due course.

KATIE ROTH: A draft of the?

COMMISSIONER MEYER: MOU

KATIE ROTH: It was part of the submittal.

COMMISSIONER MEYER: Before.

KATIE ROTH: Before it goes before you? Sure.

COMMISSIONER MEYER: Thanks Katie.

COMMISSIONER KAGAWA-VIVIANI: Question, do we have such an MOU, say with PUC (Public Utilities Commission)?

KATIE ROTH: We do.

COMMISSIONER KAGAWA-VIVIANI: Okay, you did a briefing to the Land Use Commission. We have some staff before us. I don't know much about what the LUC does and I think it would be helpful to better understand that interface, rather than reading it through the news. Would you share about how you operate?

DANIEL ORODENKER, LUC: Thank you, Chair, members of the Commission. Daniel Orodenker, Executive Officer for the Land Use Commission, and I think I understand your question, Commissioner. The Land Use Commission holds contested case hearings to review petitions to change the district boundaries for lands in the State of Hawai‘i. Those petitions are usually project based, specific projects with specific- there's an EIS (Environmental Impact Statement) of course and project plans and all the rest of that stuff. In the past, we have been stuck relying on the representations of the petitioners as to the availability of water and their ability to get water. We have found that sometimes those representations have not been factual, but more "we hope" situation. This has resulted in a couple of projects that have not been able to come to fruition because they claimed they had water and then they didn't and our resources go to fostering those projects and then we find out they can't be built. This is an attempt to have a closer working relationship with the staff at the Commission on Water Resource Management to find out whether or not there are any issues with regard to water before we approve a project and what those issues are, so that we may have the ability to address them when we put conditions on our decisions and orders. I would also like to say that this MOU (Memorandum of Understanding) that is in front of you right now is provisional. We haven't put it in front of our commission yet, either. So, there might be some changes. What we're looking for is an okay to move forward so that we can eventually enter into this.

CHAIR CHANG: So, it's primarily to facilitate staff coordinating when projects come up because there's no predetermination that, this MOU doesn't in any way bind either the LUC or the Water Commission on water allocation or water commitments, but making you aware of what…

DANIEL ORODENKER: It's purely so that we can access information, share information. It has nothing to do with decision making, it's just to provide both this Commission and our commission with the information necessary so that they can render decisions.

COMMISSIONER MIIKE: Why can't you guys just talk to each other?

DANIEL ORODENKER: Well, we can but…

COMMISSIONER MIIKE: Why do we need to formalize it? If it's some water issue, just call the Water Commission or the Commission calls the Land Use Commission.

CHAIR CHANG: Yeah, is there a hinderance?

KATIE ROTH: I think that having something in writing for future staff who may come and go, to have something to reference as a promise or commitment to share information is a good thing. I don't think that's a bad thing, so I don't see why it hurts anyone to have it in writing. But you're absolutely right and that's something that we want to do a better job of, we just thought we would try to formalize it a bit more on paper.

COMMISSIONER HO: Is there a routing when you get an application that before it goes to the Land Use Commission, you route that application through various other agencies so that you can get that input that way as well?

DANIEL ORODENKER: Yes, however we have found that the information does not get disseminated in a timely manner because it has to go through so many different people before it gets to the Commission on Water Resource Management. OPSD (Office of Planning and Sustainable Development) is responsible for coordinating with all the other State agencies to determine whether or not there are any issues. If I can compare it to traffic, if they always send their proposals to DOT (Department of Transportation), but they send it directly to Highways Division and then the Highways Division responds and then we hear back from them. It's a single step. With the Commission on Water Resource Management, they send it to DLNR and then it goes through Land Division.

KATIE ROTH: Then Land Division disseminates to all the divisions.

DANIEL ORODENKER: And sometimes it takes so long that we don't get a response in time and sometimes OPSD does not recognize the same issues that we do. So, direct communication with Commission on Water Resource Management staff sort of takes out the middle man so we can have that direct conversation and we're not hearing things secondhand.

CHAIR CHANG: Is there a reason for the middle person? I don't want this MOU to interfere with otherwise…is there a legal protocol? Does it supposed to go through OPSD?

KATIE ROTH: I think that process will still continue, but if there are issues before the Land Use Commission that they feel need to have more thorough analysis done by the Commission, we could have that direct engagement and be on the lookout for it.

CHAIR CHANG: So, that's going to require LUC to initiate with CWRM if you believe there's an issue that needs to be addressed separate and apart from what OPSD is doing.

DANIEL ORODENKER: If we are reviewing a project and we sense that there may be a water issue, even if we don't really understand what it is, then we will contact Commission on Water Resource Management directly. And you're correct, we could do this without an MOU, but there's a feeling that to maintain this throughout the future when there are staff changes or whatever, that this would be beneficial.

CHAIR CHANG: I guess the other potential issue is that if there is an MOU- is there an enforcement, if we fail, if CWRM doesn't respond, does it say? Because there's always "no comments". Is there going to be a statement now specifically saying "CWRM - no comments" and then they come back to us later on and say, oh but CWRM was given an opportunity and didn't provide any comments. In my view, sometimes it's either all or

nothing because when you pick and choose, when you use your discretion on what's an issue, then those are things that we respond to, so it's really your discretion.

DANIEL ORODENKER: Not really, I mean we would be contacting Commission on Water Resource Management to say, are there any issues here? If we've got a project that has already, for the land area, has already been receiving water and there's already an allocation, then there's probably no issue. But if we have a project and they are common as you know, where one of the conditions is that they find water, then if Maui County for instance, if it's on Maui says, oh they can hook up to our system, we've got an allocation for them. Then we know that if we send it to Commission on Water Resource Management, we're probably not going to get a comment. But if they say, oh we have to drill a well to obtain water, then that's a red flag. We need Commission on Water Resource Management's input as to whether or not drilling that well is either possible or fraught with difficulties or if we need to place conditions on that well drilling so that there's no harm to the environment or cultural resources to fulfill our obligations under Ka Paʻakai. I think that this is not a strictly legal situation. If you look at the MOU, it doesn't bind us to anything, it's just an agreement as to how we are going to cooperate. We're just looking for information and this is just to formalize the structure in which we will obtain that information.

COMMISSIONER HO: How many applications do you get between LUC meetings and will that impact your staff's ability to do your regular work? I'm talking to CWRM.

CHAIR CHANG: Do you have the capacity to timely respond?

KATIE ROTH: As it stands now, we're currently getting the petitions via the routing process through the Land Division and we currently are responding. I don't think there's been a case where we haven't responded, aside from the recent example that came before the LUC a few months ago. There was some sort of last minute conversation where OPSD called, I think Dean directly, to ask about input on a particular project. I don't know if that was routed to us or why we may or may not have responded in writing to that particular one, but again it goes back to maybe they're not actually coming to us. There may be something getting lost in the shuffle and that's what we're trying to figure out.

CHAIR CHANG: I sat on the Land Use Commission before and for me one of the major problems wasn't so much the initial application but an application sits dormant for like 10, 15 years. Conditions that were placed on the approval 10, 15 years ago may have changed dramatically. New development has occurred, other uses, that at times they're relying on the same information 20 years ago to make decisions today. I think those for me were the more problematic ones that came back either on a reconsideration or there's a new developer, new owner who now wants to amend some of those conditions. Those are the kinds, in my mind, that were much more problematic.

DANIEL ORODENKER: Yes and that is part of the reason why we want to open this line of communication because 20 years- for instance take the Lahaina area. I mean 20

years ago the water situation there was much different than it is, 30 years ago was much different now and we've have approved projects 30 years ago that still haven't been built. If they do come forward, we need to reassess the water allocation. We have one project, as a matter of fact, that is completely dead and stalled in the Maui area because they can't find water in the Lahaina area because they can't find water. I don't see this as anything more than just making sure that we both have all the information that we need.

CHAIR CHANG: Sometimes from a legal standpoint, once you have it in writing, you're now going to be bound by that, where it's easier to say something that's not in writing gives you a lot more flexibility. But you are agreeing to cooperate so that others can hold us accountable for not holding to the agreement.

DANIEL ORODENKER: I think if the Commission is uncomfortable with something in writing, I mean the process is not going to stop. We will still communicate with Commission on Water Resource Management staff, that's the Commission on Water Resource Management's prerogative.

CHAIR CHANG: Because you guys are already doing that or you're not doing that?

KATIE ROTH: Well we hadn't been up until about a month ago on this issue before the LUC.

CHAIR CHANG: Oh, is that because Land Division isn't getting it to you or OPSD?

KATIE ROTH: We've been responding but it hasn't been flagged for us by LUC staff like, hey please pay attention to this particular item that we're asking for comments on for these reasons. When we get that paperwork from Land Division, it may just have the title of the item or petition without a lot of details or background information.

DANIEL ORODENKER: I think a lot of the concern comes from our obligations under the Public Trust Doctrine and Ka Paʻakai, which under the new recent Supreme Court case have been further expanded. We can't use the excuse of- well nobody brought the evidence forward- anymore, we actually have to take initiative.

CHAIR CHANG: Or you can deny the permit.

DANIEL ORODENKER: Yeah or deny the permit.

COMMISSIONER MEYER: What you seem to have been saying is, gee I wish we'd known about that.

KATIE ROTH: Yes.

COMMISSIONER MEYER: That's happened.

KATIE ROTH: It came out in the news and I think a lot of us were, the impression was bad for us that CWRM isn't doing its due diligence, that we're preventing projects from moving forward and that wasn't the full story. That's the narrative that we're trying to correct.

COMMISSIONER MEYER: That's perfectly understandable and appropriate, but it sure is difficult to wrap into a description and a package that doesn't slow the process. It's a tough exercise.

DANIEL ORODENKER: We actually view this as speeding up the process because then…

COMMISSIONER MEYER: We should know what we need to know at the same time.

CHAIR CHANG: But Dan, you'll be briefing your Land Use Commission, giving them the same opportunity in a public meeting to review the draft MOU?

DANIEL ORODENKER: That's correct.

TARA ROJAS: Aloha, I was just listening and trying to see if I can gather more information. I again just want to reiterate that accountability for the protection of our water. If this MOU is for that to uphold the public trust, then I support this. Mahalo.

COMMISSIONER KAGAWA-VIVIANI: I do have one question. The staff's recommendation is that the Commission authorizes the Chairperson to enter in and finalize an MOU with the LUC and make, what it says appropriate. But I have concerns about the current draft and the specific wording. Is now the time to make the suggested revisions?

KATIE ROTH: I think it would be and if the Commission approves, then that would be the version that we pass on to the LUC to bring before their commission.

CHAIR CHANG: If there's any changes by the LUC, then it may get rerouted back to us.

COMMISSIONER KAGAWA-VIVIANI: Ideally, I would like a little bit more time and discussion for this, but 3B- "the initial topics under MOU of interest to the Commission include the following areas of course protection prioritization of public trust uses." But 3B included- "exchange and review of documents, permits, petitions that may be reliant on surface and groundwater within or outside of water management areas, including the establishment of numeric instream flow standards." I was a little bit concerned on why LUC would be weighing in on the establishment of IIFS because that's, to me, something that has generally sat straight within CWRM and so I want a little bit more information on why that's there.

