

MINUTES

DEPARTMENT OF WATER SUPPLY
COUNTY OF HAWAI‘I
WATER BOARD MEETING

October 24, 2017

Hilo Operations Conference Room, 889 Leilani Street, Hilo, HI

MEMBERS PRESENT: Mr. Craig Takamine, Chairperson
Mr. Leningrad Elarionoff
Mr. William Boswell, Jr.
Mr. Nestorio Domingo
Ms. Brenda Iokepa-Moses (11:45 a.m.)
Mr. Keith K. Okamoto, Manager-Chief Engineer, Department of Water Supply (ex-officio member)

ABSENT: Mr. Russell Arikawa, Vice-Chairperson
Mr. Bryant Balog, Water Board Member
Mr. Eric Scicchitano, Water Board Member
Ms. Kanoë Wilson, Water Board Member
Director, Planning Department (ex-officio member)
Director, Department of Public Works (ex-officio member)

OTHERS PRESENT: Ms. Keyra Wong, Deputy Corporation Counsel
Ms. Amy Self, Deputy Corporation Counsel (12:13 p.m.)
Mr. Tom Nance, Tom Nance Water Resource Engineering
Ms. Bonnie Nims, Legislative Auditor, County of Hawai‘i
Ms. Sharilynn Olivar, Office of the Legislative Auditor

Department of Water Supply Staff

Mr. Kawika Uyehara, Deputy
Ms. Kaiulani Matsumoto, Information and Education Specialist
Mr. Kurt Inaba, Engineering Division Head
Mr. Richard Sumada, Waterworks Controller
Ms. Candace Gray, Assistant Waterworks Controller
Mr. Daryl Ikeda, Operations Division Head
Mr. Clyde Young, Operations Division
Mr. Eric Takamoto, Operations Division
Mr. Warren Ching, Operations Division

- 1) **CALL TO ORDER** – Chairperson Takamine called the meeting to order at 10:05 a.m. and introduced Ms. Keyra Wong, Deputy Corporation Counsel, filling in for Ms. Jessica Yeh today. He announced that the Board did not have quorum at this time (due to inclement weather); but in the interest of time, he would like to take up the non-action items until there was a quorum. He moved on to Item No. 5.
- 2) **STATEMENTS FROM THE PUBLIC** – taken up later in the meeting.

- 3) APPROVAL OF MINUTES – taken up later in the meeting.
- 4) APPROVAL OF ADDENDUM AND/OR SUPPLEMENTAL AGENDA – taken up later in the meeting.
- 5) **PRESENTATION OF COUNTY OF HAWAI‘I AUDIT REPORT ON CASH HANDLING:**

Ms. Bonnie Nims and Ms. Sharilynn Olivar of the Office of the Legislative Auditor came forward to present the “Audit Report on Cash Handling at County of Hawai‘i’s Department of Water Supply” (Report No. 2017-02) dated August 25, 2017.

Ms. Nims explained that the purpose of their audit was to look at the internal controls and the cash handling process over water receipts at the Hilo office. They looked at the other offices and found internal controls to be good. This audit was chosen because cash is inherently risky, especially during holidays or summer time. They found that due to inadequate policies and procedures, there were some pretty significant internal control weaknesses, including segregation of duties and a lack of monitoring of certain processes by someone independent of that process. As a result, they could not determine if the cash receipts were accurate and complete. They looked at four different high-risk months and did not see anything to raise their concerns; however, one of the weaknesses they discussed in the report is a lack of controls over adjustments. Without controls over adjustments, compounded with the segregation of duties and lack of monitoring, there is a high risk that accounts could be adjusted and cash taken. They did not find any indication of that; however, they could not determine the entire population either. That is the reason they could not say that cash was complete. Their four recommendations were as follows: 1) Segregation of duties – segregating those incompatible duties; 2) Implementing ongoing monitoring – someone independent of a process, such as a bank reconciliation process, should be spot-checking to make sure everything looks good. It does not have to be every month; maybe twice a year; 3) Updating the written policies and procedures to reflect any changes of practices, including matching those with cash receipting best practices, which are described in detail in the report; and 4) Providing ongoing training as a reminder of what needs to be done and why, and processes that should be implemented in the cash handling process.

