

MINUTES
FOR THE MEETING OF THE
COMMISSION ON WATER RESOURCE MANAGEMENT

DATE: July 21, 2020
TIME: 9:00 am
PLACE: Online via Zoom
Meeting ID: 947 2745 7953

Chairperson Suzanne D. Case called the meeting of the Commission on Water Resource Management to order at 9:00 a.m. and stated it is being live streamed via YouTube for public viewing and noted the meeting was set to take live oral testimony and any written testimony would be acknowledged when the submittal items come up. Chair Case also read the standard contested case statement.

MEMBERS: Chairperson Suzanne Case, Dr. Kamana Beamer, Mr. Michael Buck, Mr. Neil Hannahs, Mr. Wayne Katayama, Mr. Keith Kawaoka, Mr. Paul Meyer,

STAFF: Deputy M. Kaleo Manuel, Mr. Roy Hardy, Ms. Lenore Ohye, Mr. Dean Uyeno, Mr. Charley Ice, Mr. Neal Fujii, Mr. Nicholas Ing, Ms. Rae Ann Hyatt

OTHERS: Mr. Michael Pietsch (Maja Holdings, LLC), Ms. Tracie Sober (Driller), Ms. Janice Fujimoto (Dept. of Ag), Mr. Brian Kau (Dept. of Ag), Mr. Brian Ishii (Dept. of Ag), Mr. Kirk Saiki (Dept. of Ag)

COUNSEL: Ms. Julie China

All written testimonies submitted at the meeting are filed in the Commission office and are available for review by interested parties.

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A. APPROVAL OF MINUTES

June 16, 2020

PUBLIC TESTIMONY – None

MOTION: (BUCK/MEYER)
To approve minutes as submitted
UNANIMOUSLY APPROVED

072120 00:07:40

B. ACTION ITEMS

1. Approval for Maja Holdings, LLC Applications for a Ground Water Use, Well Construction & Pump Installation Permits, Maja 2019 (Well No. 3409-025), TMK (1) 6-8-004:001, WUP No. 01092 New Irrigation Use for 0.004 mgd, Mokulē‘ia Ground Water Management Area, Mokulē‘ia, Ko‘olauloa, O‘ahu

PRESENTATION GIVEN BY: Mr. Charley Ice,

Mr. Ice presented the submittal item and provided brief information of the request. Maja Holdings, LLC (Mr. Michael Pietsch), requests for irrigation water of 3,780 gpd to irrigate crops on residential property located in Waiialua, O‘ahu on Crosier Drive (referred to Exhibit-1 and other maps). Mr. Pietsch want to be “off” of the municipal water system which serves him about 4,000 gpd and may be paying residential rates. His agricultural crops include: coconut, banana, monkeypod, plumeria, kukui, kamani, kou, and has plans to plant citrus.

Referred to Table 1 pertaining to the Mokulē‘ia Aquifer System sustainable yield. There is ample allocation from sustainable yield to accommodate this request. Out of the existing allocations, most is not used.

Comments received were from Board of Water Supply as they thought he might reach brackish water when he goes down. However, not certain as the lot has a considerable sedimentary wedge that’s on top of the basalt, so there’s a caprock there that’s fairly non-permeable. The driller is expecting to go down as much as 450 feet before reaching the basal aquifer. There are 32 wells (28 are abandoned and four (4) are active) within 1-mile of this source. It does not trigger a Chapter 343 EA nor will it affect traditional and customary practices.

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QUESTIONS

Commissioner Buck – asked what’s the source of the county water that services this applicant? Is it connected to the source this well will tap?

Mr. Ice – replied they’re probably connected; I think the main HBWS source is just up Kamehameha Highway, up-gradient of this proposed well.

Commissioner Buck – noted that by looking at the aerial photograph, it looks like a beach residential lot and not too much for agricultural (purpose) and from the description, the applicant seems to want to be more self-sufficient in being able to use well water, rather than depend on county water. It’s an interesting case from a sustainability perspective, does that makes sense in the big picture? I admire someone wanting to get off the grid, but this definitely is not an agricultural lot. What would be the precedent if all of a sudden everyone wanted to go that route?

Mr. Ice – answered it’s a fair question and my answer will be in two parts. The amount he’s asking for falls between what’s considered a planning standard for a normal residential unit and that’s understandable given the use he’s putting it to; but it’s not usually what we expect of an ag parcel either but falling in-between the two. It seems they’re playing it safe to make sure they have your blessing on the project. The other is having more straws is not a problem

because if they're all spread and having small withdrawals, this is a good way to use the aquifer rather than to pump it all from one location.

Commissioner Hannahs – thanked Charley for his report and asked the difference of the potable water the applicant will tap with this well and the “precious drinking water” that comes through the municipal system, is there a qualitative difference?

Mr. Ice – answered that the municipal source is up-above any of the cap rock formation so they're drilling directly down to the basal aquifer which is flowing with good volume towards the coast. It runs through their piping system and its high-quality water. When you think about drilling beneath the cap rock, it's a question mark how deep to go and what quality they will find there. Some suggested there could be tidal or ocean influence. It's a good question because the water levels are very high on the Mokulē'ia side so the well could also be artesian. .

Commissioner Katayama – asked in regards to the conditions of the well where is the language that identifies the well operators responsibility in maintaining the quality or not contaminating this pool of potable water? In the language of the permit application, you used the word public interest, is it synonymous with public trust?

