



Honolulu Board of Water Supply

Stakeholder Advisory Group

Meeting 32 Thursday, October 24, 2019 4:00 – 6:30 pm

Neal S. Blaisdell Center, Maui Room
777 Ward Avenue, Honolulu, Hi.

Meeting Notes

PURPOSE AND ORGANIZATION OF MEETING NOTES

The purpose of these notes is to provide an overview of the Board of Water Supply (BWS) Stakeholder Advisory Group meeting. They are not intended as a transcript or as minutes. Major points of the presentations are summarized herein, primarily for context. Copies of presentation materials were provided to all participants and are available on the BWS website. Participants made many comments and asked many questions during the meeting. These are paraphrased to be more concise.

ATTENDEES

There were 11 stakeholders present, in addition to BWS and CDM Smith staff and members of the public. The stakeholders represent diverse interests and communities island-wide.

The following Stakeholders Advisory Group members attended:

Bill Clark	Resident of Council District 6
Mark Fox	The Nature Conservancy, Hawaii
Kelly Hoen	Outrigger Reef Waikiki Beach Resort
Christine Olah	AARP, Hawaii
Bob Leinau	Resident of Council District 2
Helen Nakano	Resident of Council District 5
John Reppun	KEY Project
Cynthia Rezentes	Resident of Council District 1
Alison Richardson	Coca-Cola Bottling Company
Guy Yamamoto	YHB Hawaii
Suzanne Young	Honolulu Board of Realtors

WELCOME

Dave Ebersold, meeting facilitator and Vice President of CDM Smith, welcomed the group and outlined the meeting objectives:

- Welcome new stakeholder: Kelly Hoen with Outrigger Reef Waikiki Beach Resort
- Hear about recent Red Hill Fuel Tank news
- Review the WMP Scorecard
- Give input on the Water System Facilities Charge for agriculture customers (Ag WSFC)
- Look back at what the Group has accomplished in 2019 and set priorities for 2020

PUBLIC COMMENTS

None.

BWS UPDATES/RED HILL UPDATE

Ernest Lau, Chief Engineer and Manager of BWS, told the group that every year each department in the City identifies the Employee of the Year and the Manager of the Year. He said this year, the Manager of the Year is Kathleen Elliot-Pahinui. She did a great job leading the Communications Office team and has been working hard on the Water Master Plan, new water rates, and many other efforts to educate our community.

He then invited Erwin Kawata, Water Quality Program Administrator, to update stakeholders on Red Hill and upcoming public hearings with the State Department of Health (DOH) and U.S. EPA. Erwin told the stakeholders that the Navy recently released its study of tank upgrade alternatives. He said he would talk about the Navy's reasons for their alternative selection, and what the BWS thinks about it. He said he would update them on the current status of the Navy's Red Hill underground storage tank permit as well as what happened at the latest Fuel Tank Advisory Committee meeting.

Erwin said that Hawaii state law requires all underground storage tanks systems to be operated in a manner that prevents releases for the operating life of that particular facility. A couple of years ago, the Navy identified six different alternatives to upgrade its tanks. The Navy's current single-wall tank is identified as Tank Upgrade Alternative (TUA) 1-A. Erwin said with Red Hill's single wall tank, only a 1/4" steel liner separates the fuel from the environment. The option that BWS likes is TUA 3-A, the tank-within-a-tank. The Navy's recent report said that although the tank-within-a-tank alternative might be an expensive one, it can be constructed using practical construction means and methods.

The Navy's preferred TUA for Red Hill is to:

- Retain the existing single wall tanks in their current form and follow their current practices.
- Implement double wall equivalency or removal of fuel in the 2045 time-frame.
- Determine feasibility for the potential construction of a water treatment plant or equivalent engineering controls in the event of a leak.
- Implement other improvements including installing permanent leak detection equipment, conduct soil vapor monitoring, apply epoxy coating to the tank lower domes, install eight additional monitoring wells and conduct a pilot project to consider fully coating tank barrels.

Erwin said the combination of elements listed below is what the Navy considers to be double wall equivalency:

- Existing single wall tanks
- Existing practices like monitoring of the soil and groundwater
- Potential construction of a water treatment plant to collect and treat fuel that escapes into the environment. According to the Navy, these practices together with the existing single wall tanks provide an equivalent double wall solution that provides a redundant element of detection and capture

From BWS's standpoint, this is not the same as a tank-within-a-tank that prevents fuel from getting into the environment. The idea is to prevent releases in the first place. Leak detection and tank tightness testing measure what has already released into the environment. The treatment plant the Navy is proposing to use currently doesn't exist, and the Navy hasn't committed to buying or building it, nor has the Navy proven the treatment works.