KATIE ROTH: That particular language may have been copy-pasted from the PUC MOU that was approved. We did change some of the language in here, but some of it we did pull directly from that existing example.

COMMISSIONER KAGAWA-VIVIANI: I would request striking that, "including the establishment of numeric instream flow standards." In general I think it would really help us out to better understand the work of LUC, also to understand how our decisions play in. That's beyond the scope of the MOU, the staff exchange. Sorry, it was a lot of new information 15 minutes before a decision and so I sort of need to do more homework, but if it's coming back to us then…

DANIEL ORODENKER: Dan Orodenker, once again. The MOU aside, we're more than happy to present to this commission the same presentation we give our own commissioners as to how the LUC functions.

COMMISSIONER KAGAWA-VIVIANI: That's great. Then it's more accessible to the public to understand how commissions work and how efficiency- I think one thing we might sacrifice in talking about efficiency is then people feel like the transparency tradeoff happens, but if we can show it can both be efficient and transparent, that builds greater trust.

DANIEL ORODENKER: I'll work with staff to find a time when we can make that presentation.

COMMISSIONER KAGAWA-VIVIANI: Ayron has a thought.

DR. AYRON STRAUCH: Ayron Strauch, Stream Protection and Management Branch. In the event that an LUC decision might propose or that the developer might propose to utilize non-potable water from a surface water source, that might trigger the development of an instream flow standard which is I think where that language. It's not that they are…

COMMISSIONER KAGAWA-VIVIANI: Nobody likes to share power so it's like, are we ceding decision-making power to the LUC? Really trying to understand how the information flows work in the best interest of the public.

DANIEL ORODENKER: Let me address that for a moment, Commissioner. The LUC functions, and the Chair knows this very well, as a quasi-judicial body, so our decisions are based on the evidence that is presented to us and the information that is presented to us in an open hearing. I've said this to my commissioners, even if you know something, you can't unless it's brought out on the record. You can't make that a basis for your decision. We would not be making any recommendations with regard or are making any conditions in our D&Os with regard to instream flow standards unless Commission on Water Resource Management came to us and said, look these are the instream flow standards that you need to be concerned about, you need to weave that into your Decision & Order. It would actually be Commission on Water Resource Management which would be providing us the information. To go back to my earlier analogy, DOT. If DOT says,

well we need an offramp here or we need a stoplight or whatever, we're not making the decision, the Land Use Commission is not making the decision on how a roadway should look. We are incorporating the recommendations from other agencies and sometimes concerned citizens as to how to handle these issues.

CHAIR CHANG: That does put the onus on CWRM to make appropriate conditions to LUC. Failure to make those conditions could come back later on.

KATIE ROTH: I don't know if it would be up to us to make conditions but to provide information.

CHAIR CHANG: It may be subject to review by Commission on Water Resource Management on sufficient water allocation because you have a 180-day requirement. There's no way we do an IIFS in 180 days.

DANIEL ORODENKER: We have a 365-day requirement, but I understand your concern, Chair; however, it's almost a 6 of one, a half a dozen of the other sort of situation, meaning that if we don't have this MOU and we still ask for information, Commission on Water Resource Management is going to provide it. A concerned party's recourse is to an appeal, it's not to sue the Commission on Water Resource Management for providing us with faulty information. It is to appeal from our decision to the Supreme Court.

CHAIR CHANG: It's just the reliance either on information we provide or don't provide but no, I understand.

COMMISSIONER HO: I have another question. I'm not sure what the intent of 4, "the initial topic under this MOU of interest to the LUC includes the following areas: proposed location of projects as it relates to existing and newly designated water management areas and propose locations of projects as it relates to under consideration of surface water and management designation." Is the intent of this MOU that as staff is proposing these things, they go to the LUC or go to staff within the LUC for their mana'o or what?

DANIEL ORODENKER: This is your purview we don't get involved in water, we don't have the capability to get involved in water. We don't have the expertise- we did for a short period of time when current chair and Jonathan Scheuer were on the commission, but we don't have any expertise in this area, absolutely not. Just like we don't have any expertise in traffic, so we are relying on other agencies to provide us with the information necessary so that we can satisfy our obligations. Those specified areas are areas in which I believe Commission on Water Resource Management may have an interest. There might be other areas Land Use Commission does not know, so the draft came from staff here because we said, okay you know whatever you want to talk to us about, whatever you think is relevant we'll agree to talk to you about.

KATIE ROTH: I think the conversation about designated water management areas ties back to the recent example I was talking about from West Maui where I believe it was a petition to renew a project had been given approvals 20 years ago said there was water. The situation has changed, West Maui is now designated. There's a new permitting regime so the conversation about how that interfaces and now connects to this project and what new decisions have to be made. In that regard, the LUC was largely ignorant about that, OPSD was not able to verbalize during that meeting exactly what was going on, so it would have been helpful to have CWRM staff there at that meeting to articulate more clearly what the repercussions or what the situation is now in West Maui in terms of being newly designated and what that means for new developments.

COMMISSIONER HO: Would that be covered under this MOA or would it be just showing up at the meeting?

KATIE ROTH: In terms of discussions about? I think it's both. I think it's ongoing conversations, just the intersection of water and land is very clear, but we don't plan or make that intersection and connections as well as we should. This MOU, in part, is to try to resolve some of those conflicts about land use decisions being made without regard to water decisions and so forth.

PUBLIC TESTIMONY

DR. JONATHAN SCHEUER: Aloha mai kākou, Commissioners. For the record, my name is Jonathan Likeke Scheuer and I had not planned to testify on this matter, though it was of interest since I served on it eight years- eight years on the Land Use Commission, four years as the Chair. I observed many instances because I had a background in water resources management where petitioners would come in and claim certain things about water availability or not. I knew them to not be completely factual, but it happened to be because I was on the commission. Often through various staff changes, staff members from the office of what is now called the Office of Planning and Sustainable Development would just say nothing, even when questioned until finally getting down, have you talked to the Water Commission staff? No, you haven't. One of the things this has left us with and this is acknowledged in the Commission's own document, the Water Resource Protection Plan, particularly in the setting of sustainable yields but also in other areas there is more land entitled in the State of Hawaii in all four counties if fully built out than there is water available to do it. It's certainly helpful to the LUC to know water availability, but it's also helpful to you guys because you get involved in trying to adjudicate and allocate water resources in areas where now there's excessive demand on that resource. This is not even insight, keeping in mind that projects were approved when sustainable yields were higher, before the impacts of climate change were recognized. Some of the practical ways in which it might help and I actually don't have a particular strong belief whether this is a great idea or something that could be passed on, but one of the practical ways like a more formalized relationship would help you with is that for instance, you as a Commission under the Water Code only have the power to require dual line systems in designated water management areas. You can do it in designated water management areas, you can say you need to install a dual line, you need to use recycled

water for this part and potable water or surface water on this part, but in non-designated areas, you lack that power. The Land Use Commission, however, has the power as a condition on an entitlement to say as a condition for your getting approvals to do this, you are required to hook up to the nearest wastewater treatment plant and install a dual system on your property which would mean that the water resources that you're entrusted with protecting will have a better shot of being properly allocated. I'd be happy to answer any questions. I actually have one more thing to say. I hear the concerns from the Chair about if you put things in writing, but it seems like the history of ignoring the relationship between the Water Commission and Land Use Commission hasn't necessarily gotten us to a good place, so I'd rather put in writing and fail than just continue on the current path and hope that it works out well. I'm very happy to answer any questions.

CHAIR CHANG: Thank you very much, Jonathan. What is the role of OPSD? Are they also going to review? They have a statutory role, so are they going to review and approve this, be a member of? Because they ultimately are the ones who represent at the hearing, so what's their role in this communication?

DANEL ORODENKER: I think that part of what we're attempting to do is, as I mentioned before, eliminate that second, third, fourth-hand conversation. We will share any information that we receive from Commission on Water Resource Management with OPSD and our hope is that in sharing that information, they will make the decision to call if it's a controversial project with regard to water, to call Commission on Water Resource Management staff in to testify as to what the situation is. Their statutory obligation is just to present the state's position.

CHAIR CHANG: But it's also to gather. The way they fulfill their statutory obligation is also to do the gathering. I do want to be very clear that CWRM understands the role that they're taking because now OPSD will say, well you've got a direct line of communication with LUC, therefore we're not even going to consider bringing in CWRM, you are now responsible to work directly with LUC, which like I said, good or bad, but that is an expectation.

KATIE ROTH: And again, the process of OPSD shouldn't change under this MOU, but in addition to that routing process that happens through OPSD to us, we will also engage directly with LUC staff.

CHAIR CHANG: That's not what I heard from Dan. What I heard is to take out that middle person which is OPSD.

DANIEL ORODENKER: No, not OPSD. For instance, I go back to the traffic analogy. It only goes one place, it goes…

CHAIR CHANG: So, take out Land Division?

KATIE ROTH: No.

DANIEL ORODENKER: Not necessarily.

CHAIR CHANG: What do you mean? I misunderstood your comment, Daniel.

DANIEL ORODENKER: The issue is that it's not so much in how it gets routed but in the testimony and the communication because right now what happens is the communication has to reroute back through all those- it's like that game of telephone you play when you're a kid. It has to reroute through all those people before it comes back to us. We don't have the opportunity to ask questions unless we call Commission on Resource Management directly and sometimes just that routing gives us the information too late.

KATIE ROTH: Whatever we communicate directly with LUC staff we would put in writing as part of the official comments from the Commission. That does get routed ultimately.

COMMISSIONER HO: Chair, I just have one other comment. I don't know if you noted but the MOA will go on, there's not an end date. You just have 30 days, either party can terminate or modify for 30 days.

CHAIR CHANG: Did you want to make any more comments, Aurora?

COMMISSIONER KAGAWA-VIVIANI: No, that helps. There's a lot of useful information that was shared.

***20240820 01:30:13*** *– Commissioner Katayama leaves the meeting.*

COMMISSIONER MIIKE: I'm totally confused about what we're actually dealing with here. Are we talking about voting on an amendment of understanding or are we just going to get back more information on the MOU?

CHAIR CHANG: It sounds like they're asking us to vote on delegating the MOU to the Chairperson, but if there are any changes other than the one that Aurora made by the Land Use Commission, then it comes back to the Water Commission.

COMMISSIONER MIIKE: Okay.

DEPUTY UYENO: That discretion is yours. If you don't feel comfortable with the edits that are made, you can bring it back to the Commission. If they're non-substantive, you can go ahead.

COMMISSIONER MIIKE: Well since it's not binding it makes no difference to me.

CHAIR CHANG: Just given the robust conversation that we've had here, my inclination would be to bring back the draft agreement to the Water Commission. I would also ask that at least OPSD be given a copy of this so they know what we're working on.

KATIE ROTH: The draft or final?

CHAIR CHANG: The draft so they can provide any comments to us, as well.

COMMISSIONER HO: Can I ask one more question? Have we shared this draft with our attorneys?

KATIE ROTH: As part of the review process for this submittal, but other than that…

CHAIR CHANG: Because usually we don't enter into any kind of agreements, even interagency agreements, unless we have the AG's office review it.