Mr. Ice – replied that the public interest is somewhat broader than public trust. The public trust is considered to be highly protected and priority kinds of uses whereas the public interest could include commercial uses of water. We have well construction standards which ensure there'll be grouting of the casings that go down to the cap rock until the bottom so it should be protected from contaminants. Does that fully answer your questions?

Commissioner Katayama – noted it's more of the operations and asked if it's in Exhibit-8, the water use permit standard conditions?

Mr. Ice – replied yes it is and asked if there's something more specific needed?

Commissioner Katayama – asked if people are drawing water, are there backflow preventors and asked if there's language in the submittal stating it? Used the BWS as an example in regards to the water quality standards.

Mr. Ice – noted that it does not come up in this case because he has municipal service which was not going to be connected to his well which is going to be a stand alone for his irrigation process. Whatever fertilizer he's putting in is going to be contained on the property; it's a fair question for Mr. Pietsch.

Commissioner Kawaoka – asked if this area is sewer or cesspool?

Mr. Ice – noted he did not know.

Mr. Hardy, CWRM – replied it was an individual wastewater system.

Commissioner Kawaoka – asked on the type of system?

Mr. Hardy – answered a septic system and could look it up.

Commissioner Kawaoka – asked whether, for the parcel footprint, have the necessary well depths been calculated to avoid contamination by the cesspool, etc.?

Mr. Ice – answered the cap rock is impermeable so the drilling will go through quite a bit of it and I would expect a septic system is quite shallow by comparison

Mr. Hardy – responded there's a cesspool on record for this site from 1988.

Commissioner Meyer – asked if there's a Honolulu board well in the vicinity and wondered if there's potential influence?

Mr. Ice – responded the only BWS well we aware of in the vicinity is up on Kamehameha Highway, above the plain and it is upgradient of all the other wells so the influence is the other way around

072120 00:22:13

Chairperson Case called upon Mr. Pietsch to answer questions of the Commissioners

QUESTIONS

Mr. Pietsch – thanked everyone for allowing to be placed on the agenda and noted that Ms. Tracie Sober (the driller) was also in attendance and they both are available to answer any questions.

Commissioner Buck – thanked Mr. Pietsch for joining the meeting and asked if he could explain his rationale on wanting to get off the county water system and wanting a well of his own?

Mr. Pietsch – replied the land is 1-1/2 acres and a lot of open land and trees that were planted by the previous owners and has plans to plant citrus trees and tend to the eighty (80) coconut palms there and felt it was a good time to plant more ag crops and grow it more successfully. We have that lot and the lot next door which is an old railroad easement that we can plant on also.

Commissioner Buck – replied I'm sure you're aware of the expense of putting in a well. It's quite large compared to utilizing an existing well by the county, was that factor to go in this direction?

Mr. Pietsch – answered it was a factor and we'll discover actual costs when getting deeper into it and the quality of the water.

Commissioner Katayama – asked if he will have an intermediate storage tank from the well on your property and what kind of safeguards on pumping system to ensure there's no groundwater contamination? And where are you turning on the water on the property without any interlocking airbreak?

Mr. Pietsch – referred to Tracie for comment

Ms. Sober – responded depending on what the well can do, a storage tank may not be needed. There's check valves on pumps and need to do a sanitary seal at the surface for the well so

there's no contamination into the aquifer. And following the Commission's rules, if we go through one aquifer we have to have solid casing throughout the whole to avoid contamination.

Commissioner Hannahs – thanked Mr. Pietsch for bringing this item to CWRM and asked if property served by a cesspool and not septic system and asked if there are plans to upgrade it and asked if he had concerns about the dangers of contamination to the water source?

Mr. Pietsch – commented it is a cesspool system and to his knowledge no dangers and noted there was an upgrade done a few years ago and its' been serving well.

PUBLIC TESTIMONY – None

072120 00:27:46

Chairperson Case asked the asked Commissioners for a motion for item B-1

MOTION: (HANNAHS/KATAYAMA)

To approve B-1 submittal as submitted.

APPROVED

Commissioner Beamer abstained from vote due to joining the meeting late

072120 00:28:50

C. PRESENTATIONS

1. Briefing on the Agricultural Water Use and Development Plan Update

Ms. Lenore Ohye, CWRM Planning Branch Manager introduced the presenter and reiterated the process moving forward in which staff will be publishing a 90-day notice of state-wide public hearing as required by law, to gather any comments on the plan. Following the hearings, Department of Agriculture will make any revisions deemed necessary based on comments received. Staff will then schedule the plan for Commission action on an upcoming agenda.

PRESENTATION GIVEN BY: Ms. Janice Fujimoto; Engineer, Dept. of Agriculture

Ms. Fujimoto provided the briefing on the Agricultural Water Use and Development Plan Update completed in December 2019. Also assisting from Department of Agriculture is Mr. Brian Kau, Administrator and Chief Engineer and Mr. Kirk Saiki, Engineer and Program Manager; and Mr. Brian Ishii of EKNA Consulting.

Noted that the AWUDP 2019 Update does not supersede the 2004 AWUDP however it builds upon it as it is a living document that will continue to be updated in the future. The objectives of the plan are to address requirements of the HRS, 174C-31(e) that includes to identify source of water used by Ag operations and develop a 5-yr program to repair systems, among other objectives. The big component of the AWUDP is to study the irrigation systems throughout the State. Another component is to do site inspections of each irrigation system. A big difference in the two studies is that in the 2019 study it shows almost all the systems are privately owned and operated whereas back in 2004, it was mostly public systems. Some of the landowners of the privately owned systems chose not to participate in the plan project

study, in which case the consultant relied heavily on satellite imagery as well as historical information.