Erwin said the Navy hired a consultant to prepare a risk assessment report. Their consultant said that the Red Hill facility is prone to additional leaks in the future as much as 27% probability of releases between 1,000 to 30,000 gallons in a year. The consultant also said that there is a chance of chronic releases in volumes that currently cannot be measured, but they estimate that around 5,800 gallons are actually releasing into the environment every year. BWS used the same data, and our own calculations come very close to these numbers.

The DOH issued the Navy a letter dated July 16, 2019 allowing the Navy to operate Red Hill pending final review of the Navy's Underground Storage Tank (UST) permit application. The DOH UST rules says that if the DOH takes no action after 180 days, the permit application automatically becomes approved. The DOH accepted the Navy's permit application and deemed it to be complete on May 23, 2019. One hundred eighty days after that date is November 19, 2019.

The Fuel Tank Advisory Committee heard updates on Red Hill at its meeting on October 17, 2019. The committee expressed concerns about the Navy's ability to implement their TUA alternative. Erwin thanked stakeholders who attended that meeting. The public expressed concerns about the single wall alternative and the Navy's ability to prevent further releases in the future.

Comment: The Waimalu aquifer and Moanalua aquifer appear to both lie within a sole source aquifer. If we're calling it a sole source aquifer, that tells me it's one aquifer that shares meandering from one to the other versus separate pockets of water. Would it be better to call it the "Waimalu sub-aquifer" or something other than an aquifer?

A: All of the areas are hydraulically connected. The lines Waimalu and Moanalua aquifers marked on the maps are used by the State of Hawaii Commission on Water Resource Management for the purposes of managing water withdrawal within each of the individual areas. The sole source aquifer area was designated by EPA. We will be sure to explain that the Waimalu and Moanalua aquifers are aquifer system within the larger area of the Southern Oahu sole source aquifer. Ernie agreed that people can get confused if we use the same names to describe different things. At the meeting last week, in its presentation, the Navy introduced a concept of something called the Red Hill aquifer, which doesn't really exist except in their report.

Comment: What I haven't heard explored is if the water does get contaminated. The downside (of contamination) should be really explored because I think that's really a horrible story. If people should have some fear associated with that, let that scenario be known. If it was really a bad spill, the cost of tending to it might be significantly more than the tank upgrades being studied right now.

A: Point well taken. Treatment is a function of the amount of contamination present. And so, while a lot of people talk about using treatment as a way to mitigate water contamination, the amount of contamination actually determines whether treatment can be done. If the amount of contamination present is so high that it overwhelms the ability to treat and causes the treatment to become cost prohibitive, now all of a sudden, we have a situation where clean-up of the water supply becomes unrecoverable. And to your point, the Navy's TUA selection report is not clear. All it talks about is looking at the possibility of constructing a treatment plant and whether it's feasible. Not whether the treatment plant can clean-up low and high amounts of the contamination. That's part of the comments that we've already submitted on this report.

Kathleen Pahinui asked Erwin to expound a little bit on the fact of the Navy's own feelings about their own consultant's studies, and about the outcome of yesterday's community hearing. Erwin said that when the risk report came out, the Navy wrote a letter essentially disagreeing with the outcome of their own consultant's report. The Navy tried to explain the basis for that disagreement and

submitted the letter to the regulatory agencies. BWS thought the risk report that was done by the Navy's consultant was very well done.

Ernie said that the Navy initially proposed that the risk and vulnerability analysis should take a quantitative approach. The Navy may not have liked the results of the quantitative approach. In their recent cover letter, they suggest moving to a qualitative approach. The Navy is still hedging with the clean, inspect and repair process, even though the data from the destructive testing shows that their confidence level was only about 50/50 that they're going to find and repair deterioration correctly. Ernie said he believes the Navy's section of TUA 1-A, the single wall tank alternative, is based on economics primarily. He is concerned about extending the timeline to 2045 from 2037.

Q: Who arbitrates this whole thing?

A: Under the Administrative Order of Consent signed by the U.S. EPA, the DOH, the Navy's Defense Logistics Agency, that final decision is with the U.S. EPA and the DOH. The underground storage tank permit to operate is totally within the control of the DOH. The deadline for issuance of a permit for the Red Hill facility to continue to operate was originally July 15, 2019. We learned just last week that on July 16, 2019, DOH basically told the Navy it can continue operating and that DOH is still working on their permit. Agencies take a long time to make decisions. State law requires that the agency fails to make a decision within 180 days on a permit application that is complete, it's deemed automatically approved. That's BWS's concern.