KATIE ROTH: We do have examples through the watershed partnerships.

CHAIR CHANG: That you don't send it to the AG's office?

KATIE ROTH: [Shakes her head in the affirmative.]

CHAIR CHANG: Oh, okay. Probably one that I didn't sign I don't think. As former deputy attorney generals, we would refer everything to the AG's office, especially if you're the chairperson signing it. If we can and I know the AG's office doesn't like to review it until we have a final and the Board has approved it, so you go back to your commission and let us know what happens if there are any changes other than the one that Aurora suggested. Then we can circulate to the AG's office, too. Thank you so much.

KATIE ROTH: Just to confirm, based on what Ayron said, do you want to keep that language in for 3B?

COMMISSIONER KAGAWA-VIVIANI: I think because it wouldn't preclude taking in information to amend IIFS, it could be misconstrued. Yes, but…

KATIE ROTH: Maybe we can come up with some alternative?

COMMISSIONER KAGAWA-VIVIANI: Maybe come up with some alternative language.

WAYNE TANAKA: Good morning, Wayne Tanaka, Sierra Club of Hawai‘i. I just really briefly wanted to clarify a couple things on this agenda item. First, I think it was 10 years ago when the Supreme Court in Kaua‘i Springs made it clear that all agencies have the responsibility to uphold the public trust in water and to ensure their decisions consider impacts on water resources. Of course CWRM has a primary prerogative in this area, but if the Land Use Commission has to make a decision that impacts water and the Water Commission has not done a public trust analysis which is often the case. It's limited in its ability to do so, especially without water management area designation, for example then

the Land Use Commission has to do its own analysis or wait until the Commission does one itself. Really, to do its job under the Constitution, under the Supreme Court, the Land Use Commission needs all the information it can get and that's an important job that the Land Use Commission holds. It has to consider food security, cultural practices, housing, job creation, climate change, all of these things are what the Land Use Commission is required to think about when it's processing these large scale land use changes. It really helps the Land Use Commission and it helps all of us to ensure there are clear established mechanisms for information flow from the Water Commission. Really, having these mechanisms for information flow helps the Commission itself, as well. If your duty is to safeguard the public trust in water and as former Commissioner Scheuer described, the Land Use Commission is making decisions that aren't fully informed that impact our public trust water resources, it really only undermines the Commission's responsibility and the things that you folks are supposed to care about. Again, I understand there might be concerns about the specifics of the language in this MOU, but I really don't see anything but a benefit in ensuring that there is a process for having fully informed decision making by really important State agencies. I'll be happy to answer any questions, but I just wanted to clarify really briefly, thank you.

CHAIR CHANG: Thank you, I appreciate that Wayne. Wayne, you would agree that the burden to provide that information really is on the applicant. If somebody raises an inadequacy of information, for example Sierra Club says that there was insufficient information on impacts to traditional and customary practices or water allocation, that's up to the Commission to inquire, but we're not really there to investigate our own information, that's the applicant. If there's insufficient information, that is a basis to say that we cannot approve this permit given our public trust duty.

WAYNE TANAKA: I would say it's an interest of the applicant to make sure that you folks have as full and verifiable information as possible, but ultimately it is the Commission's duty to uphold the public trust and to do other things. The constitutional prerogatives you're given, it's on the agency. The petitioner obviously if they want you to approve their application, they would want to give you as full information as possible so that you can make your own decision, but ultimately the Commission…If approval goes out and it's deficient, then it's the Commission that gets sued, that gets named in the lawsuit, not the applicant.

CHAIR CHANG: But if we cannot fulfill our constitutional obligation because there's insufficient information, that is a basis to deny a permit. You would agree?

WAYNE TANAKA: Yeah.

CHAIR CHANG: Do you have a question, Aurora?

COMMISSIONER KAGAWA-VIVIANI: It's a whole another conversation. I was going to say, do we and are we competent enough to assess that and I say that as a faculty member. Somebody can turn in an assignment, say something, but it's my job to tell

them. There are differences with the petition, the applicants' resources, but sticking to the agenda, sorry.

COMMISSIONER MIIKE: Can I say something? Let's get back to whether we're going to make a decision or not. We're wandering all over the place. My understanding is that we're going to vote on whether we're going to uphold the MOU with the minor changes that have been made subject to any changes of a non-substantive nature that the Chair can deal with and then go ahead. If anything comes up that needs some changing then comes back.

CHAIR CHANG: My apologies.

COMMISSIONER MIIKE: Can we just get on with the decision?

CHAIR CHANG: Fair, my apologies for the diversion. I'm not going to take any more comments.

DANIEL ORODENKER: I was just going to say exactly that.

***20240820 01:39:33***

**MOTION: (KAGAWA-VIVIANI / MEYER)**
To approve staff recommendation as submitted.
**UNANIMOUSLY APPROVED**
**(MIIKE/KATAYAMA/CHANG/MEYER/KAGAWA-VIVIANI/HO)**

***20240820 01:39:52*** *- Break*

***20240820 01:51:57***

## C. NON-ACTION ITEM / INFORMATIONAL BRIEFING

### 3. Finding of Polycyclic Aromatic Hydrocarbons (PAHs) Detected at Board of Water Supply 'Aiea Wells by Honolulu Board of Water

PRESENTATION GIVEN BY: Ernie Lau, Erwin Kawata, Na'ālehu Anthony-Honolulu Board of Water Supply (BWS)

Honolulu Board of Water Supply leaders shared updates on PAH levels in 'Aiea Wells.

QUESTIONS / COMMENTS

COMMISSIONER MEYER: Quick question, how was that map developed? Was it developed from samples and tracing?

ERWIN KAWATA, BWS: It was based on a numerical groundwater model.

ERNIE LAU, BWS: That the Navy did back in 2018.

COMMISSIONER HO: It's still in draft.

ERWIN KAWATA: Hasn't been approved.

COMMISSIONER HO: The Department of Health doesn't agree with that groundwater model. The Navy hired the University of Hawai'i to do further sampling and to do its own model, it's independent. DOH is working with the University of Hawai'i and I believe the SME (subject matter expert) on that is Don Thomas.

ERNIE LAU: The Navy is also continuing to develop their groundwater model and we've heard from Rear Admiral Mark Williams is going to be submitted in September this year. We look forward to getting a hopefully unredacted, full version of that groundwater model.

COMMISSIONER MIIKE: Explain to me, what factors are going into the model?

ERWIN KAWATA: In terms of things like recharge, they set boundaries to look at the model area. They're looking at also water that's being pumped, what's already known about water levels, groundwater level direction. All of these are going into essentially a model that tries to calculate where the position of these various particles could be at any given moment in time. What you're seeing is just essentially a simulation of that calculation and what the model predicts it might be. Certainly a model is just a representation of what could be in the environment. You take measurements taken in the environment and then you compare that to use to calibrate that model.

ERNIE LAU: From the 2020 version of their report which I just briefly read, I'm not a modeling expert but the limits of the model start at Kalihi Valley and I think they go westward, oh maybe to the Waimalu area. I don't quite remember the westward-most boundary, but from near the ridge of the Koʻolaus where there's a dike zone there, all the way down to the ocean. That's kind of the aerial extent of their groundwater flow model. They also tried to model- because our geology is highly variable, it's not uniform, not homogeneous- they also modeled the aquifer for maybe clinker zones in the aquifer. It's a three-dimensional model. They went down in terms of the y-direction all the way down to the transition between the freshwater and the saltwater, so that 50% zone of mixing.

COMMISSIONER MEYER: It sounds like notwithstanding the modeling effort, there's been some surprises here.

ERNIE LAU: There are a lot of unknowns. If you go back to the previous map with the yellow dots on it, thanks Dean, what you see here is the orange outline is the property of the Red Hill bulk fuel storage facility of the Navy. That's their parcel. What you see is a lot of concentration of monitor wells pretty much on Navy property or just alongside it. Then you go to the west, you see a few dots- the red dot is NMW, Navy Monitor Well 24 where we had similar PAH (polycyclic aromatic hydrocarbons) detections during the month. Actually, the Navy had similar detections of PAH chemicals in the month of June. There's one more yellow dot that's a little closer and that's basically pretty much all the monitor wells, except there's one I think they did put up at Camp Smith, as shown here. There's a whole gap of knowledge, lack of monitor wells to determine what's underground, what might be in the groundwater.

COMMISSIONER MEYER: Thank you.

***20240820 02:03:07*** *– Erwin Kawata resumes presentation.*

COMMISSIONER MEYER: It sounds like there's empirical evidence and testing is necessary in this larger area, no question.

ERNIE LAU: There are so many unknowns, there are not too many knowns here and everybody's kind of, there are experts that I respect highly in the community with the Department of Health, with the EPA (Environmental Protection Agency) or with the University of Hawaii, the USGS, but everybody's kind of opining based on their estimation of real world conditions. What we don't know is what is the real world looking like here and the lack of data is crippling. The 2015 Administrative Order and Consent was signed on September of 2015. I actually got a call from the Governor, informed me that he had signed that document, but since 2015, really 2016, the efforts to try to do this research started and that's about eight years ago. It's really important that this effort be accelerated and I think it's also very important that these efforts to investigate and remediate, that that knowledge, that information, those efforts be made public, that the community be engaged so that they are aware what the regulators and the experts are doing to try to understand this complicated geology.

COMMISSIONER MEYER: Ernie, do we have the capability in terms of a laboratory here on Oʻahu to do this testing now or are all these samples going to the mainland?

ERNIE LAU: They're all still going to the mainland. Erwin, before he became my Deputy, is a chemist by training and education with over 40 years in testing drinking water. Do you want to speak to the idea of a lab in Hawaiʻi?

ERWIN KAWATA: Sure. A laboratory in Hawaiʻi is advantageous in the sense that we can collect a sample here. It doesn't have to go through travel, it doesn't have to be shipped over there.

COMMISSIONER MEYER: Custody, all that.

ERWIN KAWATA: But the test itself requires a certain amount of time and that amount of time is required, regardless of where that test is done, whether it's here in Hawaii or do it on the mainland. What we're really saving is the travel time, but that's time saved anyway. There is going to be a plus by having that capability here, but with any kind of laboratory it requires resources, equipment, etc. Having had that, yes, there's going to be some advantage of having a laboratory.

COMMISSIONER MEYER: What do you think the duration of a testing program would be for this situation? Are we talking about 4 years, 5 years, 10 years?

ERWIN KAWATA: It could be long, it could be very long, it could be 10 plus years.

COMMISSIONER MEYER: If you were trying to justify the cost savings from having a local laboratory to do this testing…

ERWIN KAWATA: It's going to help over the long term. I think there will be some benefits.

ERNIE LAU: I've always thought that the ideal entity to do this is our Department of Health. Many years ago they built a brand new laboratory up at Waimano Home in Pearl City. It was a beautiful facility, but I think the only one in the State to have the capacity. The other issue with the laboratory, too, is we want to make sure that we can trust the lab, that the lab is unbiased, objective in their analysis, that they are very professional in how they do in terms of maintaining the quality of their analysis. We want that and I'll just turn it over to ask our Board Chair to talk about third-party testing and that whole issue. Chair?