The study also shows 2004-2014 Capital Improvement Projects that are completed and ongoing. An example of an ongoing CIP project is the Waimānalo Irrigation System – Maunawili Valley Improvements. The open ditches will be replaced with enclosed pipelines.

Touched on the updated map layouts and components in the updated plan which provides more information in regards to the service area and crops within the water system. Briefed on the 2004 AWUDP Ag water demand and variations based on a farm meter data study in Lālāmilo, Hawai‘i Island and showed sample tables of the variations in water demand with different types of crops. Reported surveys were taken from 113 (farmers) respondents statewide in which the survey responses were shared and presented in table form. From the responses, the Agricultural Water Demand Planning Rates was formed based on description of crops and water demand on gallons per day/acre.

The 2019 AWUDP will help to support Ag diversification and sustainability while promoting self-sufficiency for Ag farmers.

072120 00:52:35

Chairperson Case opened up for questions to the Department of Agriculture

QUESTIONS

Commissioner Buck – thanked Janice for her presentation as it is a critical issue dealing with and asked Lenore what is the Commission’s role, if it’s for approval or information only?

Ms. Ohye – answered it’s just a briefing and the Commission’s role in the AWUDP is to adopt the plan officially. As in the Hawai‘i Water Code rules, all components of the Hawai‘i Water Plan, need to go through a public hearing whenever they affect a county and it’s a statewide plan so it’ll be done on all islands. It also requires formal Commission adoption which will be sought after the public hearings.

Commissioner Beamer – Mahalo to Lenore and Janice and commented that locally produced food is highly important and admired how (the plan) is trying to help farmers be successful. Asked, if there are CIP’s for private systems? Do we ever allocate CIP for private systems?

Ms. Fujimoto – responded that for the private systems that DOA was not able to gain access to, it is privately owned and operated so in the end, it’s incumbent on irrigation system owner to do any CIP and make sure the system is running properly. Believes the AWUDP provides a documented plan for them (farmers/landowners) to follow, but it’s really up to them what they want to do with their property/system. We have recommendations but we don’t have funds that we provide.

Commissioner Beamer – asked if its prioritized in these projects?

Ms. Fujimoto – replied that in this report we did recommend CIP projects for each of the private systems, but don’t have a funding mechanism which is the tough part.

Commissioner Beamer – noted that if there's no proper stewardship of water, if any CIP is allocated to a private system, there should be something in there that requires an easement or ability for us to go and look at the system in the future. My second question is the water use rates per gallon per day, and I appreciate a look at the Lālāmilo study earlier; from the methodology you're using seems you reported what people were using and that's one way to suggest people are using this amount, anything in your methodology that looked into compost and mulching over land cover because its different than what people are using, did you look at the different land use methods and how that affected demand or need for water?

Ms. Fujimoto – answered that it just focused on using the water meter data based on what their farming practices were which typically falls into the category set forth. There may be farms out there that employ other methods, if they do maybe their water usage is lower; if that were the case I would expect that would have been incorporated into the average; but whether or not we had farms that used that practice, I don't know.

Commissioner Beamer – commented that as it's going through public hearings, one thought and as a Commissioner, realizing in some cases there's not much water to go around and we need to exercise and encourage the most current and prudent practices and certainly making farms sustainable. If in this process there's a way to consider what does compost and mulching look like in terms of water use and to have alternate numbers, I think is really important, especially for some of the dry areas where the demand is high.

Ms. Fujimoto – responded I would have to think about how that might incorporate. We were not anticipating this extra round of public comment on our document. Our funds and ability to do extensive changes to the plan might be very limited, but will make note of it and when we do future AWUDP, if it turns out the comments are warranted and more significant in scope to address, will catch it the next time around. We also need to get a sense on how to address the composting issue and what kind of things it has with Ag water usage. We have been focusing on what the Ag water usage is and less of what the farmers practices are. In general, we shy away from dictating how farmers run their business but there are suggestions that can be made which can be helpful.

Commissioner Beamer – replied that he supports farmers and their small businesses, but the questions were not so much about the farmers operations but noted that water is a public trust resource but the duty as a Commission is ensure the most efficient and reasonable use of that water. If we're just looking at what they're using and reporting and suggest that's the amount they need, I'm not sure that's the most reasonable and beneficial use. We got to think about composting and crop cover, at least from the role of CWRM. I understand you're in a different standpoint, this is where these plans can coalesce and link together. Thank you Janice, this is really important work.

Commissioner Hannahs – commented he appreciates Commissioner Beamer's line of thinking and questions and wants to build on that. We're constantly looking at this issue of efficiency of transmission, as we allocate the resource, we don't want to over allocate to accommodate system losses due to decrepit infrastructure. Do you track or evaluate the quality of infrastructure that's in place and do you rate systems for their system losses, to help the owners whether State or private to improve efficiency?

Ms. Fujimoto – replied that's the plan we're putting forth in the CIP programs. For each of the systems that were visited there's not a rating system per say, but for each of the

components that were visited, there is a ranking of whether or not the components are considered to be in good, fair or poor condition. The CIP projects associated with each system is based on trying to address those issues in coordination with the irrigation owners as to where they need the water the most.

It's a combination yes, no answer as we make recommendations based on where we're finding the systems need most work which is commonly where there's most losses. Inadvertently they go hand-in-hand. We may have addressed it more from the standpoint of how we deliver water the best. We'll also be addressing how the water is maintained and avoiding system losses.