Q: Is the governor in charge of this for the state?

A: He is the highest state official. Other agencies at the federal level are also involved, however.

Comment: Don't forget that in a number of cases, the U.S. EPA can withdraw the regulatory authority that it has given to the DOH. If the U.S. EPA decides to pull regulatory authority back from the DOH, it could complicate this entire thing.

A: Another thing that could happen is the President could grant an exemption from all state and federal regulations for a period of one year at a time. This is a very complex issue. With important public meetings coming up, the next month is going to be very critical.

Comment: What's going to make it real interesting is whether or not the Maui mayor is going to be allowed to continue the lawsuit up to the Supreme Court in November, because that will probably give you an indication of how the politics is going to play out.

A: That's related to the injection wells for Lahaina wastewater treatment plant for the County of Maui, where nutrients are entering the near shore waters and causing algal blooms and hurting the reef. Generally, what's happening with federal regulations is relaxing them to the potential detriment the environment and natural resources.

Ernie recognized and welcomed Mr. Bryan Andaya, the Chair of the Board of Water Supply.

Dave introduced Kelly Hoen as a new stakeholder in the group, representing the travel industry.

Barry Usagawa, BWS Water Resources Program Administrator was asked to give an update on the Haiku Stairs EIS. He said BWS received more than 500 comments on the draft EIS, and that responses are being prepared. He said no fatal flaws have come up, and he expects that the Final EIS will be completed by the end of the year and sent to the BWS Board for consideration.

WATER MASTER PLAN SCORECARD UPDATE

Dave invited Barry Usagawa to talk to the group about the 2019 Water Master Plan Scorecard. Barry explained that the Water Master Plan created a metrics to track progress on improving the system, programs and level of service. Every year the results are reported to the BWS Board and the Stakeholder Advisory Group.

Barry said the scorecard is organized around the functions of sustain, capture, treat, move, store and deliver. Indicators are financial, operational, capacity, structural and management goals. Metric scores are shown in red, yellow, and green. He then reviewed the progress of several of the 33 metrics that were analyzed. A few are highlighted as follows:

FUNCTION: SUSTAIN

- *The watershed management metric reflects BWS's investment in watershed partnerships, which increased in 2019. However, the score is red because the WMP goal is to spend 4% of BWS's CIP budget on watershed management. That would have been \$3.3 million in 2019, and we spent just about half of that. Part of the reason is that watershed partnerships don't have the capacity to take on that much additional work. However, BWS is increasing its performance by funding an expansion of the rain gauge network, a need that was discussed as part of the climate change panel at the April 2019 meeting. BWS also measures the number of acres of watershed surveyed for invasive plant species. More than 112,000 acres were surveyed for rapid ohia death in 2019.*
- *BWS's conservation program saw progress in 2019, although spending wasn't close to 4% of the CIP. A steady rise in BWS's investment in conservation started with our rebate program in 2018. In 2020 our investment in conservation will increase to \$2 million. Rebates are available for energy efficient clothes washers, rain barrels, and weather-based irrigation controllers. The WaterSmart program now includes all communities. Customers can go to Honoluluwatersmart.com and evaluate how their home's water use relates to the average of their neighbors. The website provides tips for more efficient indoor and outdoor water use.*

Barry added that BWS is giving and installing pre-rinse spray valves and aerators free for any restaurant. This is an extension of the Hawaii Energy program that already targeted restaurants with electric water heaters, so BWS is targeting restaurants with gas water heaters. He said BWS also has a program to provide and install low flow shower heads and faucet aerators for multi-unit housing. This program is focused primarily on homeless shelters, affordable and elderly housing. Barry said that, so far, BWS has processed approximately 2,500 clothes washer rebates, 70 rain barrel rebates, and 55 rebates for the weather-based irrigation controllers. Restaurants have received 45 aerators and 30 pre-rinse spray nozzles. Multi-unit homes have had BWS provide and install 142 shower heads, 537 handheld shower heads, 274 bathroom faucet aerators, and 726 kitchen faucet aerators.

Q: I agree with you on the limited capacity issue of the watershed partnerships. Are the BWS's watershed management efforts impacted by this situation? Are the watershed partnerships amenable to providing services at the locations that BWS would like them to work? For example, they might want to work at one specific location, but if that's not where it would benefit BWS's priorities for water, are they coming around to working at locations where you need their help? Are they getting the message that, in order to secure more of BWS's funds, they'd not only need to build their capacity but work where you need them to work?