NA'ĀLEHU ANTHONY, BWS: Commissioners and Chair, thank you for allowing us a few minutes to come and present today. Na'ālehu Anthony, Board of Water Supply Chair, for the record. We are trying to make sure that we are erring on the side of caution here. The implications for this is proved by the inundation of fuel into not only the aquifer, but into the Pearl Harbor drinking water system. It proves to us that you have all these anomalies that go on for years after the introduction of these contaminants into a drinking water system. All of us and the staff at the Board of Water Supply are committed to holding our system as clean and as pure as the testing regimen allows us to do so. What that means is that Ernie took the time and put forth the effort to talk to staff and shut off 14 or 15 million gallons of pumping capacity in December of 2021, to shield us from pulling those contaminants in. Commissioner, your point about the amount of time that it takes or who should be doing the testing. One of the challenges with the testing regimen, if you look at the date range on the letter is that we saw a blip in May, we saw a blip in June. We don't even find out until July these are in monitoring wells. If this stuff hits actual drinking water wells, we're not going to be able to tell people for six weeks. Six weeks, it has already entered the system, it's moved on and then we've got to say, oh sorry by the way. We think that it's perfectly reasonable at this point, given the fact that there's untold thousands of gallons hit the aquifer in '21. The heat map was this

massive heat map that was only bound by our ability to actually measure because as it's…

ERNIE LAU: Where we had monitor wells.

NA'ĀLEHU ANTHONY: As the heat moved, it went into places where could no longer measure. The question is, where did the fuel go? Now, there's all kind of opinions as to where the fuel went, what we're calling for is to say, look we think that it's perfectly reasonable to ask everyone to go to weekly testing, to follow the same sensitivity of testing and testing range that we've been doing for two years. Not to make the Board of Water Supply right, but to make sure that the drinking water for our community and by the way the above ground resources are also safe for people. There are farmers in that region, we've had conversations about this in the nearshore waters, above groundwaters that persist. We want to get a better understanding of what may be moving. The last thing I would offer is that it seems like the fuel is actually moving faster than our bureaucracies can keep up.

ERNIE LAU: I didn't say that but…

NA'ĀLEHU ANTHONY: I put that at all of our feet. To be able to drill and come up with a plan, Chair, to meet the demand of this science basis is like we're talking about 100 plus monitoring wells. The permitting, the weighing out of, do we want to put 100 more holes in the aquifer? Because you're not only pulling water out, but it's also the ability to put contaminants in. All I have to say is that there's a number of things to consider, but we have to put the precious drinking water that we all rely on and the sanctity therein at the top of the list when we're trying to figure out what to do next. We wanted to make sure that we brought this information to you folks and as we get more information, we'll come back. Thank you.

CHAIR CHANG: I appreciate you guys doing that.

ERNIE LAU: I just wanted to add because going back to Kalauao Springs, my uncle was a kalo farmer there many years ago. Testing not only of the monitoring wells, testing of drinking water, that's really important, vital to life, but also there's other types of sampling and testing that needs to be done. Sampling of the springs, the impact on springs, especially in areas where people depend on to grow food. That should be things that should be required of the Navy here, that the expansion of not just testing at the monitor well locations, that's really important, but testing at other outlets, streams, springs that naturally flow into Pearl Harbor. I think that should be part of the testing regime, too.

COMMISSIONER MEYER: Given the range of possibilities here that would create a pattern of this sort of intrusion and contamination, is there any other source that is feasible possible beyond Red Hill?

ERNIE LAU: Because of Red Hill, we immediately started to look for sites to drill wells, not knowing when we could turn on safely the three wells we shut down: Hālawa Shaft, Hālawa Wells, ʻAiea Wells, and we're going through the permitting process right now. We have two wells that are in the permitting process before the Commission, our ʻAiea Exploratory Well at ʻAiea 497 Reservoir, our New Town 550 Exploratory Well. It's really important to accelerate that. We're trying to also drill more monitor wells- and I appreciate the support of our State legislature and the Governor providing $10 million in funding from the State. We are also trying to drill our own monitor wells to help further the investigation in this area, but the process to go through that, it's becoming very expensive to drill, but the permitting process has been kind of challenging.

CHAIR CHANG: Our processing? CWRM processing?

ERNIE LAU: Chair, I just want to be careful. I appreciate, having served as a Deputy for the Water Commission, I understand all the work that's on the very small staff here. It's the idea of going through to get the permit to even drill the well, even a monitor well. I think the monitor wells are really critical, to get them under construction as fast as we can get them.

CHAIR CHANG: We're just not moving as quickly as, we are part of the government that's not moving as quickly as the water.

ERNIE LAU: I look at the Commission as a partner in this effort to protect our wai because we both have public trust responsibilities. I can talk to you on the side with Dean and see how we can try to move some of these things faster through the process. We want to do the process and it is slowing us down right now.

COMMISSIONER HO: Sorry, Chair. Were you asking, are there other sources for the PAH?

COMMISSIONER MEYER: Yes.

COMMISSIONER HO: There could be potentially other sources for PAH, there's petrogenic or pyrogenic. It could be from wastewater, it could be from exhaust from cars, it could be from runoff from asphalt from roadways. There are other sources that it could be. An example we were involved in the Maui wildfires and we put up air monitoring wells everywhere, wherever anybody wanted a purple sensor. We would put it up and the only parameter was that they had internet and they had electricity. Every day, we would find at this one location that it would turn from green to red and so we were like, what is this? We sent out one of our staffers and we found that every morning at 8:30, the homeowner would smoke his cigarette outside and that would cause the sensor to go off. We found that time and time again for people doing yard work and their diesel would, there's particulates in the diesel. It could be from other things, it could be the rain. It rained particularly hard in June and May or whatever and then you happen to take a sample and then that could have caused the PAH to pop. It could be from other things just like air samples could be interacting with other constituents within our environment.

COMMISSIONER KAGAWA-VIVIANI: Can I ask, Dean, can you show the slides again comparing the Navy and the BWS contaminant profiles? Because I think air atmospheric measurements are different.

COMMISSIONER HO: Understood but it is episodic.

COMMISSIONER KAGAWA-VIVIANI: Sure but I think one thing that is concerning is that there are two wells, different points in time that have a similar contaminate profile. You do want to take that seriously but under understand where they are in location to each other.

ERNIE LAU: The red dot is the Navy's monitor well, NMW 24.

COMMISSIONER KAGAWA-VIVIANI: The one to the west.

ERNIE LAU: Dean, if you could point to ʻAiea Wells just to the north of there. Both are on the ʻAiea side of Hālawa Valley. They're far away, they're both measuring groundwater. The wells are constructed with a grouted annular space to prevent any infiltration of surface water to get into the well which would be problematic because that would be contamination of the groundwater. When they develop the wells, solid casing goes down, they cement around the outside of the well in the open hole to prevent anything from going down. We're taking samples a few hundred feet below the ground surface and for our ʻAiea Wells, we run it for an hour. It doesn't go into the water system of the Board of Water Supply, so people don't have to worry about that, but it's pumping to flush out the well for about an hour. That's maybe 60,000 gallons of water pumped out before we take a sample. I'm not sure the Navy's protocol, but their wells are probably constructed similar with solid casing, cement the open hole around it to prevent any contamination from the surface from getting down.

COMMISSIONER MIIKE: Hard to decide…I assume your monitoring wells are at varying depths in the aquifer.

ERNIE LAU: That is a challenge because the island is built layer upon layer of lava flow and between the lava flows you have clinker zones that are highly permeable, can be pathways or preferential pathways for ground water to flow. It kind of depends on how deep the monitor well is, what zone they're tapping or measuring or sampling from. There's a lot of variables there, so it'd be better to have multiple monitor wells at different depths at each location. You're trying to catch it.

COMMISSIONER MIIKE: Do you know, if anything, about how these particles are dispersed through the aquifer? Are they floating toward the top? Are they diffusing throughout the whole aquifer? Do you have any information on that?

ERNIE LAU: We don't know, we know that water is a good solvent. You put something into water, it'll tend to end up dissolving into the water over time. Does it get deeper as it

flows further away? I think some of, and I'm not a groundwater expert, but from the source to a distance away as you flow further away, it starts to disperse or to maybe go deeper potentially in that groundwater. Those are all the unknowns and variables. Aurora, I'm not sure if we answered your question though.

COMMISSIONER KAGAWA-VIVIANI: I think it helps. I sort of read the comments and you have to go by a system of elimination, but the point you're making is that there are these detections in monitoring wells and they could…

ERNIE LAU: Half a mile apart.

COMMISSIONER KAGAWA-VIVIANI: There's a need for more frequent and rigorous sampling regardless of what the source is. Things of concern, especially concentrations of concern above the EALs (environmental action levels). There needs to be more cohesion across these and also from what I recall, USGS had been doing head measurements. Are they still monitoring? They took those out right?

ERNIE LAU: They did synoptic water level surveys.

COMMISSIONER KAGAWA-VIVIANI: They did see there's a slight gradient, so you would expect water to flow.

ERNIE LAU: From the Red Hill tanks, that orange area, there's a slope in the top of the aquifer gradient toward the west, a natural flow gradient toward the west.

COMMISSIONER KAGAWA-VIVIANI: What other sort of back of the envelope estimates on meters per day, transport?

ERNIE LAU: That's a good question. We did kind of back of the envelope, and I'm not going to say these are definite, but we played out different scenarios because what do we know. What are the knowns? It's known that in December of 2013, January of 2014, Tank #5 at the Red Hill facility lost- Navy says 27,000 gallons of JP8 fuel. It's also known that in May of 2021, a pipe connected to Tank #20 in that lower access tunnel burst open because of a pressure surge and lost 15,000 - 20,000 gallons of fuel dumped out into the lower tunnel. Some of it ended up in the AFFF drain line. In November a few months later, it released right over Red Hill Shaft and it was amazing how fast that moved down through the 80 ft. of unsaturated rock and got into their drinking water source and into their water system. Those three events, we tried to say distance to ʻAiea Wells and the time frame from if it was a 2014 release, what is the velocity of groundwater flow in that direction toward ʻAiea Wells? I think it was about 2.7 ft. per day and if it was May, I think we had another number was higher. More recently, we just asked our geologists to estimate, it could be as high as 12 ft. a day. So, there's a lot of unknowns here.

COMMISSIONER KAGAWA-VIVIANI: Can I ask one more question? Kathy, there's been a lot of defueling activities so there's a lot of focus on the tanks, but the pipes are

also being…My understanding is, are they straight sort of to the west? I'm trying to visualize, there's a lot of emphasis on the tanks but if there's any activities along the lines there could potentially…

COMMISSIONER HO: Right, but there were no activities, the facility itself is closed, ordered to shut down so all the fuel in all the lines have been taken out. I believe the pipelines are empty, I believe also that they're going to be removing majority of the pipelines.

ERNIE LAU: Well what I heard from the Navy Closure Task Force or the Joint Task Force Red Hill was that there's still some residual fuel in the low points around valves in those three pipelines. That total length of the three pipelines about 10 miles. At some point, they're going to actually cut out those pipes and remove all the pipes that connect the tanks to Pearl Harbor which is about a three mile distance. Three pipes, three miles each or so. There is probably residual fuel still in the bottoms of those pipes.