Commissioner Hannahs – asked do you see a way this Commission can align with you (DOA) in inducing investment by giving lower allocations to systems that are highly inefficient? (they want higher allocations they need to make better use of their water).

Ms. Fujimoto – answered I would have a hard time advocating for that as it seems like the “hammer” coming down before the system owners have a chance to address and correct it. Part of the problem is a lot of these systems came from the big old plantation systems; the Big 5 when they had the resources to keep it running well. As the systems got fragmented and under the ownership of small owners/operators, funding is difficult. I'd rather see the Commission make a push to try to get funds to help these farmers and system operators get funding to fix their systems, rather than pinning them into a corner where they may not have the ability to address them and not have the financial means, then they don't have any water to irrigate their crops.

Commissioner Hannahs – appreciated your earlier comments about the State not being dictatorial and I think your characterization of what I propose is a “stick” approach and not a carrot approach. What is your carrot approach? I think it's the Department of Ag's kūleana then CWRM's to establish some vision for a modern era of Agriculture that has got efficient infrastructure.

Ms. Fujimoto – replied it's a good question; what we put forth in the AWUDP is an evaluation of where we are and some goals of where we'd like to be, but how do we get from here to there is another question.

Mr. Brian Kau; Division Administrator, Dept. of Agriculture – thanked Janice and noted it's a complicated question. The Department of Ag does not have any compelling regulatory authority over non-State systems. We're not able to dictate to the farmers, what they want to grow, where and when they should grow; it's not how we're setup to operate and don't have the resources or authorizations to do that.

Having a broad view of where we want and desire agriculture to go is certainly what the department develops in its planning. However, we stop at the point where we have influence on their individual business practices because we don't have the authority in telling them how to do their job.

Commissioner Hannahs – responded he appreciates individual liberties and business decision making, but if they want to grow a thirsty crop in an arid area and they're pressing our Commission to supply their need of a limited resource, in some ways we're denying the opportunity for more land to be put in productive use; whereas if someone counseled or

guided the private agribusinesses to grow more place appropriate crops that can be irrigated with the water resource in that area, it allows Ag to flourish more and preserves the resource.

Mr. Kau – agreed with statements and added – one thing that we’re trying to establish at the department (of Ag) is that future farming should be viewed as a business. In order for farming to be successful and for agriculture to attract the next generation of farmers, they need to be able to make a standard of living. In order for them to do so, it doesn’t make sense for them to grow a water intensive crop in an arid area. Infrastructure costs would be high, in theory they’ll be paying for water necessary to harvest that crop. That crop would need to be of high value to have a business plan to overcome those issues, but I don’t see it being prevalent.

Commissioner Hannahs – asked how do we make it prevalent and look forward and work together to achieve the dreams and vision you have for agriculture that we have as well, and to make optimal use of the limited resource we have and ensure it’s there for future generations? What would be your suggestion to us for ways at the Commission level to better support the agricultural industry of Hawai‘i.

Mr. Kau – replied it’s a tough question. The Department of Agriculture has a unique position in that it advocates for one industry, however as public servants we do have a responsibility to recognize there’s other demands for a limited resource, such as cultural, environmental and commercial all demanding this limited resource we have. You have a tough job, there’s no question about it.

To answer your question specifically about how to support future agriculture, all I would ask is you continue to give the requests for water for farming purposes equivalent weight when compared against the requests for everything else, and there’s recognition that in order for farming to be a successful business, the farmer has to be able to make “on the fly” decisions on the type of crop grown and not be limited by the available water they have. I’m not saying they would need to over commit to what it is they’re growing, but to look beyond potentially what’s proposing for that day that would allow them flexibility to move into a more water intensive crop; at the same time move into a less water intensive crop, and be done over the course of their farm business.

Commissioner Hannahs – understood the difficult questions posed during this huli ao (great change or big turn) and if there’s a way we can and as we recover, do things that contribute to a more successful vibrant thriving agricultural business and more sustainable food system for Hawai‘i, we’re looking to figure out, we at our level, the Commission support that; thank you Brian and Janice.

Commissioner Katayama – thanked Janice for her report and asked as you’re developing your plan, you’re looking at the improvements to the existing systems, do you refer back to the general plans of each of the different counties of what their expected growth and allocation for where they look for ag clusters to be developed as opposed to where the systems are currently? In other words, IAL has been designated so you know you need ag water requirements and in other places where urbanization is in the general plan maybe those systems may need a different CIP requirement where potable water becomes more of an issue than ag water. How is that comprehended in your calculations?

Ms. Fujimoto – answered that they did not go back to the general plan because the statute was originally intended to focus on old plantation irrigation systems to keep them running. It formulated the basis for where we start and go. In terms of the CIP, it was largely focused on these irrigation systems, whether it was the original thirteen that was studied in 2004 or the expanded list today.

We do have an additional section in the report where we identify all of the IAL throughout the state, as well as the water sources; but that was not the driving force behind which the plan started. The plan revolves around the irrigation systems and then reaches out to the IAL and the land development that can be supported by it.

Commissioner Katayama – asked what is your ability to overlay the county focuses on where ag development should be?

Ms. Fujimoto – replied that we leave the county focuses to the counties. In here we really just focus on the plantation irrigation systems and agriculture as a whole rather than delving into very specific land tracts within each island and county.

Commissioner Katayama – also asked how do you comprehend the different strategic objectives? One objective is to have a sustainable food role the other is developing ag resources and activity, then you have allocation of water depending on where the urban growth is and also urban encroachment into ag, that is always a challenge when the right to farm is challenged with urbanization. All of those will impact your CIP decisions and the ability of the owners to farm. Will that impact your prioritization of CIP standings and how you list those improvements?