A: Watershed partnerships know that BWS stipulates using funds to work in priority watersheds that supply our sources. We continue to increase funding to those partnerships, but the amount of funding is also tied to our staff and some of our research projects. For example, BWS is significantly increasing the funding of USGS stream gauge monitoring next year. That should free up the Water Commission to fund other new gauges elsewhere. The understanding of where work is needed is important because, for example, BWS wants the partnerships to help us reduce the stands of the invasive species Albizia.

Q: Do the WMP scorecard goals ever change from year to year? For example, the goal for “Acres of watershed surveyed for invasive plant species removal per year” is 5,200 acres. Last year you hit 112,000 acres. It looks like BWS would be “sandbagging” if you just met the much lower goal.

A: When that particular metric was defined in 2016, it was set to address the invasive species of the time. But then Oahu got hit with Rapid Ohia Death. That’s why the acreage surveyed really ramped up. Hopefully we can address Rapid Ohia Death, and then the number of acres surveyed is probably going to drop down. But yes, we should revisit the goals.

FUNCTION: MOVE

- Pumps available for use targets greater than 90% (or 80 pumps). BWS has enough pump capacity for double our actual use. The goal for this metric is set high because major pump repairs could take a few years. Know that if the number of pumps available drops to 50% or 60%, depending on the water system, that’s when we start to have issues.
- Emergency power reflects the percentage of population that can be served indoor demand (85 gallons per person per day) in the event of loss of power. The goal is serving >85% of the population, distributed geographically. Dave noted that the slide showed an incorrect number for the baseline; the correct baseline figure is 64%. Barry said BWS is installing five permanent generators at major pumping facilities. Additional generators are included in our CIP.

FUNCTION: DELIVER

- The pipeline breaks metric looks at two things: Pipeline breaks and leaks repaired per 100 miles per year and Pipeline breaks and leaks repaired per year (3-year averages). Both of these have been increasing slightly. This is projected to increase until we ramp up replacement of priority pipelines.
- The portion of BWS pipelines scored as being high risk is tied to our CIP, which is ramping up to replacing 21 miles per year. The goal is to have fewer than 5% of our pipelines with a high risk score; in 2019, 14% were high risk pipelines.
- The pipeline leak detection program experienced some staffing issues in 2019 but we are starting to replace or hire more people. Barry added that BWS is starting up a contract to use satellite leak detection to help focus on areas where there may be a concentration of leaks.

Barry reminded the group that “High risk” is = consequence of failure x likelihood of failure. We’ve evaluated the water system using a number of criteria on risk and mapped the high risk pipelines. We know where they are – they’re spread all over the Island – and we are replacing them but it will take time.

Q: Do you have any challenges with getting permits for the pipeline replacement projects?

A: Permitting continues to be an increasing challenge and has really increased the costs of pipe replacement.

AG WATER SYSTEM FACILITIES CHARGE

Dave updated the group about recent work on the Water System Facilities Charge (WSFC) for agriculture and scenarios for potentially phasing in a revised fee. He said that the discussion today will focus on policy issues surrounding the charge and that the stakeholders' input and any recommendations will go to the BWS Board for their consideration before adopting a change.

Dave reviewed background information about the WSFC, which has been presented to the Stakeholder Advisory Group at prior meetings. The WSFC is a one-time charge that pays for the backbone of the water system (capture, treatment, transmission, daily storage). The fee applies only to those customers connecting to the system for the first time to pay for their share towards the capacity of the system.

The BWS analyzed the WSFC to make sure it could still cover costs associated with system capacity. The WSFC had not been updated since 1993 and the methodology was out of date. The American Water Works Association (AWWA) standard meter capacity ratio methodology is a reasonable fit with BWS customer water use patterns, conservation efforts, available capacity, and other factors.

If BWS strictly adheres to the AWWA methodology, the increase to the WSFC for Ag customers would be very large because it reflects their water use. The average agricultural customer on Oahu uses about 6,000 gallons of water a day, which is more water than half of the single-family residences on island use in an entire month. Ag customers use 2.5% of the water but only make up 0.3% of BWS's customers. However, BWS is sensitive to the fact that adjusting the charge to reflect that capacity usage could mean a substantial impact to new Ag customers.

Dave said that a key recommendation made by stakeholders earlier in 2019 was to outreach to Ag communities to get their feedback. A second recommendation was to develop more affordable scenarios for the Ag WSFC. Public feedback during that outreach process suggested that full cost recovery increases to the charge would be too high and could deter people from becoming farmers in the future. BWS listened to this input and agreed to take another look.

The BWS gets about 10 new agricultural customers each year. Analysis shows under-collection from those 10 customers (compared to the full charge based on the updated analysis) is approximately \$500,000.