COMMISSIONER HO: At the low points?

ERNIE LAU: It isn't completely empty and then they are in the process of cleaning. At the time they defueled the facility, there were 14 tanks in service, so they have to go now in each of those tanks, clean out the sludge that might have accumulated at the bottom of the tanks, and then they're going to pressure wash the entire 250 ft. tall, 100 ft. diameter tank from the inside. A combination of water and Simple Green is what they're doing. They're going to pressure wash the inside of those tanks, that's a massive job. That is going to create rinsate water- could contain low levels of fuel, it'll contain water and probably some soap, Simple Green. I've told them to be very careful not to dump that because below the bottoms of the tanks to the top of the aquifer, there's 100 feet of lava rock there that might be somewhat saturated with fuel releases from the past, over its 80 year history. You add soap and water to that, you're going to cause more of it just to move downward and get into the groundwater aquifer. I think some of that became evident back in 2021 when Department of Health and EPA did those heat maps showing especially the diesel oil range hydrocarbons.

COMMISSIONER MIIKE: A sort of related question now, your water supply system is not connected all the way around the island, right?

ERNIE LAU: A good part is but not all of it.

COMMISSIONER MIIKE: What if you have to shut down, which major wells there, what capacity do you have to redistribute water so that you can still meet…?

ERNIE LAU: After December 2021, we shut down three wells. Hālawa Wells was a major source for urban Honolulu, so we had to pump other wells harder and what we saw at Beretania Wells, we saw the chlorides start to go up pretty rapidly. So, we've really backed off on Beretania Wells. We're getting by right now, Commissioner. For the ʻAiea-Hālawa system, that was ʻAiea Wells and Hālawa Wells were important water

sources for the ʻAiea-Hālawa community. That water system right now, they're being supplied by Kaʻōnohi Wells, our ʻAiea Gulch Wells, and our Kaʻamilo Wells. If we go back to this map, Dean if you show ʻAiea Wells, the location where we had our PAH detections and show our Kaʻamilo Wells, just to the west of that point to the northwest. We're kind of weighing this decision, what do we do now given all the unknowns? Do we err on the side of caution and prevent fuel related contamination or other sources of contamination getting into our water system

COMMISSIONER HO: Can I ask you Ernie, in light of the concern about being able to provide water, have you considered a GAC (granular activated carbon) system as you've used in other parts of the island?

ERNIE LAU: Right now, the big question and I don't know and it depends on the speed of travel if there is indeed a pathway from ʻAiea Wells where we had detections in June, more movement to the west or northwest, could we possibly draw it up in Kaʻamilo Wells. We are looking at treatment there as an option. Treatment at other sites, we're not looking at that right now because our Hālawa Wells which is right across the valley from the Red Hill fuel tanks, we turn it back on, are we going to worsen the problem, worsen the movement, increase the movement of contamination across Hālawa Valley.

COMMISSIONER HO: Sure and let me ask you this also.

ERWIN KAWATA: We're not looking at treatment there.

COMMISSIONER HO: You're not looking at treatment now?

NAʻĀLEHU ANTHONY: At Hālawa Shaft. A 10 million gallon a day straw is a dangerous thing to have.

ERWIN KAWATA: The Hālawa Wells site is too small. We don't have space.

COMMISSIONER HO: Let me ask you this also, how many of your wells that are closed now or shut down now is due to maintenance?

ERNIE LAU: I don't have a number. Let me put it in a different way. We have about 90 different well stations, over 100+ pumps, so they're always going cycling through maintenance. A previous Governor had pointed out that we should just fix our pumps and then we should have enough water, but I'll tell you pumps are mechanical electrical equipment that periodically has to be taken out of service just like your car. You got to do service, you got to take it to a mechanic. It breaks down, likewise our pumping system. I don't know the number, but we really worked hard to try to keep more pumps in service and by deferring maintenance on that, are we living on borrowed time before we see a breakdown that's unplanned?

NAʻĀLEHU ANTHONY: Kathy, we have actually as well asked the Navy for the data on the GAC that they're building out, trying to get their Red Hill back up and running.

My understanding is Congress allotted $500 million to start to build that GAC facility out, so we're talking about huge investments in infrastructure to be able to, I think they are pumping 5 million gallons a day, top out at 8. When you're looking at the size of the site, is the space available, but also the cost associated with some of this stuff is in the hundreds of millions of dollars. I would just offer that DOD (Department of Defense) has admitted that they have done this, they are at fault and we are at the risk of having to pay for all of this without an agreement with the Navy to understand just whose responsibility is this to monitor, to run the science, and then to figure out how we're going to make sure that there's enough margin in our water supply every day at the high use days in the summer.

COMMISSIONER HO: I know all of our responsibility, CWRM, is quantity of water and I know that you don't want to use the Hālawa Shaft, I understand that that's the position. Let me ask you this, what about the ʻEwa Shaft? You can get 13 million gallons a day which you're not using.

ERNIE LAU: What we found is that to pursue converting a hundred-year old irrigation source to a drinking water source is problematic from a water quality standpoint. We actually have permits in front of the Commission to drill wells to basically take an equivalent amount through wells near the shaft area.

COMMISSIONER HO: Okay because I know that you have GACs there as well.

ERNIE LAU: Those permits…we built in anticipation that we might encounter chemicals that we see, non-point source from large-scale industrial agriculture for sugar and pineapple in central Oʻahu and in that leeward area that we're probably going to have to deal with that non-point type of contamination that's in the environment.

COMMISSIONER HO: The GACs that are out there, are they being used?

ERNIE LAU: They're not being used, yet.

COMMISSIONER HO: So you could potentially deploy them to other wells?

ERNIE LAU: That's a possibility, but I just looked at our Kaʻamilo site wells while we were kind of surrounded by residential houses at that location, so it would have to fit right on our site, maybe in our driveway to put something there. We're looking at the feasibility, is that even feasible? The other option is that we operate with only two well stations to supply the ʻAiea-Hālawa System, that's our Kaʻōnohi Wells and our ʻAiea Gulch Wells. If there's a breakdown, we may be seriously challenged to be able to meet the needs of the community for drinking water and for water for fire protection, too. I'd just like to point out, my perspective, just my opinion, you can always look at the solutions that, oh we can always treat it, we can always treat the contamination. That puts the burden on the water utility who eventually passes that cost on to its rate payers because that's the only source of revenue to operate the water utility. That's not focusing on trying to clean up the resource so we don't need treatment. Treatment is one solution,

but it shouldn't be the first thing we go for and in this case because the Navy created this monster here, this 80-year old monster, they should be responsible and we should hold them accountable to clean up the environment, to clean up our ʻāina, clean up our wai here and then future generations are not going to be faced with the burden of expensive treatment systems. With treatment systems you have your first, capital cost and it's not cheap. Then you have the ongoing operating cost to operate those systems. The GAC treatment facilities we have in central Oʻahu, there's about a dozen of them, we use a million pounds of activated carbon a year to filter that water to make it safe to drink. We have been doing this for now how long, Erwin?

ERWIN KAWATA: A long time, 40 years.

ERNIE LAU: 40 years. We don't see an end to that and the cost burden is falling on the people that we serve. I don't think that is right.

CHAIR CHANG: I appreciate that Ernie. I think we're looking at multiple solutions, things have to happen concurrently. Obviously, the testing is going to take a while, but looking at all the tools that may be available to ensure safe drinking water for the people so totally appreciate your concern.

PUBLIC TESTIMONY

HEALANI SONODA-PALE: Thank you, mahalo for the opportunity to testify. My name is Healani Sonoda-Pale, I'm a member of the Red Hill CRI (Community Representation Initiative) Committee, also a representative of Ka Lāhui Hawaiʻi, and I'm also a member of the Oʻahu Water Protectors. I wanted to emphasize and support the CWRM and Board of Water Supply's approach to the water crisis that we're now embroiled in and having to deal with. Using an abundance of caution I think this is how we need to move forward as the Commission on Water Management. You folks need to operate on that alone because when it comes to water, we cannot afford to lose this one precious resource. It's worrisome to me that this Commission is waiting for a smoking gun. We cannot afford to wait for the smoking gun, we need to be proactive. We have testified multiple times at this Commission when it comes to the disaster that the military has created for a million residents on this island. There's a lot of unknowns that was mentioned before in this discussion and the reason for the unknowns is because of the lack of transparency by the Department of Defense and the US military and this is a real problem here. We do not know what we don't know. You look at the evidence and the history and you look at the WAI report that came out earlier this year. Over two million gallons of fuel have been spilled into the environment. To say that this is not coming from the Navy, I think is disingenuous and you need to look at the facts. You're not going to find the smoking gun, but it's obvious there is an elephant in the room here, the DOD. I want to ask one question, what are you folks doing to ensure that the Department of Defense is practicing water conservation? They are using too much water, too much of our water. We've been asking this for over two years, are you holding the Department of Defense accountable for polluting our water and creating this crisis? We've been having to deal with this because of the Department of Defense, let's not get away from that and it does matter

who poisoned our water. It does because if we don't hold them accountable, it'll continue happening. That's the problem here, but that's all I wanted to say and I thank you so much for allowing me the time.

DON THOMAS: Hi, I'm Don Thomas from the University of Hawai'i. Yes, I was asked to take a look at the findings that Ernie provided on the chemistry of the water and the Polycyclic aromatic hydrocarbons that were present in the 'Aiea Well. I did some research on these compounds and one of the things that I found, as Kathy Ho mentioned, is that you can have different sources and the pyrogenic or petrogenic, pyrogenic meaning from hydrocarbons that have been heated to very high temperature or combusted petrogenic coming from crude oil. In looking at the compositions at 'Aiea, if the compounds that are present are present in ratios that are more suggestive of a pyrogenic source, of a source that would be derived from diesel exhaust particulates as well as from leeching from asphalt. They look very different from the petrogenic hydrocarbons present at Red Hill. I agree with Ernie, it is of concern but the first step in addressing that concern is to finding what the source is. There's a number of studies out, I haven't had time to really dive into all of the work that's been done, but roadways are a source of these compounds and can get into the groundwater and are a concern. In my opinion, that's the first thing that needs to be done. We have to identify what the source is and then from there develop a remediation strategy for those wells if it's required. Again, these are occasional and this gets into the regulatory business and I'm not part of that, but again, first identify the source. One other thing I had a chance to do is compare the concentrations in the 'Aiea Wells of specific ones of the hydrocarbons of the PAHs with concentrations found in the monitoring wells at Red Hill and in some instances, the concentrations at the 'Aiea Wells are substantially higher than are present in the water beneath Red Hill. Now, if this was originating from Red Hill, I would expect all of these compounds to be substantially lower because of dilution. Ernie pointed that out and I can't conceive of a mechanism by which these hydrocarbons would become more concentrated during transport from Red Hill to 'Aiea. I understand that confuses the picture a little bit, but I think we have to understand what the source is before we're going to come up with a workable remediation strategy, thank you.