Ms. Fujimoto – answered for the Kalihiwai CIP for example, there's three listed, I wouldn't say it's listed in any particular order. There are recommendations that are put forth based on the condition survey done by the consultant and discussions with the system owners; however, as stated earlier we don't have funds and the ability to require system owners to do what we ask of them so its incumbent on the system owner to do what they see fit for their property.

Commissioner Katayama – responded should the focus not look at CIP but what the required ag water use in the various systems be? It helps us, the Commission, and probably helps the Department's understanding how to achieve substantial internal sustainable food growth and production. The urban sprawl needs to be more focused to balance food production; that's the value of the ag water plan as oppose to how many dollars people need to spend.

Ms. Fujimoto – agreed that's an interesting perspective and it wasn't taken from that standpoint, we took it from the standpoint of inventorying the water systems and agree it is a challenge.

Commissioner Kawaoka – thanked Janice for her presentation and asked with agriculture as your focus in your presentation, we had the demise of the big agriculture that took a while to happen and it did happen, and you fast forward to now in Covid-19, which brings the same questions like what's going to replace the big agriculture or tourism? From the standpoint from various department like ours (DOH), we're getting inundated in terms of demands and money. We just got through legislature last week and we're going into the next session; I bring up the point of strike now while the iron is hot, and agriculture is certainly one of them.

I'd like to get your ag thoughts on what kind of initiatives you're proposing and small areas that could get attention from the legislature because I think they see that tourism may not come back as it was; and what's to replace that? I keep hearing diversified agriculture is one of them, what's your thoughts?

Mr. Kau – replied it's a good question which probably no one has the answer to at this point in time. I think one thing Covid clearly identified was the desire and support that the local residents had for purchasing locally grown produce, in addition to the freshness and availability of it. People came out in huge numbers to purchase these boxes of produce that were being aggregated and made available publicly outside of the ag community. It was made aware with advertising on the radio letting everyone know what was available, where and how.

We have put in requests to the legislature for various priorities for authorizations to capital improvements for land as well as water. Land improvements to increase the farmable areas, water improvements to increase efficiencies to reduce loss and manage flows better to report back to you.

In this Covid time, it's difficult to choose what area gets what financing. We understand there's a limited dollar figure whether it be through capital improvement bond sales or operating funds through tax collection. We can continue to promote what we have and encourage farmers by the demand for their food and going through educational classrooms and training programs like UH CTAR are not forgotten. The counties are also interested in providing grant funding and all these put together is taking us in the right direction.

Commissioner Kawaoka – noted that based on Janice's presentation the big agricultural companies constructed and used for many decades a water transport system; I'm hearing that overall you want to maintain and fortify the systems which you are well aware that there are other groups that want to get rid of those systems and return it back to nature, those are always conflicting demands. Your stance is we should try to fortify maintain and sustain those systems.

Mr. Kau – responded that they are well aware that not every system should be maintained as it was twenty years ago. Urban encroachment and development have had a significant impact on whether or not certain parts of systems are even relevant right now. Some searching has shown that residential development cut entire old plantation systems, making anything further downstream not feasible.

We're aware of those things and try to plan around, address and recognize them and sometimes a system or portions of it cannot be saved. We'd like to maximize the use of the water and land resources we currently have and show it's a viable business opportunity. From there we can look at potentially expanding additional lands and addressing the water resource needs.

Commissioner Kawaoka – commented that going into the next legislative session a few months from now, we all have difficult initiatives to go forth with especially with a limited treasury bucket. Department of Health's standpoint overall is here and now, we're dealing with it. I think you folks have an important part to play, but also a long-term situation maybe

legislation don't see; they don't realize we need to do things now; I'm sure those things are in place in the future.

I appreciate your candidness, both of you. It wasn't meant to be any trick questions. I think all Departments are faced with those situations, including DLNR and DOT; it will be a very interesting session; thank you, thank you Chair.

Chair Case – added what I'm getting from this discussion is what we're wrestling with is the public purpose and benefit. I see it coming on two sides. One, in terms of allocating our sometimes scarce water resource, the Water Commission's focus on how to make systems more efficient and farming techniques more efficient is because we have to balance these variety of uses, some of which are environmental, cultural, commercial and domestic. I think it's important in this plan if you're going to put in data about the water use per acre under certain conditions, to make it clear those are current uses and not necessarily optimal uses because that's what this Commission has to focus on and it's one important aspect of the public benefit and purpose.

The other is a careful eye on what's the public benefit of investment in these systems. It's a very complicated situation, now it seems everyone is focused on because there used to be one or two big export crops and now presumably private systems and investment in those and private profits from those systems and we're looking at private dollars for this.

We just need to keep an eye on what are we trying to do with this. Right now, everyone is focused on trying to build up industries to diversify our economy. Agriculture has an important place as a guard against expanded urban uses. There's other areas like our native forests, we want to make sure we don't diminish them or our opportunities to re-forest in our investment in agriculture.

It's a tremendous balancing act and the important thing is to be clear what those benefits are. Are we doing it for tourism, our local economy, land use preservation? Are these people selling their crops to local people or are they being exported and sold? It's an interesting place for discussion because you're working on a plan for a specific purpose that has to be approved by the Water Commission whose got a broader scope.