Previous Ag WSFC options presented to the stakeholders ranged from maintaining the current charge to full cost recovery by 2023. Feedback to BWS was to reconceptualize the scenarios with options for realistic pricing as well as holding Ag customers accountable for their business footprint. This led BWS to come up with fresh concepts for the Ag WSFC based on the stakeholders' input. These included:

1. Correct the imbalance in recovery so everybody pays the same percentage of the full charge.
2. Phase in the charges over multiple years to minimize the impact to agricultural customers.
3. Require new agricultural customers to submit a water use plan.
4. Partner with agricultural organizations to encourage all BWS Ag customers to conserve.
5. Pursue and utilize supplemental funding from the legislature to offset revenue impacts.
6. Reevaluate the effectiveness of these concepts after five years.

Dave said BWS is considering setting the uniform cost recovery at 60% of WSFC actual costs, similar to the amount of subsidy in the Ag customers' water use rates. Options for phasing over multiple years included increasing the Ag WSFC by 3%, 5%, or 10% each year to minimize impacts to farmers.

He showed and discussed details of a series of slides that reflected different cost recovery options including the following examples:

2. Phase in Over Multiple Years to Minimize Impacts - 60% in 5 Years

Meter Size	Current	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
3/4"	\$6,671	\$7,933	\$9,434	\$11,218	\$13,340	\$15,863
1"	\$10,934	\$13,097	\$15,689	\$18,793	\$22,512	\$26,966
1.5"	\$29,651	\$33,220	\$37,220	\$41,701	\$46,721	\$52,346
2"	\$64,866	\$68,319	\$71,957	\$75,788	\$79,823	\$84,073

DRAFT – for illustration and discussion only

2. Phase in Over Multiple Years to Minimize Impacts - 10% Annual (Max)

Meter Size	Current	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
3/4"	\$6,671	\$7,339	\$8,072	\$8,880	\$9,768	\$10,744
1"	\$10,934	\$12,027	\$13,230	\$14,553	\$16,008	\$17,609
1.5"	\$29,651	\$32,616	\$35,877	\$39,465	\$43,412	\$47,753
2"	\$64,866	\$68,319	\$71,957	\$75,788	\$79,823	\$84,073

DRAFT – for illustration and discussion only

2. Phase in Over Multiple Years to Minimize Impacts - 5% Annual

Meter Size	Current	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
3/4"	\$6,671	\$7,005	\$7,355	\$7,723	\$8,109	\$8,515
1"	\$10,934	\$11,480	\$12,054	\$12,657	\$13,290	\$13,954
1.5"	\$29,651	\$31,133	\$32,690	\$34,324	\$36,041	\$37,843
2"	\$64,866	\$68,109	\$71,514	\$75,090	\$78,845	\$82,787

DRAFT – for illustration and discussion only

2. Phase in Over Multiple Years to Minimize Impacts - 3% Annual

Meter Size	Current	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
3/4"	\$6,671	\$6,872	\$7,078	\$7,290	\$7,509	\$7,734
1"	\$10,934	\$11,262	\$11,600	\$11,948	\$12,306	\$12,675
1.5"	\$29,651	\$30,540	\$31,456	\$32,400	\$33,372	\$34,373
2"	\$64,866	\$66,812	\$68,816	\$70,880	\$73,007	\$75,197

DRAFT – for illustration and discussion only

The third new concept of the refreshed approach to the Ag WSFC is to require water use plans from new Ag customers to get the subsidized charge. Prior to buying a new meter or upsizing their existing meter, farmers will be required to submit a plan that identifies their planned irrigation area(s), applies a unit water demand based on the crop type(s), explains irrigation methods, and other factors. The purpose of the water use plan is to determine the appropriate size meter for the planned activities and eliminate wasteful water use.

The fourth new concept is to encourage conservation for all BWS ag customers. Dave said that this could include a three-party MOU with BWS, Hawaii Department of Agriculture (DOA) and the University of Hawaii College of Tropical Agriculture and Human Resources (CTAHR) promoting Ag water conservation, education and other programs. BWS will pursue other collaborations for water

conservation, training and education, including, for example, with the West Oahu Soil and Water Conservation District to help develop water use plans.

The fifth new concept is to pursue supplemental funding to offset revenue impacts. Ernest said supplemental funding could be applied to components of the WSFC and help reduce the charge.

Dave asked Barry to talk more about the water use plans and discuss reevaluating effectiveness after five years. Barry reiterated the importance of knowing how much water a farmer intends to use and establishing more metrics for agricultural water conservation goals. He told the group that other organizations have expressed interest in providing more conservation education to farmers.