MARTI TOWNSEND: Hello, my name is Marti Townsend. I'm testifying on C3 on behalf of Earthjustice and I just wanted to highlight a few things. Thank you very much for taking up this very important issue and I just want to take a step back. The way we have always lived before, those days are over. Easy access to clean, abundant water is gone. We really have to change the way we operate in order to ensure that everyone who lives here on O'ahu has access to clean water and that our streams and all of the critters and wildlife that rely on them also have access to healthy, clean water. This means that government must be more proactive. Chair Anthony said that the fuel is moving faster than our bureaucracy and that is true and the thing is that we're completely in control of that. We can decide how fast we're moving on this particular issue and I just want to take a moment here to note that if the Navy had followed through on all of the promises they made after the 2014 leak, we would be in a better position right now because we would at least be able to watch and document the harm that releases from Red Hill are causing to our water. Because the Navy did not follow through on their promises, because

Department of Health and the EPA did not require them to follow through on those promises to complete a well-based groundwater monitoring plan, to install monitoring wells that would help to be able to track these plumes, because they didn't do that we are now scrambling. I really implore you all, especially Director Ho, please require the Navy to follow the Board of Water Supply's lead. The Board of Water Supply has the public's trust, they have an excellent track record of protecting the public's health. Kudos to them for being bold and shutting down the ʻAiea Well because if they had not done that, it's possible that people would have been consuming PAH before we knew it was there. I think the time has proven Board of Water Supply right and that if the Navy wants to earn the public's trust back, they could try to start doing that by following the Board of Water Supply's lead. The Board of Water Supply is making a very reasonable ask, to do what they're doing so we can compare apples to apples and oranges to oranges. It is not too much to ask for weekly monitoring, following the Board of Water Supply's protocols, using an independent third-party monitor, and unfortunately we have learned that the Navy does not do what is most reasonable or expeditious or in the best interest of the public. They do what they are required to do and so we are unfortunately having to turn to you all to please require this so that we can at least get on top of this. Listening to you guys debate and hum and haw about, well is it this source or that source? At the end of the day, if we have more monitoring wells, if we're able to compare apples to apples, we'll be able to identify better what the source is.

CHAIR CHANG: Marti, your time is up so if you could just summarize?

MARTI TOWNSEND: I think that we're in a position to help the Navy help itself, which ultimately helps us. If we can follow the Board of Water Supply's lead and have this weekly monitoring and I just want to also reiterate that as Ernie said, going to the GAC treatment first is the wrong way to approach this. We need to be protecting our actual stream resources and preventing the spread of this contamination. Thank you very much.

MELODY ADUJA: Hello Chair, this is Melody Aduja. I just wanted to say that I am also a member of the CRI and also a co-chair of the Environmental Caucus of the Democratic Party and we've been following this Red Hill issue just as long, pretty much as Ernie Lau has done it and Board of Water Supply, so it's been several years. I think what we're looking for, first of all I just want to say that we are in agreement with what the Board of Water Supply is recommending with regards to the weekly testing or monitoring. I think what I'm not hearing is what is the Navy going to do to finally clean this up, clean up the aquifer, clean up Red Hill? It's going towards that direction, but I don't hear people screaming for that. When are they going to clean up the aquifer. That's all I need to say. I think we need to put all of our energy together to make sure that the aquifer is clean, then we don't have to worry about the other wells being contaminated or that the monitoring wells are insufficient or what have you. Let's just scream and just have the Navy please clean up the aquifer. It's their mess, clean it up. Thank you.

CHAIR CHANG: Thank you very much. I do want to manage everybody's expectation, this is just information. There's no action before the Water Commission. There could be some in the future, but at this time it's just information. I'll take Lauren Cruz.

LAUREN CRUZ: I don't have any comment.

ROBERT WHITTIER: No, I don't have any comments at this time.

WAYNE TANAKA: Good morning again, Chair, members of the Commission. Wayne Tanaka of Sierra Club of Hawai'i. I just wanted to raise three points about how this situation is relevant to the Commission's kuleana and why the Commission as a whole and even as individual people who have been elevated as Water Commissioners should care about what's going on and should take action. First, what I understand is that given this detection, the Ka'amilo Well in 'Aiea may have to be shut down to prevent our municipal system from being contaminated and the Board of Water Supply primarily has to deal with that. But in the bigger picture, if there is a plume that's migrating west, what about what Chair Anthony talked about, what about the local agricultural practices, the cultural practices, the streams, the critters, the lo'i and the loko i'a in Kalauao and Pu'uloa? Who's supposed to care about those things? It's you folks, it's the Water Commission. It's not just a BWS issue, it's a Water Commission issue and a public trust issue and squarely within your kuleana. Second, I also want to reiterate, I'm a little concerned about spending all this energy pointing to other potential excuses or that this might not be coming from Kapūkakī. What are the odds of any other source showing up at this point in time for the first time and briefly in time which meaning it's a post, it's not a constant source, constant stream. I can think of intuitively a lot of ways where contaminants might break down and get concentrated at certain levels and in the water and through certain pathways, but all that to say focusing on "what about-isms" is exactly the kind of wishful thinking-based excuse making that led to this crisis, that let Red Hill fester until the worst thing happened. To that extent, there is uncertainty. As I think Earthjustice's representative mentioned, the Navy has been under obligation to create a groundwater model, a contaminate fate and transport model since 2015. To that extent, we don't know, we have uncertainty about what's going on. It's really because the Navy hasn't done its job and quite frankly the EPA (Environmental Protection Agency) and UH (University of Hawai'i) as parties to the ACO (Administrative Consent Order) in 2015 haven't really been keeping them accountable to their commitments in a timely matter. Third, I just want to bring up the precautionary principle, as you folks are well familiar with, it's a foundation of how you're supposed to make decisions. If there's uncertainty, you're to err on the side of caution and we have uncertainty and the threat is significant. For those reasons, it's a responsibility, it's a public trust issue, there's uncertainty because of the Navy's dereliction. You really do have a duty to take action and to support not only the Board of Water Supply in its monitoring well efforts to track any contamination, but to also amplify its demands to the Navy that it test weekly, that it use third party testing that use robust EPA methods, and install more monitoring wells, and ultimately finish its homework which has been pending for 10 years or almost 10 years. Just because this came up, I did want to mention that the deputies for Energy Installations at the Pentagon have told me that they have offered lab equipment and two years of funding for an EPA certified lab with the Department of Health and that they are waiting on the Department of Health to accept that offer. They've emphasized that there

are no strings attached for the funding. I don't have firsthand ability to verify information, but given that the Department of Health is here, maybe they can.

CHAIR CHANG: Wayne, thank you. Your time is up, if you can just summarize or is that the end of your testimony?

WAYNE TANAKA: That's the end of it. I'd be happy to answer any questions.

MANDY FEINDT: Hi, yes ma'am. I'm also a member of the Red Hill CRI and unfortunately an impacted family where myself, my civilian husband, my two small children drank and consumed the water when I was stationed there on island, living on Ford Island. I just want to start off by saying I greatly appreciate the BWS and Mr. Ernie and Mr. Erwin and just how they have led this whole thing with integrity and with the public interest at the forefront, how concerned they have been for public health and public safety and for the integrity of that water. I'd like to echo what Marty said and also what Wayne just said about time is of the essence. I'm here to tell you that drinking this water is no good for anyone and it's been infuriating over the past two and a half years, and I've been sent off and I'm calling in from Virginia, how anytime that there are these detections, the first thing that we jump to is to disprove that it could be anything related to Red Hill. I did reach out when I saw these detections last week, I think it came to our attention, to the Department of Health and I tried to get an explanation, like help me wrap my head around this and we immediately went to excuses like it could be from runoff or it could be from asphalt water or it could be from construction sites and list went on. At this point, we've heard every excuse under the sun, but I'd like to ask so someone can make it makes sense to me if I heard Mr. Erwin Kawata say that they are conducting these tests weekly and if folks have been driving vehicles on that island for many years now, how has runoff never become an issue before doing weekly testing? How is asphalt, and I lived there for many years so a lot of construction, why were these things not detected over the past few years? Why are they being detected now? In 2014 we predicted that the 2021 spill would happen. We predicted that these plumes would occur and they have and they have not just been found by the BWS, they've also been found in other monitoring wells, from across different monitoring wells the Navy has established. Could someone just spend a little bit of time explaining if it is just these other possibilities and that's what we've jumped to. That's what the response was to BWS, they came to you all with a problem, we've had these detections and the immediate response was, let's not act now. The immediate response was how can we disprove this and what else could it be?

CHAIR CHANG: Mandy, your time is up. If you can just summarize or if that was the end of your testimony?

MANDY FEINDT: That's the end of my testimony, but if someone could give an explanation as to why this has not come up before, this runoff or construction or asphalt or leeching because I imagine that these things have been present in years past. Thank you so much.

CHAIR CHANG: Thank you, Mandy.

MADISON OWENS: Mahalo Chair Chang for responding to my email I also want to extend my deep gratitude for the Board of Water Supply, particularly Ernie, Erwin, and Kathleen for being steadfast protectors of our once pure wai. I just want to emphasize the crucial point made by Board of Water Supply and Ernie. We can't continue on this trajectory of treatment becoming our first and primary action. It's essential that we follow the Board of Water Supply's protocols closely, ensuring that the Navy conducts weekly monitoring using an independent third-party tester. This is non-negotiable. Moreover, regardless of the source of contamination, we must expand our monitoring capabilities by establishing more monitoring wells and having a testing facility on island. With increased monitoring we can detect and address threats to our water supply more effectively and in a timely manner. Our natural resources are precious and irreplaceable. We must take every measure and each moment an opportunity to protect them to act swiftly, decisively, and proactively faster than the fuel contaminating our water, land, and people. Mahalo for your time and consideration.

CHAIR CHANG: Thank you very much, Madison. Tara Rojas?

TARA ROJAS: Aloha Tara Rojas, as every testifier has said, where is the urgency in this matter? Reiterating what they said instead of trying to disprove, err on the side of caution. It's been three years and we see the effects that are still happening and as I'm sitting here with my keiki, I just want to paint another picture because sometimes you just need to hear it in a different way. If we're thinking about the water for our keiki and their keiki or future generations picture this, if you have a cup of water and they want to share, it's for one person. Then you want to share so you add some more straws in whether you put the straws in the top or you poke them in the bottom so it looks like a windmill or just like tentacles of an octopus. You have this cup of water with different straws poking through the bottom and then different keiki can drink from it. How crazy it is to think that somebody with gasoline is going to hold it right above the water and oops, spill it inside. Instead of urgency, we see, we heard today the wells that have been shut down, Hālawa, ʻAiea, possibly Kaʻamilo. That's three straws you're going to plug or take out, but as we know again with keiki, what happens when they're drinking? Backwash, just to put it in more simpler terms, backwash. That goes into the water and it's in there. We're already plugging. You see the backwash still in there and in here you have the parents, which are us, arguing about, hmm let's see…I think it may be from this or it may be the backwash from this person, the backwash is from that or maybe it's from the air that fell into the water. I mean it's just crazy ridiculous to not have learned from that first spill and to learn from the one, two wells, put straws that have been pulled out possibly and third one. Where is the urgency? The fact that the person who dropped the oil, they're not being held responsible and they, as well as the other regulating agencies who should have made sure that shouldn't have happened and dropped into the cup of water, they're not regulating. They're deciding, oh well our tests don't say anything to the contrary. Only the Board of Water Supply is erring on the side of caution. Stand with the people, remember this analogy, and take action now. Even though this is not an action item, hold

the Navy responsible and err on the side of caution and urgency now. There's backwash in the water and we know it. Mahalo.