Commissioner Buck – noted to Brian on following up on Commissioner Hannah's comment on Department of Ag and DLNR can work better together. Some of the private systems, they own the systems but don't own the water, it's a public trust. There's instream flow standards and other public trust uses of the water we can't ignore. We are struggling in some of our decisions of how do we encourage a private sector of old water delivery systems to deliver public trust benefits, which are not going to be charged.

This whole issue of how do we prioritize CIP for ditch improvements, we understand there's a political component in that but I think if we can work together to identify the systems that not only helps support sustainable agriculture but supports public trust benefits as well, and also look for some of the future uses of the water. We're finding a lot of the things we're doing is going to be a lot of traditional and cultural kalo production in many streams that were not there before because there was no water.

I'm very interested and will be looking very closely at any prioritization of public dollars and CIP, but coordination between Department of Ag and the Commission about what are the

water systems that not only help ag but produce a high level of future public benefits, and go to legislation both supporting the same type of CIP improvement, I think would be useful. Thank you for this important work.

Commissioner Beamer – thanked Lenore, Brian, and Janice and for reworking some of the plan because of the budget and want to encourage that to take place at some capacity. I believe agriculture is critical for the future of Hawai‘i, local food systems are really important.

You have an incredible opportunity here to reshape and rethink agriculture and the questions around water use and efficiency aren’t to get involved in peoples’ business models, it’s the reality we’re moving to. Climate change will be dictating lesser amounts of water that we can allocate. Getting in front of conversations about efficiency and land use to support ag for the future is important and you have a critical role. Anything I can do to help support, please let me know.

Chairperson Case – thanked Lenore, Janice, and Brian as this was an interesting topic and important part of the planning process. This dialogue between the Department of Agriculture and the Commission is an important one, so we definitely are interested in this and appreciate all your work on it and look forward in continuing this discussion.

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C. PRESENTATIONS (CONT’D)

2. Progress Briefing on CWRM Water Audit Program

PRESENTATION GIVEN BY: Mr. Neal Fujii, CWRM Planning Branch

The Water Audit Program was in conjunction with Department of Health, Hawai‘i Community Foundation, Water Systems Optimization (the contractor), and EPA which helped to fund the project. (NOTE: Hawaii Community Foundation also helped to fund the project.) Act 169 helps to implement the Commissions Water Conservation Plan (2013) which requires the Commission to implement the Water Audit Program. The AWWA also affects 100 public water systems. The AWWA is currently in Phase 2 which was due July 1, 2020. Act 169 authorizes \$600,000 in federal and \$100,000 in private funding. Most of the monies were used to hire the contractor to assist as it was brand new program to CWRM.

The water audits are the first step in the water loss control program which determines loss volume, distinguish type of leaks, evaluate economics, and implement interventions to prevent water loss. Water loss is defined by the AWWA methodology defines as apparent and real losses. Real losses are actual physical leaks to any distribution system. Apparent losses are not “real” water loss, but for instance could include a wrong customer meter reading or incorrect data inputting.

Hawaii WAVE stands for the Water Audit Training and Technical Assistance Program that is broken into four “waves”: outreach and introductory workshops, follow-up and practice audits, intermediate workshops, and water audit validation. Currently, (the project is) in the tail-end of WAVE-4.

Key lessons and challenges learned for both Phase 1 & 2 are: Knowledgeable consultants are invaluable; early outreach to industry is important – communication is key for buy-in; support from utility upper management critical; practically no source meter testing / meter installation quality control; we're here to help: utilities are apprehensive; persistence – would be good to have some teeth in the legislation; large-capacity PWS includes non-utilities: school & hospital campuses; national parks; etc.; AWWA water audit not ideally-suited for non-utility PWS.

QUESTIONS

Commissioner Buck – asked regarding having persistence and “teeth” in legislation

Mr. Fujii – answered that the way the legislation is written there is no enforcement authority and the way the law was passed, it is written into a session law and not incorporated into a statute nor the water code. In the act itself (Act-169) it does not state any actual enforcement, therefore because it's not under the water code, the penalty policies under the code does not apply. For the most part we had good compliance, there's been some resistance but okay so far and we need to look into that in the future.

Commissioner Buck – asked if there are any incentives that might help to stick with enforcement?

Mr. Fujii – replied continued training but the Commission is not in a position to offer any of that at this point, but I'll talk more about some funding opportunities that the smaller utilities can take advantage of that.

Commissioner Buck – asked are there examples in any other states where this increased auditing have saved money for the utilities?

Mr. Fujii – answered can't give a specifics but besides Hawai'i having this requirement from AWWA validated audit, California and Georgia are the only two other states that have implemented. There's opportunities and costs associated with the losses that I'm sure some utilities on the mainland have used these as a cost benefit analysis and looking at recovering losses, be it real or apparent, in order to justify their costs. We're not there yet, we're into the third year for the counties and first year of the large-capacity management areas.

Commissioner Beamer – asked on the fifth bullet regarding the lessons and challenges

Mr. Fujii – responded that because the program is called a “water audit” program, part of this elicits a response of “oh no, an audit”. It's a financial audit in a sense but we're dealing with water instead of dollars. We do help with advice and information and encourage them to get onboard. It's a good tool and should be a best practice tool for our utilities. Once they realize the value, they're getting onboard. Some special cases that aren't utilities and not in it to make money like a school or hospital campus, are just providing water. Some are tiny as far as the water their supplying. From the policy standpoint as Commissioners, do we chase every small system or do we focus on the larger county systems, privately or federally owned?

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(continued with the presentation & questions)

The 2018 total for County water system supplied into the distribution system totaled 215 mgd.