He said annual reporting— including new Ag customers' meter sizes and conservation metrics –gives BWS feedback on the effectiveness of the conservation program and costs. He said there are many benefits by implementing the strategies. Effective water conservation can help bring down associated costs, and potentially, the impact fees for future farmers would be less.

The MOU with DOA and CTAHR would utilize their expertise in education and new technologies. If those agencies could obtain additional federal funding, it could be used to offset some of the impact fee costs.

Dave asked the stakeholders for feedback on the refreshed plan for the Ag WFSF, and if they would support any of the proposed scenarios. The stakeholders agreed that things are moving in the right direction and had several questions.

Q: In the scenario of 60% recovery in five years, does that say that the 2-inch meter costs \$84,073 and that is the same amount as in the scenario for 10% recovery?

A: That's correct. If the charge increases by 10% per year, customers with 2-inch meters will get to 60% cost recovery within a five-year period.

Q: Did you show how long it would take the 5% or 3% annual increase options to get to 60% recovery?

A: The 3% annual increase scenario will take a while, but the 5% scenario allows customers with 2-inch meters to reach the target in around 6 years.

Q: In water use plans, would you require the Ag customer to consider other sources of water? It is especially important that agricultural water use plans address the option of using non-potable water. It is an important because the farmers need to know the water sources available to them.

A: If that information is available, we will certainly factor it in.

Comment: Another important factor about using potable vs. non-potable water is that farmers are required to wash produce in potable water if it's being prepped for market. The type of water needed for washing produce and the type needed for irrigation should be defined, in addition to the practices that farmers use to conserve water.

Comment: It would be really helpful if you could show us a map of Oahu that identifies where people are using different kinds of water (potable, surface, private wells, etc.). This could help farmers understand all of their options for watering crops, including rainfall.

Q: This conversation is focused on the fee being too high for people to get into farming. Have you looked at finding ways to defer payments; BWS would be like the bank and give farmers a number of years to pay it off?

A: Unfortunately, the law does not allow BWS to legally finance the impact fee for farmers. The entire impact fee has to be paid as soon as the connection is made to the water system.

Q: Would it be worthwhile to consider changing the law if a financing mechanism could get you to 60% or 100% recovery faster? You could charge interest.

A: Ernest said that the law is broad and applied to more than water impact fees. Another approach is to ask for funding from the State, similar to what we accomplished during the last legislative session. The WSFC has three components: source, pipelines and storage. It's possible we could credit the source component and reduce the WSFC a little more, up to the amount of any State contribution.

Comment: NRCS is a valuable resource so I suggest adding them into your list.

Comment: Michelle Gorham is with West Oahu Soil and Water Conservation District, part of the Hawaii Association of Conservation Districts under DLNR. They coordinate with NRCS and we can see what else they might offer.

Comment: I recommend that you broaden the discussion and MOU to include the Soil and Water Conservation Districts, rather than focus on a specific district. If BWS is considering requiring all Ag customers do a conservation plan, they can help you with different districts.

Q: Back around the 2000s, I ended up getting maps with all of the locations of wells in the Waianae District. A lot of our farmland has wells on them. If an Ag customer has a well on their property and may (or may not) know where it is today, could they put the well back in under the original requirements because it was already permitted? And then, we would allow only a smaller water meter. Since this is brackish water in the area I am discussing, it could be used for irrigation. Secondly, we can give a subsidized WSFC just to our Ag customers with smaller meters? This would take away from potential income for BWS, but it would provide a partnership with the agricultural community that shows BWS is trying to work with them to give them the best they can of both worlds. They could use brackish water for irrigation and use potable water for final washing.

A: Using brackish water is certainly a possibility in Waianae and a few other areas. It is possible that the water is too brackish for some crops, but it is possible to drill a well and get a good sustainable yield. If that concept worked, potable water could be used just for processing at the end. The idea is to right-size customer water meters.

Q: You had mentioned getting \$1 million to help offset the baseline expenses. How many sources of funding are available out there to help soften the initial expense? Is this funding that we can reliably get on an ongoing basis or is that not reasonable?

A: This is a good question. There may be opportunities to get more funding for a subsidy program to help reduce the costs. This effort to update the Ag WSFC has opened up opportunities for BWS to talk with the farming community and there is a lot of support to find funding.

Q: Did the \$1 million come through the Hawaii Department of Agriculture's CIP budget?

A: No, it came through DLNR.