CHAIR CHANG: Thank you, Tara. Lacy, go ahead and unmute yourself.

LACY QUINTERO: Good afternoon, Chair, CWRM, DOH, BWS. I am also a member of the CRI representing the impacted community and I wanted to back up everything the BWS is saying. I strongly agree with everything that they've said. I want to point out the irony in the suggestion that they delay maintenance on their equipment to fix this problem. I hope that none of us have forgotten that the reason we're here is because maintenance was shortcut-ed and delayed on Red Hill. That is never an answer, never. I say this with a background in aviation electronics because I'm also a Navy veteran. While that might be a normal way of business in the military, it's really not acceptable in the civilian world, it shouldn't be. You're not fighting a war except for the war on water right now, but you don't need to take shortcuts you have time to do the right thing. Really, it's hard to hear speaking from the impacted community perspective, it's hard to sit back and hear the way that this narrative is going right now. You have no data to back up these anecdotal stories about a guy smoking a cigarette causing contamination in a well two miles away from Red Hill, like that just doesn't make sense. I know that's not exactly what you're saying, but you don't have any data to back that up. You don't have any data to back up that the PAHs has come from a parking lot. The data that we do have isn't good enough. We need those monitoring wells, we need more data. You have to start now, even though it isn't an action item today, we have to start now. We have time now to prevent what happened to us, happening to the rest of this island. For the DOH, I just wonder, have you calculated? I'm sorry, let me go back a second. GAC filters were also mentioned. I hope you all haven't forgotten that GAC filters were put on AMR which was an impacted area and that did not solve the problem. There are still families to this day that still complain about having to take showers and having you know little burns or whatever kind of reactions from showering. GAC filtering is not going to be an ultimate solution. Sure, if that's the only option you have, it is better than nothing, but please don't rely on that. It's not preventative at all, it's a reaction, and it won't work, ultimately. I hope the DOH is considering if this did happen, imagine the cost that you would need to increase in early intervention services because when kids 0 to 5 drink jet fuel, it scrambles their brains and I think we all know that toxic substances do that. There would be like a huge funding cost for that and for health care. We need to take action now, thank you.

CHAIR CHANG: Thank you very much, Lacy. I have the last person is on the telephone, if you can unmute and go ahead. Introduce yourself. [Caller did not unmute] It's a non-action item, there will be opportunities for us to come back. Thank you so much, Ernie, Na'ālehu, and Erwin and your team, appreciate you bringing this matter to us. We will work with you on the well situation, processing your permits. I see Ryan is also on the call, so I'm sure his team of people will work with you on facilitating that process.

ERNIE LAU: Thank you, Chair.

CHAIR CHANG: No, thank you and I know that we have other opportunities to coordinate on this. Any final words from the Commission before we close this item?

COMMISSIONER KAGAWA-VIVIANI: I do have a request, but more if the Board has time because you as former Deputy know what's within and not within our scope. If you have specifics, suggestions because I know I've been told, stay in my lane, stay in my lane. That would be helpful and then also I've said it before, but I'll say it more specifically. UH has capacity but is not capable necessarily of doing regulatory-level data, but there are people who want to do this kind of work, just not at that certified level. They still employ EPA methods, they're innovating on fluorescent in-situ sensors, maybe there's a need to strengthen dialogues there or in a more multi-stakeholder setting. If you have suggestions because you are most directly affected by this, I think that would be good to put out there and then people can act on it. I appreciate you bringing this to light and the presentation.

COMMISSIONER MEYER: I was thinking the same thing more or less and it was to ask you whether it would be possible for you to volunteer a list of the action items which need to be completed to define and remediate this problem, starting with the testing wells, as well as remediation. We know we have to remediate now and how you go about it and whether they're skimming wells or just GAC or combination of all the above, you guys are really the pros.

ERNIE LAU: Well, we're not so-called experts. There are a good party of experts, but this is a kākou thing that we all have to work together on. Commissioner Aurora, I think the Water Resources Research Center may be a good way to connect with UH.

COMMISSIONER KAGAWA-VIVIANI: And there's a PFAS (polyfluoroalkyl substances) specialist, but it takes time. They're still onboarding and so there's a time lag in getting up and running.

NAʻĀLEHU ANTHONY: Chair, yeah I mean we came here today to really offer some information and not turn up the volume on any specific requests. I think it's important that there's clear communication going back and forth between our offices and yours at an interval that makes the most sense. We thank you for spending so much time today and in a packed schedule to address this. We will be giving updates as necessary so that we can keep you all apprised of the information as it becomes available. I'm shockingly in agreement with many people who are on the call today when they're talking about the need for more data, we absolutely need more data. Kathy, your point is well taken, there's like all kind of different ways that this can manifest. The point is, it's manifesting and in order for us to get a better sense is this as an example, these two miles of underground aquifer now soiled with jet fuel, where did the jet fuel go after that heat map went away in December and January of '21 and '22? These are all questions that we need answered to better understand the nature of what's going on and until we know that, we just urge everyone to proceed cautiously because this is the only water supply we got. There's 2,500 miles of saltwater around us, so we want to make sure we get this right and

we want to make sure that we keep the public trust in our institutions at the highest, highest level as we go. We thank you for your time today.

CHAIR CHANG: No, thank you and we appreciate the caution always being proactive and so we will try to do what's within our realm of at least processing those well permits, trying to get that done and then we also have the Red Hill WAI (Water Alliance Initiative) that may be another opportunity…

ERNIE LAU: The recommendations of the Red Hill WAI.

NA'ĀLEHU ANTHONY: The broad agreement there.

CHAIR CHANG: There's another vehicle to potentially get resources to do that additional testing. I think we all agree testing is really critical to good decision making, but always appreciate both and Erwin, the work that you guys do and we all depend upon the work that you guys do. Thank you very much.

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***20240820 03:21:59***

## C. NON-ACTION ITEM / INFORMATIONAL BRIEFING

### 1. Red Hill Independent Health Registry by University of Hawai'i, Office of Strategic Health Initiatives

PRESENTATION GIVEN BY: Tara Sutton, Director of Community Engagement, University of Hawai'i

UH staff presented the plans for a health registry which aims to provide resources to those affected by the Red Hill contamination.

QUESTIONS / COMMENTS

CHAIR CHANG: Thank you so much, Tara. I'm sorry that you were one of the families that were impacted, but you seem to be doing good work in channeling that energy. Thank you very much for the work that you're doing.

PUBLIC TESTIMONY

TARA ROJAS: Yes, aloha…I just wanted to say that anything that is to help the affected families is great because they need the attention that they should have gotten all this time. That was it, but I will be testifying for C2 after the presentation, mahalo.

COMMISSIONER KAGAWA-VIVIANI: I may have a comment.

CHAIR CHANG: Oh sure, go ahead.

COMMISSIONER KAGAWA-VIVIANI: I'm wearing too many hats here because I serve on Tara's graduate committee, but my role in this was to support the OVPRS (Office of the Vice Provost for Research and Scholarship) office in their effort to do work to support families around Red Hill. WRRC's (Water Resources Research Center) role here is to help provide the information that we had and hand it off to the public health specialists for this feasibility assessment. Not in an advisor role: the funding for UH to run this is for five years and their goal in the feasibility assessment is to be able to sustain long-term support and tracking. It's really a bright spot in a very dark and challenging situation, not that there's solutions, but there is at least some more direct meaningful way that UH and the med(ical) school and public health folks who work on the human side can lend expertise. I think Tara wanted to be here because often there's a lot of Red Hill attention in this space and to make people more aware of it.

CHAIR CHANG: Whether it's the environment or our health, data is really critical. Having baseline as well as trying to understand potential long-term effects. Hopefully this can become the model for many other registries, if we're not already following another one, but clearly getting good information on a potential health risk. My father got Agent Orange after 40 years of being in Vietnam and not realizing it, so we all recognize that there are long-term impacts to exposure to unknown conditions. Thank you so much, Tara. I'm sorry we were not able to get, oh Melody Aduja. What did she say? I think she just said, Mahalo Tara Sutton for your good work. Thank you so much, Tara. Good luck, we wish you well on your endeavor. Keep us updated, we wouldn't mind being updated as you proceed.

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## C. NON-ACTION ITEM / INFORMATIONAL BRIEFING

### 2. Briefing on Estimated Groundwater Recharge for Mid-Century and End-of-Century Climate Projections, Kauaʻi, Oʻahu, Molokaʻi, Lānaʻi, Maui, and the Island of Hawai'i by U.S. Geological Survey, Pacific Islands Water Science Center

PRESENTATION GIVEN BY: Katie Roth- Planning Branch Manager; Heidi Kāne- US Geological Survey (USGS)

USGS staff shared their published research on future climate projections for the state.

QUESTIONS / COMMENTS

COMMISSIONER MIIKE: I'm curious about Hawai'i Island, even in the wet climate scenario you have decreases. How is that?

HEIDI KĀNE, USGS: That's a good question and it's important to remember that these climate scenarios are based off of the large-scale general circulation models that are done in the representative concentration pathways that lead to the projections that we used. They're based off of the land cover and a whole bunch of other information, but they're not always going to show just because it's a wet climate scenario, that doesn't necessarily mean there's going to be continued wetting into the future. It's just the wettest scenario we had in the future climate projections for the island.

COMMISSIONER MIIKE: So, it's not compared to your base?

HEIDI KĀNE: It is compared to the base.

COMMISSIONER MIIKE: If it's a wetter climate projected in the future versus your base, how can you have less recharge?

HEIDI KĀNE: It's not necessarily a wetter climate, so even though we called it and named it a wet climate scenario, it was the wettest climate projection we had for that island but that doesn't necessarily mean that it is going to have wetting. It was just the wettest climate scenario for the future that we had available, so we called it the wet climate condition.

COMMISSIONER MIIKE: No, what I'm saying is that it's still compared to your base, right?

HEIDI KĀNE: Yes and it still shows dry compared to the base.

COMMISSIONER MIIKE: I don't understand how that can happen unless you have really radical land changes?

COMMISSIONER KAGAWA-VIVIANI: Can I jump in? I have a question that I think might help eliminate because I've spent some time around this. Heidi, with HRCM (Hawai'i Regional Climate Model) which was used for the wet climate scenario, were you working with daily or sub daily rainfall? Did it encapsulate…you could have mean increases, but actually more episodic downpours. Is that kind of information fed into the model? Did that rainfall forcing show those long-term changes?

HEIDI KĀNE: Yes, Aurora, you are correct that there was episodic issues in the climate data where there were some months that received really heavy rainfall throughout the wet season. You would have really heavy rainfall in January, but really limited rainfall in February and it did cause some discrepancies that we saw and looked at as part of our questioning why we were getting the results we were getting.