Chair Case – asked (referring to the County system results summary table, slide 18) what's the total or percentage of the delivered water is real loss?

Mr. Fujii – replied the percentage of loss is a little over 10%; we don't like to use a percentage as a metric as it could be deceiving. The performance indicators are normalized by number of service connections and the miles of main.

Commissioner Beamer – referred to the picture of a busted pipe and asked about real losses and consistent evapotranspiration

Mr. Fujii – responded that real losses are every and any physical leak in the distribution system. Real losses aren't necessarily measured, but more of a deduction. We take water coming in, what's your authorized and unauthorized uses are and come up with the total loss for your system, then you estimate what your apparent losses are, then subtracting that out for your "real" loss.

Common opportunities for water loss control include: data management, meter testing, surveys, leak detection, and database auditing. In the Phase 2 practice audits, the military systems were not included as they did not participate.

Commissioner Beamer – asked and referred to the 2018 practice audit chart referencing the areas of Waikoloa, Ka'anapali and the amount of water utilized for those systems

Mr. Fujii – replied this is water supplied into the distribution system; any wells or surface treatment plants or importing water. The Waikoloa area covers the Waikoloa Village and down to the resort area which is the biggest privately owned one in the State. Water supplied into the system in the Phase-2 statewide study which included Joint Base Pearl Harbor-Hickam, totaled 41 mgd. Once all the audits are completed, the data will be compiled.

Our concern is the "real" losses, the physical leaks, to address that. It will take time and we've been told and heard from the California and Georgia experience, it typically takes 4-5 years of good audits for them to be confident in what the data shows, in helping them make decisions and address the real and apparent losses.

There also has been many reported success stories throughout our state.

QUESTIONS (CONT'D)

Commissioner Meyer – thanked Neal for his work and noted it's on the cutting edge and still trying to make sure the utility companies and large users are efficient and continue to improve. I would like to see more frequent reporting on the results of the audit particularly what you regard as preventable or fixable losses an inefficiencies; so we as a Commission are more aware of that and perhaps bring additional pressures to bear, via County Council or the Water Utilities, I think is a very important area. Again, your work is on the frontline in terms

of telling us how things can be improved; thanks very much, I really appreciate your results and work.

Commissioner Buck – thanked Neal for his presentation and noted that the Commissioners have talked about system losses, so that's 12% for the Counties.

Mr. Fujii – followed up on Commissioner Meyer's comments in regards on looking at these results and people looking at the percentages which can be deceiving at times. These losses aren't (all) necessarily recoverable. If you get more into the evaluation, there's an economic factor that would maybe limit a water utility to start recovering their real or apparent loss. Also, how much we want the utility to spend to go after every (operator), is something to think about. I'm cautioning that it's information and provides the Commission as a policy guidance with good information and tools on the ways to look at (water) systems and inefficiencies; just a cautionary note; thanks.

Commissioner Katayama – asked are the military systems an active participant in this water audit?

Mr. Fujii – replied that the last time I presented to the Commission we were having problems getting the military on board. I'm happy to report with the three branches we're concerned with, the Navy - Joint Base Pearl-Harbor-Hickam, Air Force, the Army – Tripler, and Marine Corps Base (Kaneohe); the Navy, Airforce and the Army have participated. They scheduled the water audit validation calls, and in some cases made the water audit (validation) calls and we're awaiting more information. The Army asked for more time so I'm confident we're going to get good audits from them.

Commissioner Katayama – commented regards to military operations, government in water management areas is an integral part of your management.

Mr. Fujii – noted that yes, it's a lot of water

Commissioner Beamer – building off of Commissioner Katayama's comment and asked to bring up a slide which showed that the military usages were the largest, three out of the top five and asked to explain the data

Mr. Fujii – explained the table data which provided a comparison of the practice audit and current, we were able to get water use reporting reported to the Commission as a lot of the military uses wells, or information, come from the Honolulu Board of Water Supply. The Marine Corps Base Hawai'i is what's called a secondary system so they buy their wholesale water from the Board and distribute in their own regulated public water distribution system. In total there's (approximately) eight (8) military systems. We got this information from the water use reporting we receive on a monthly basis and based on that information from the same period, we got the estimate which will vary from year to year.

Noted it is real data which is reported that CWRM receives.

Commissioner Beamer – commented it is critical to get them to participate in the audits, especially in water management areas.

Mr. Fujii – agreed and noted the only hold out is the Marine Corps Base; they're not participating. They don't operate any wells, they're buying all their water from HBWS it's an unusual situation.

Commissioner Katayama – asked what is the “X” axis and is that an annual number?

Mr. Fujii – replied its 6,000 mg/yr, roughly 17mgd; and noted we should be getting back good audits from the military however we are still waiting.

Commissioner Hannahs – noted he doesn't see a cause for alarm or great urgency, there's obvious constant continuous improvement and would like to have the non-participants engaged that would be the most urgent thing here, and the rest seem to be on track. You're finding problems and fixing it.

Mr. Fujii – answered for the County systems, there are almost three years of good data, there's nothing unusual or alarming going on. One of the Counties is taking the info and doing projects which is great. It's going to come down to what it's costing and is it worth it, to do some interventions and recover the real and apparent losses. It looks good but have not gotten a complete data set for the large Phase-2 systems. What I've seen in some of the smaller systems and in special cases, they don't have end use meters so we don't know what's consumed and can't come up with the loss, that's another challenge.