Chairperson Takamine stated that he understood the Department is actively working on fixing some of the issues.

Ms. Nims replied that was correct and referred to Page 3, where it mentions steps the Department has been taking. Her office has not followed up as yet; however, it seems like the Department is getting a good handle on it.

Mr. Boswell commented that the wording comes across pretty strong. He asked if there was training that the Legislative Auditor’s Office would provide or what would be expected of the Department as far as training and if there is an industry standard.

Ms. Nims replied there is web-based training available. The County of Hawai‘i, Department of Finance, also puts on training. Some departments have asked the Legislative Auditor’s Office to provide training for their staff.

Mr. Boswell asked if they felt the Department should have been more proactive in the training. Ms. Nims replied yes.

In response to Mr. Boswell's question if any inconsistencies were found on any of the ledgers, Ms. Nims replied there were not.

Mr. Boswell referred back to his original comment where it seemed the wording was very strong, like the Department was being scolded for a report that ends up saying they did, not a bad job, but that there were inconsistencies in their procedures and a lack of training.

Ms. Nims stated that it is the significance of the internal control weaknesses they found. Of the four elements to segregation of duties--the authorization, the recording, the reconciliation, and custody of assets, three of them were not segregated. That is pretty significant when looking at several million dollars in cash receipts. Because adjustment reports were not being run, she could not tell what was adjusted out; and because of the magnitude of those weaknesses, it is a high risk.

In response to Mr. Boswell's question of whether an audit had been done by their office on the Department before, Ms. Olivar replied that one was done in 2010.

Mr. Boswell asked if the Department followed the recommendations from that audit.

Ms. Olivar replied they did not find the weakness in that audit. They actually had segregation of duties, but that was for more of the IT general controls for the administrator rights.

Chairperson Takamine mentioned the Department's third-party auditors. The Manager-Chief Engineer clarified that the third-party auditors conduct the financial audit that is contracted through the County. There is some overlap, but this one was specifically for cash handling.

Mr. Elarionoff asked about a recent Council Meeting where Councilperson Susan Lee Loy had asked about the Legislative Auditor's audit compared to the audit conducted by N&K CPA's.

Ms. Nims stated that Ms. Lee Loy had asked if this had been audited before; and if so, had these issues been picked up during that routine audit. Their answer was that one of the issues had been picked up--the segregation of duties, but not the independent review and monitoring. That is mainly because the Legislative Auditor's Office gets a little more detailed and into all aspects of cash receiving.

The Manager-Chief Engineer stated that he feels confident there was no theft within the Department but does recognize that the auditors found weaknesses. The Department had more detective-type procedures in place; and if something were to happen, it would be caught. However, the Department would be better served if it could be prevented in the first place. That is the basis for a lot of these recommendations from the auditor. The Department has no problem implementing them and has already implemented most of them. It is currently working on better training, whether it be outsourced or internal. The Department is also mindful of being accountable to its customers, the Board, and the community in managing its funds. This is viewed a learning curve and something that can be improved upon.

Ms. Gray reported that the Department is currently reviewing its procedures and looking to fill in the gaps and address all of the recommendations. The recommendation of flow charts and documenting its processes is something the Department would like to incorporate, making it easier for other employees as well.

(Ms. Nims and Ms. Olivar left the meeting at 10:20 a.m.)

The following items were taken out of order:

7) **MISCELLANEOUS:**

B. MONTHLY PROGRESS REPORT:

Mr. Boswell asked about the Wai‘aha Water System Improvements - Transmission. There is a supply chain issue with the well down, and he wondered if it is still moving forward and what it entails.

Mr. Inaba explained that it is moving forward and includes transmission lines on Māmalahoa Highway from the 16-inch line, north about one mile, up to and beyond the Department’s booster station, into the next pressure zone. There is currently an 8-inch line, and a transmission line will be added.

The Manager-Chief Engineer added that this project will allow the Department to fully utilize the Wai‘aha Well water.