COMMISSIONER KAGAWA-VIVIANI: What was the time step of the rainfall data that was fed in?

HEIDI KĀNE: It was daily.

COMMISSIONER KAGAWA-VIVIANI: You could potentially resolve that. I'm going to also quote on this particular model because this is a long-standing debate, like local climate is that they admit for HRCM that it does well simulating patterns, existing historical patterns over Hawai'i Island, but it does poorly over Kaua'i and most particularly Maui and O'ahu. There are these two competing projections and that is often a source of discussion and confusion, but there's a saying. I don't want to say garbage in, garbage out, but like the rainfall data that's used is really influential in looking at projected recharge. Is that right? That's where you can see the increase in rain. Your question, Commissioner Miike, was how could there be increased or decreased recharge when there's increased rainfall, but part of it is there's these regional patterns where the wet side gets wetter and dry side gets drier. There could be local increases in one place and large…

COMMISSIONER MIIKE: But the map, that was for the whole island.

COMMISSIONER KAGAWA-VIVIANI: I think they integrate all of the pixels.

COMMISSIONER MIIKE: I still don't understand how that can be.

HEIDI KĀNE: Just because it's called the wet climate scenario doesn't necessarily mean it's wetter. It actually has drier rainfall than the reference period, if I'm stating that correctly. Just because it's called that climate doesn't necessarily mean that there's more rainfall within those projections and there is greater uncertainty. The Hawai'i Regional Climate Model or the HRCM projections, they're looking out at, let me see, I believe it's 2080 to 2099. They're looking very far out into the future and there's some greater uncertainty in that.

COMMISSIONER MIIKE: I guess the overall message is that no matter what scenario in the future, we're going to have less recharge.

HEIDI KĀNE: That's what the model is projecting for most scenarios; however, that's why we did try to choose the greatest range of what we had between the wettest and the driest, have the widest span of information available for the Hawaiian Islands for this study.

COMMISSIONER KATAYAMA: Quick question, seepage from reservoirs, do they have a huge impact on the recharge?

HEIDI KĀNE: Not a huge impact, they do have an impact though, enough that I would put a plug in. In the future, it would be great to have additional seepage information for

reservoirs. There's limited information out there available of what's seeping from reservoirs into groundwater.

COMMISSIONER KATAYAMA: In the forward looking models, is there an assumption that there will be less reservoirs? There seems to be more activity in decommissioning reservoirs than there are currently.

HEIDI KĀNE: For this study, we did not look into the future of whether there is going to be less reservoirs in the future. We did, however make a very strong effort to make sure we were accounting for every reservoir available that we knew of in the Hawaiian Islands. Including in this study, there's a part of the analysis and the study is determining which reservoirs were lined versus unlined because that has an impact on how much seepage is occurring, which it may have been done in previous studies but it wasn't done in most previous studies. That is a change in this one and there are some islands where there's no information on the actual seepage from reservoirs, for certain islands and it does vary greatly amongst the islands. We tried to use the data available from different studies. There are some reports done on Kauaʻi from a different agency that has seepage for two reservoirs and we based the seepage rates based off of that study.

COMMISSIONER KATAYAMA: As we look at IIFS, does that impact recharge rates as we redirect water?

HEIDI KĀNE: That's a good question. It's outside the scope of this study, but I think it would impact the runoff to rainfall ratios or the runoff ratios if that would occur, if they changed.

COMMISSIONER KATAYAMA: I will read the report. Thanks, Heidi.

CHAIR CHANG: Heidi, is there a reason that Lānaʻi shows such an extreme?

HEIDI KĀNE: Yes, that was an issue we picked out as we got the results out of the model for this report. Our findings in going back and trying to investigate what caused that is that there's a few things going on with Lānaʻi. One is that it was impacted by having those episodic rainfalls with really heavy rainfalls some months and then very limited rainfalls in other months. That caused a swing in what you see for Lānaʻi for the wet and dry climate and mid-century scenarios. It is quite significant, usually you can see it. There's also, just in general, Lānaʻi doesn't have the coverage of stream gages and rain gages for the island, so for rainfall that's available for Lānaʻi, some of the rainfall that we have, some of the data of rainfall for Lānaʻi we have is interpolated from Maui and Molokaʻi because to get the rainfall patterns and to use the data for that island, we had to stretch Molokaʻi and Maui to do that. I'm speaking as someone who worked on the Rainfall Atlas with Tom Giambelluca doing that work, so there are two things that are probably going on for Lānaʻi.

CHAIR CHANG: Okay, thank you.

PUBLIC TESTIMONY

DR. JONATHAN SCHEUER: Aloha mai kākou, again. Jonathan Scheuer, I come to all these meetings in part because I monitor items for the Department of Hawaiian Home Lands and we have an active interest in having reservations of groundwater and having them protected. I am sure that you guys actually know all this, but I want to summarize my take on the outcome or the policy relevance of this study. GS of course, USGS being scientists, they will present you the data, but they won't tell you, here's what you should do with it. If you have not served on the Commission during a time when the Water Resource Protection Plan has been updated, that is the portion of the Hawai'i Water Plan that sets sustainable yields. The current plan has an extensive discussion in place about climate change and says this is something we should consider for future updates. The sustainable yields that have been set for groundwater now assume recharge is going to be what it has been in the past. One way that you might think about this as policy makers is, I don't know that this is the right way, but sometimes policy makers say, hey if we have two models and sometimes they agree, sometimes they disagree, let's look only at the places where they agree to try and rely on something because maybe that's a little more likely to happen. By my count, and I can be corrected if I have this wrong, the Water Commission has 110 aquifer systems in the state. In this study, five of them show under all the models that there's higher recharge. Of the 110, only five show there's higher recharge. Three are in Maui Hikina, two are in Hāmākua. There are 35 systems that under all the scenarios show drying trends and it includes the areas with some of the highest levels of controversy including Keauhou, Wai'anae, and West Maui. Reflecting back to the earlier agenda item on the LUC, as you remember, Dawn, because I served with you on the LUC, most of the analysis we got from developers was, well you know the sustainable yield is X and our use plus existing use is Y and there you can stop your analysis. Without that kind of robust conversation, yeah that's the last version of it, but we are looking at things. You could have a body like the LUC or the counties making decisions based on a future that actually might well not occur. Thanks for indulging me.

CHAIR CHANG: Good point, thank you, appreciate that.

JOHN HOFFMANN, USGS: Thank you, Chair Chang. This is John Hoffman, I do not have any comments. Thank you for giving us a chance to present and we're happy to answer any questions that might come up.

CHAIR CHANG: I noticed that both Alan and Sarah are part of your team. Did either of you want to add anything else?

SARAH ROSA, USGS: Thank you, Chair, just here to support Heidi. Mahalo.

COMMISSIONER KAGAWA-VIVIANI: I do have one more question and it is directed at Alan. For Alan, it occurred to me, how did, and Heidi, how did this recharge modeling effort consider increasing potential evapotranspiration with rising temperatures?

ALAN MAIR, USGS: Aloha. Heidi, I'll take a stab at answering that. My name is Alan Mair, I'm a hydrologist with the Pacific Islands Water Science Center. Regarding the potential of evapotranspiration rates, we use two different types of projections, the dynamical downscale set of projections with the HRCM. Those sets of projections did include information that would be needed that we deemed necessary to calculate changes in potential evapotranspiration. The other set that is the statistical downscaling set of projections did not include enough information to estimate changes in ET (evapotranspiration). We chose for the simulations that Heidi presented, potential evapotranspiration or reference evapotranspiration was kept constant, the same, in both sets of simulations. However, in the study we did run a sensitivity analysis using the information from the HRCM set of projections to see how changes in things like temperature would affect the recharge estimate. That's covered in a section of the report, but we didn't estimate what, again just to be clear, the information that Heidi presented just assumed no change in the ET rates and that the only change you saw was changes in rainfall and in the runoff estimation.

COMMISSIONER KAGAWA-VIVIANI: I know you're not supposed to speculate, but it is possible that those downward trends may be underestimated because you're not considering increased demand, atmospheric demand for water?

ALAN MAIR: Yeah, its buried in the report, we looked at one other factor was increased atmospheric carbon dioxide concentrations and their effect on ET. You tend to see there are some detrimental effects in terms of recharge from, let's say increased temperature, but also if you look at potential effects from increased carbon dioxide, atmospheric carbon dioxide concentrations, that may actually act to offset some of those warming induced decreases in recharge. There's a trade-off there, but again that's covered in that section of the report where we talk about those different types of effects.

HEIDI KĀNE: I'll just add quickly that the section of the report is called *Effects of Selected Climate Inputs on Estimated Recharge*. It's in there.

CHAIR CHANG: Heidi, DLNR, we manage forestry, watershed protection and invasive species. Did you take into consideration the impacts of invasive species and the erosion? I think about, in particular on Molokaʻi, where we've got a lot of invasives. Are those things considered into your models at all?

HEIDI KĀNE: They currently aren't, at least for the stuff that I showed today. However, that is one of the things that could be improved upon in the future is understanding how certain species have an impact on the land cover and how that impacts recharge. We did take into account kiawe for this study because we had data on that that was available for the distribution of kiawe around the islands. Allen did an analysis that took that into account as part of the recharge estimate, but for other species we did not and it could be one of the ways that this work is improved.

CHAIR CHANG: It's just when Jonathan mentioned from a policy standpoint, we at DLNR, we're transferring a lot of our forest lands, they're currently ag(riculture) leases,

into transferring over to DOA (Department of Agriculture). We want to keep a lot of those as forest reserve for water recharge, so it does help us make potentially those kinds of decisions now for future protection of our watershed. Thank you.

HEIDI KĀNE: There's a report that we did alongside this report that's worked by Alan Mair, so if he wants to add to this you can. It did take into account some land cover changes in that report and how it does impact the different water budget components and groundwater recharge.

TARA ROJAS: Tara Rojas, I'm really hoping that upon hearing this presentation about the mid-century, end-of-century drought prediction as well as your CWRM presentation November 2023 and just understanding the issue with our water, that you take it into consideration, that you act on this urgency to conserve water which means that all the related and connected agencies that are, as you mentioned when you were on the Land Use Commission. Then you hear the developer say that's the issue with this over development and agencies that we have to develop. You have to keep in mind that the people come first over these developers, over the tourism because when there's a conservation request put out, it's the people that are asked and always need to be conserving. Please keep this in mind, stop the overdevelopment, and continuous developing knowing that we have limited water resources and a drought prediction. You all have the most important decisions to make that affects our current and future generations regarding water, mahalo.

## D. NEXT COMMISSION MEETINGS (TENTATIVE)

September 17, 2024 (Tuesday)
October 15, 2024 (Tuesday)

The meeting adjourned at 01:23 p.m.

Respectfully submitted,

*Iwalani Kaaa*

‘IWALANI KAAA
Commission Secretary

APPROVED AS SUBMITTED:

DEAN UYENO
Acting Deputy Director

**WRITTEN TESTIMONIES RECEIVED:**

Please refer to the Commission website to read and view written testimonies received:
https://dlnr.hawaii.gov/cwrm/newsevents/meetings/