Commissioner Hannahs – asked are you aware of any tools for water auditing irrigation or surface system we could adopt for ourselves or pass on to DOA or collaboration so we could get a handle on those system efficiencies?

Mr. Fujii – responded as far as what's used in our program, it's the AWWA methodology which is a standardized method. In principle, it's a water balance. If you have good data for your water distribution system on what's being delivered to your customers, and information on the other water systems, you could perform a rudimentary evaluation. The problem is there's not great metering or measurement points along the systems and getting a good handle on diverted water into your distribution. We've been talking internally with our SPAM branch on doing it for the Ag or irrigation systems which we could but would need to get the data to actually perform the analysis.

Commissioner Hannahs – replied it's possible we could require more of that as a condition of allocation permits (water use permits).

Mr. Fujii – yes

Commissioner Meyer – Neal (Fujii) you're on to something here, while we don't have the staff necessarily in our systems to manage the quality and maintenance of the ditch systems statewide or island by island, because it's an involved process and the capital expenditure costs are huge; I think on a high-level basis, would be a way of getting a better handle on the condition and potential leakage or losses; and take more affirmative action in the perspective to get things fixed.

Chair Case – I was thinking about your columns of the economic value of the water lost; would it be fair to say for the apparent losses, those are losses you think the end consumer is using the water but the reporting is below what the actual use is, so the loss to the delivery

system, that the BWS is getting underpaid for the water; whereas a real loss in the delivery system, and as you say it's not going to be perfect; so what we're looking for collectively is waste beyond something that is good standards and water management.

The dollar figure there, not sure if that was a retail value of that water; and for the water supplier it's more a question of what the availability of water is and being sure there's no waste involve. This prioritization of the cost-effectiveness of fixing certain leaks.

Mr. Fujii – yes, you nailed it; it is a great summary. As you said, the apparent losses, if it's due to under registry of meters, yes, the utilities are giving that water away; example they're charging (supplying) them \$10 but only getting \$8. As far as real losses, they value that at a lower cost, the variable of production cost they call it; what is the cost to produce a unit of water? It's not the retail as retail costs are more expensive.

Chair Case – it's the delivery; the cost to deliver it right? They're getting the water in the first place from nature and they collect it and deliver it. Is that the figure they're using for their calculations?

Mr. Fujii – it's the cost of putting that water into the distribution system. An example is a variable production cost. The simplest way to calculate this is the cost of electricity for pumping your well and boosters to the elevated reservoirs and any chemical costs related to treat. Because that varies with production, the more you produce the more costs. There are other cost that factors in but generally that's what they use.

Chair Case – the variable costs then would be they would save on those costs if they fix the leak because those cost would go down. I'm trying to understand the financial benefits to the water delivery system of fixing these.

Mr. Fujii – yes and the way it works out is with regard to production cost to produce a unit of water is valued at less than what you're selling it to your customer. That's why although apparent losses are 7 mgd, it's costing them \$12 million; whereas, the 26 mgd of real losses is only costing \$6 million that's the disparity there and for resource management, that's the challenge.

Commissioner Kawaoka – thank you Neal for the update presentation and in line with Chair Case's question, and in your discussions with the various purveyors large and small, while they acknowledge water conservation as water savings is important, they almost acknowledge that's the cost of doing business. Most don't pay for the water itself it's mostly transferring the maintenance of the system. The incentive to do anything here while they may achieve long-term savings, you have to convince the county, water managers and ultimately administrators to go along with the repairs and maintenance of systems, is that what you're sensing or hearing?

Mr. Fujii – yes, they're not paying for the water, they're paying for electricity and chemicals to produce the water. In cases where electrical and variable costs are high, there's more incentive for that utility. There are some systems that's gravity fed surface water it'll cost them almost nothing to produce that water. Also, economic loss, where you're not going to get any return on your investment to recover that loss. It doesn't fit well with resource management.

Commissioner Kawaoka – speaking of the resource, we’ve been trying to get the various municipalities including here on O‘ahu, I mean it doesn’t go by without a water main break somewhere, and that for us translates to a potential non-point source violation. It does potentially go to the ocean and depending where the break is, its spreading run-off, increasing sediment load into the run-off, that is potentially a violation. We’ve been trying to work with DWS about that; that’s certainly the more larger side of water loss.

On the wastewater side, a similar situation occurred, example like the large spill we had into Ala Moana a few years ago, there was an enforcement action brought, it was a way for us, in this case EMV to put in a new asset management system. It’s suppose to look at not just water loss, but potential losses in terms of valves and transmission systems, when you should be replacing and maintaining the systems to prevent water losses or in this case, wastewater losses; maybe not on an catastrophic nature but certainly creates a more of public health problem, like a water main break. That’s a potential avenue or mechanism to use on the water supply side but it depends on the cost they want to put up front to invest in those kinds of systems; rather than to account for or enforce action

Mr. Fujii – yes, it’s another option and to encourage them to be more proactive.

Chair Case – thanked Neal and noted the interest of the subject and complimented his work and efforts regarding it and keeping the Commission informed and look forward to the progress and thanked the Commissioners for their service.

Mr. Fujii – noted it is a team effort.

PUBLIC TESTIMONY - none

D. NEXT COMMISSION MEETINGS (TENTATIVE)

August 18, 2020 (Tuesday)

September 15, 2020 (Tuesday)

This meeting was adjourned at 11:51 am.

Respectfully submitted,

Rae Ann Hyatt

RAE ANN HYATT
Secretary

OLA I KA WAI:



M. KALEO MANUEL
Deputy Director