C. REVIEW OF MONTHLY FINANCIAL STATEMENTS:

Mr. Elarionoff asked about the Budget Report, Page 2, “In Service Training” where it shows no expenses. He asked if it meant there was no training this year.

Mr. Sumada replied that these expenses include registration fees for conferences or seminars that employees and the Board attend. When looking at the detailed budgets, nothing has been spent yet for the Board.

The Manager-Chief Engineer added that employees are being sent to classes, but they may be put on by the County, or webinars, which are free of charge. The Department also provides training for new employees through videos.

Mr. Elarionoff stated the reason he mentioned this is he was thinking of the wells in Kona. He thought there may be some way of upgrading the understanding or the comprehension of what goes on with the wells.

The Manager-Chief Engineer replied that there are trainings for that which are sometimes built into repair projects for the contractor to dedicate some training to the Department’s personnel, specific to the equipment being supplied. However, that type of training would not come from this budget.

Chairperson Takamine asked if the water restriction in Kona has dramatically impacted the Department’s overall revenue. It did not seem like the decrease is that large.

Mr. Sumada replied that the decrease in consumption in Kona was offset by the 5% increase in water rates which took place in July of this year.

Chairperson Takamine wondered if there was need for concern, going forward.

Mr. Sumada stated that the 5-year budget was based on a gradual increase over time. If it drops and consumption is not realized, there will be less monies available for projects.

Mr. Boswell noted that the reduction in consumption is also a reduction in expenditures, to a point where the power bill would be going down.

Mr. Sumada replied that was correct, especially where the consumption decline is a result of a well not running.

Chairperson Takamine asked about the transmission and distribution costs on Page FS3 of the income statement, which looked like they went up 25 to 30 percent (approximately \$379,000.00) and what it could be attributed to.

Mr. Sumada explained that the transmission and distribution expenses increased due to well repairs and variable frequency drive equipment for the Wai'aha Well.

7) **MISCELLANEOUS:**

F. **MANAGER-CHIEF ENGINEER'S REPORT:**

The Manager-Chief Engineer provided an update on the following:

1) Matters of interest to the Board

1. North Kona Water Restriction – the Manager-Chief Engineer reported that the system is stable. Honokōhau Well is in operation and tank levels are good. The system is in a good place, even with two wells being down. The area is still under 25% Water Restriction which has been in effect since January 2017 because there are still four wells down. Hualālai Well looks like a motor issue, and that is one of the items on the Agenda today, for a replacement motor. The Department will look at whether there are warranty issues involved. For the QLT Well, the topside equipment is being evaluated. A different transformer will be brought in and the starter equipment will be double checked first before pulling equipment from the well. He asked the Mechanical Engineers if they had anything to add.

Mr. Young stated that for the QLT Well, replacement breakers are on order to replace the ones that Brown and Caldwell found to be defective. If the breakers are causing the problem, the hope is to put that well back online soon.

The Manager-Chief Engineer added that the hope is always that the matter is topside, whether it be a starter or a breaker, or other electrical components within the motor control building, which have a shorter turnaround to fix, rather than a problem down in the well.

In response to Mr. Elarionoff's question of what the starter is for a well, Mr. Young explained that it is basically a switch for turning on the pump. The pump is a fairly large load, therefore, you cannot really just hit the switch or it might cause a brownout or a large draw on power. In this case, there is what is called a Soft Starter. It reduces the impact on the utility and helps the equipment so it does not shock the system with a lot of power to start the pump and motor. The two primary types of starters are the Soft Starters and the Variable Frequency Drives (VFD). VFD's allow you to change the speed of the pump and the motor.

Mr. Elarionoff asked if the Department owns all the transformers.

Mr. Young replied there is a utility transformer, usually a step-down transformer, and anything from the meter down is usually the Department's. The Department has step-up transformers to take the 480 volts and boost it up to 2,300 or 4,160 volts.

Mr. Domingo asked if, when you throw the switch, there may be a spike in the power and if there is insufficient power coming in, would it create a trip.