Comment: Farmers will need to pass the cost of higher fees to the buyers of their produce. Big buyers, like hotels, ultimately pass those associated costs on to people who are purchasing food in their restaurants. When those costs go up for buyers like hotels and restaurants, we start to consider buying produce from the mainland instead of buying local. We don't want this to happen. But my concern is that the cost of the local product will become so high that it is cheaper to fly or ship it in, even if it's fresh produce. I don't have the answer to this problem but I worry about it.

Comment: You're talking about incentives for farmers, encouraging water conservation and having a robust program for the Ag customers. If they do certain things (e.g. water use plan), they will get a reduced Ag WSFC. It might not get to 60% cost recovery as fast but it would soften the blow.

A: Barry said he, Mark Fox, and Ernie talked recently about new legislation to help farmers. Some of these ideas could be passed on to the Fresh Water Council and see if they can help pursue new legislation.

Comment: I liked the overall approach and particularly the effort to pursue and utilize supplemental funding from the legislature to offset revenue impacts.

Comment: Even when we train people to become farmers, it's very difficult for those young people to get land and capital to even start to farm. Maybe there needs to be two tiers (of WSFC). Lower fees and smaller water meters for the ones that are just starting out with less than five acres, and higher fees for somebody who has 2000 acres and needs another 2-inch meter.

Comment: The ultimate goal with all these different ideas is to increase the charge. We're talking about how to do that and what the target will be. Partner with agricultural organizations to encourage water conservation for all BWS Ag customers doesn't directly impact the charge but addresses savings in other ways. It is more like a return on investment (ROI), when you're trying to say that this cost is going to be increased.

A: Yes, that part is more holistic. If we start off by requiring a water use plan for a new customer knowing that existing Ag customers use a disproportionate amount of water, is that an issue we should tackle also? If we could lower the amount of water that BWS agriculture customers use overall, then the basis for calculating the new charge would also decrease over the long run.

Barry added that every year, Ag customers have to come in and reapply for the Ag water rate. At some point, phasing in the requirement of a water use plan to all Ag customers may be beneficial. They should know how much water they should be using.

Dave asked if the stakeholders had feedback on phasing in the fee? Is one scenario so high that you'd advise BWS to not even consider that? Or at the other end of the spectrum, is one so low that you don't think that should be considered?

Comment: I wouldn't consider these options (3% and 5% annual increase) because they are too low.

Comment: I feel the same way. If I opt for any of the scenarios, it would be the 10% per year increase, because there is a new set of customers every year and they won't be charged \$6,671 a year because

it is a one-time fee. Hitting 60% cost recovery in five years is a little bit much. 10% is probably a better bet, and you're giving them enough time to be aware of what's coming. The impact becomes too much when you're more than doubling the fee in five years.

Q: The total revenue generation from these charges is about \$500,000 now and if you ramped it up to 5% or 10%, it's like \$900,000, right? In terms of the BWS's annual budget, it's not that much. Can you remind me why are we worrying about 500,000 bucks? If we want to promote ag, why are we worried about this half million? Why don't we go get that half million somewhere else?

A: That half a million isn't being collected by the Ag WSFC. But BWS is still building facilities necessary for growth. So where does that half a million dollars come from? It comes from all of you through your water rates.

Comment: I understand. But with so many customers, you can spread the impact a lot farther.

A: Ernie said rates are already discounted for Ag customers. The cost difference is picked up by other customers.

Q: And how much do we want to support Ag?

A: We might look at the concept suggested in this discussion of increasing the WSFC 10% annually and also having tiers to support the really small farmers just trying to start up. We could try to make it a little cheaper that way.

Dave told the stakeholders that BWS is not asking for a recommendation tonight and they are just looking for some feedback and impressions. Is it moving in the right direction from the last time you saw it?

Comment: I think so.

Q: Is there any way to bore in on the metrics a little bit? You're dealing with averages and it could be spread all over the place. It would be more meaningful if you could look at the amount of water that's used per acre rather than gallons per day. That would be more of a reality check.

A: Dave said the team expected that water use per acre would be consistent across all the meter sizes but the reality is that water use is all over the map.

Q: Does it depends on the crop?

A: It depends on the crop and other things. There's no consistency or correlation to the data.

Comment: The charge could be proportionate to the amount of water the Ag customer will be using.

Dave asked for additional input. He said he heard this is moving in the right direction, and that a 3% annual increase sounds too low to a couple of stakeholders. A 10% annual increase sounds okay to some. He asked stakeholders if they felt that was the right range? There was general agreement to that range with some stakeholders saying yes and others nodding.

Dave thanked the group for all of the feedback and the robust discussion. The information will be shared with the Permitted Interaction Group and the BWS Board in the coming months.

WHAT WE ACCOMPLISHED TOGETHER IN 2019

As this was the last meeting of 2019, Dave presented a summary of what the Stakeholder Advisory Group addressed and accomplished in the four meetings of the year. The group was initially formed as a diverse representation across the island to advise the development of the Water Master Plan, the Long Range Financial Plan, the 30-year CIP, and the Rate Study. All of that work got finished. He said that BWS asked the group and the BWS Board if everyone wanted the group to continue. Everybody said yes.

A lot has been accomplished since that time. We have worked on the water rates rollout, the Ag WSFC, monitored the progress on implementing the WMP and activities around the Navy's Red Hill fuel storage facility and the BWS's water supply nearby. In April, we had a panel discussion on climate change. Throughout the year, there has been an ongoing emphasis on communications.

Dave said he wanted to ask the group a couple of questions. But first, the group had questions for the BWS team.

Q: What has been the public reaction to the water rates rollout? Has it gone well? And does the BWS Board find our input valuable, and do they value the information that we contribute?

A: Great questions. Ernie said the BWS really worked hard to prepare for a worst case scenario to the water rates rollout, just in case it happened. Jennifer Elflein added that her customer care team received about three to four dozen calls about the new water rates. Ernie said most of the calls were about the new standby charge for fire meters, which is something new to our customers.

He said the BWS Board really values what they learn from the Stakeholder Advisory Group. They've taken your input to heart. And the decisions they've made have been influenced by the feedback from the Stakeholder Advisory Group.

Dave told the group that he gave monthly updates to the BWS Board during the rates process and after every update, the question from the Board was: "What does the Stakeholder Advisory Group say about this?" Every single meeting. Ernie said that once you commit to the engagement of the public and community – and it's a good commitment – if you get feedback, you have to make sure you're listening and that you do something with it. You may not agree with the input 100% of the time, but it's important that you're listening and taking it and trying to incorporate it and having it influence your decisions. Then people realize that they are valued. You are making a difference in our community when it comes to our drinking water resources.

Comment: The Red Hill issue has made me look very differently at all of our island resources. But the other issue that's really jumped out at me recently is a huge photovoltaic farm out there in Waipio. Somebody had donated around 300 photovoltaic panels. That was a great opportunity for them, but they decided not to take advantage of it because these were 2015 panels and not under warranty. Somebody else stepped up to say, "We'll get you brand new panels that are under warranty."

But what are they going to do with those 2015 panels? The panels are now sitting in a 40-foot container. Some are broken. You can't throw those away; they have cadmium in them, which is very toxic. We have a massive problem with photovoltaic, not just locally, not just nationally, but internationally. Nobody knows what to do with end-of-life panels and end of life can be in an instant in a hurricane. I want to raise that issue here because here we're worrying about pollution of fuel (Red Hill) getting into the water systems. What about all those broken panels that may be sitting there on any of our sites? Because we live on an island, and if these panels are sitting on the ground

here on Oahu or on any island and they're broken, we are running the risk of some pretty important toxins leaching down into the water systems.

A: Ernie said BWS hasn't focused on solar panels, but he has had questions about lithium ion batteries. He believes he will not be around when things happen that may really contaminate the water resources. The next generation will look back and say, "What did they do or didn't do?" He hopes in the future that BWS and the Stakeholder Advisory Group can look back and say at least we did what we could do to the extent we could to try to protect the water resource. We need to look at life cycle issues with these panels, and determine if they can be recycled for materials.

Comment: I'd like to suggest another thing that we can do as a Stakeholder Advisory Group. We can put information out to our communities. But we can also be the eyes and ears of the Board of Water Supply. We are here because we have networks and are connected to our communities. Recently, I was at a meeting of an organization where some of the members were questioning what the Board of Water Supply was doing. I called Barry to come talk to the group. Within one day, we were able to arrange this. I said to the organization, "Here is a representative who will answer any questions that you have." As a Stakeholder Advisory Group, we are going very smoothly. We're in the trenches. And it does help for stakeholders to speak up.

SUMMARY AND NEXT STEPS

Dave thanked the group for their participation, their questions and feedback. He encouraged everyone to take a look at the questions that would have been discussed today. He asked the group please share their thoughts with the BWS by sending an email, making a phone call, and/or bringing them up at the next meeting. We want to make sure that, as we move forward into our next year together, that we're addressing the things that are of interest to you that make it meaningful for you to come and participate, because that participation is so hugely valuable to the BWS.

Meeting dates for next are all on Thursdays: January 16, April 30, July 16, October 15, 2020. Dave wished everyone a good evening and said that he would see them all next year, on January 16 in the Blaisdell Center, Hawaii Suites.