Mr. Young replied that with a large voltage drop, yes, it could potentially cause a trip. You have a voltage drop and then a large inrush of current. If it is sustained, it could trip the breaker or the starter equipment.

Mr. Domingo asked if there is no burnout equipment.

Mr. Young replied that part of why having Brown and Caldwell coming out is to make sure all the starting equipment, safety equipment, fuses, breakers, etc., are working properly to protect the equipment, especially when the pump and motor are submersible. It is too expensive to pull out and the equipment costs are high.

The Mr. Elarionoff asked about the Wai'aha Well where the cable snapped and the pump and motor fell into the well.

Mr. Young replied that Derrick's Well Drilling has the extracting equipment but will get back to Wai'aha once the 'Ōla'a No. 6 job and their other jobs have been completed.

The Manager-Chief Engineer added that the Department wants them to focus on the wells they can return to service first.

Mr. Domingo asked for clarification on whether the Hualālai and the QLT wells had been brought back online and then later tripped, leaving four wells offline, and if the emergency restriction was back in place.

The Manager-Chief Engineer replied that four wells are down, but the area is under a 25% restriction. The difference between a 25% restriction and the emergency restriction, which was in place when five wells were down, was that the Department requested people to limit their use to health and hygiene purposes. With the regular 25% restriction, people are asked to accommodate 25% reduction on their own.

Mr. Domingo commented that he was waiting for some sort of advisory because two deep wells were down.

The Manager-Chief Engineer stated that the advisory did not change from when the Department lifted the emergency restriction. It is basically in the same status.

In response to Mr. Domingo's question of what caused the breakdowns, Mr. Young replied that the QLT Well is the one discussed where the topside equipment is being checked. The motor "megged" very high so there is no indication of a problem with the motor, at least on the electrical side. He is hopeful the electrical problem is on the topside equipment. The Soft Starter still needs to be tested. Once these are done, he is hopeful the well can be put back online. For the Hualālai Well, the motor was pulled and is still under potential warranty. (Mr. Takemoto confirmed that the motor is supposed to arrive back at the manufacturer the end of next week.) The motor will be torn down and

investigated. The lower half of the motor came apart. It may have been due to an electrical explosion but the exact cause is yet to be determined after tear-down by the manufacturer.

Mr. Elarionoff asked if the breakers are customized and why it takes long to get them here.

Mr. Young replied they are not customized, but they are fairly large breakers. Breakers for the home are 20 amps, and these are 1,200. They are shipped from the mainland.

Mr. Domingo asked how comfortable staff is that the issue is the topside equipment and not in the well.

Mr. Young replied that there is a lot of data to look over. From some of the initial data that Brown and Caldwell looked at, they did not see anything on the utility side that would give an indication it may have been caused from the incoming power.

Mr. Boswell asked if they have their monitor on that one.

Mr. Young replied they were not completely set up. The Department has the utility data and that is being reviewed. Plus, when the motor is torn down, the manufacturer will be able to provide their analysis as to what caused the failure.

Mr. Boswell asked about domestic irrigation water meters which have been reinstated after being suspended. Still, no new ones are being issued. He asked if the Department is aware that some large construction projects are in stop mode as a result.

The Manager-Chief Engineer replied that is correct.

Mr. Boswell asked what would change that consideration.

The Manager-Chief Engineer replied that it would change based on the Department's evaluation of the system and specific discussions with individuals on a case-by-case basis. The Department has definitely not issued any new temporary services, which are typically used for construction, or irrigation-only type services where you enter into a special agreement with the Department, with the understanding that you pay a higher rate and can be discontinued if the need arises. If there are specific projects that need some service and they can specifically tell the Department how long, how much, and where the need is, that is something the Department could look at.

Mr. Domingo asked if a possible cause could be on the threading and the load being imposed in terms of "head" is overloading or overworking the equipment.

Mr. Young thought there may be some truth to that. There are some significant voltage drops in some locations, usually an indication that the system is weak; and when the current needs to increase, it can add more heat and stress to the motor. The Department has been working with the utility on some corrective steps.

Mr. Elarionoff asked if the transformer would solve that problem.

Mr. Young replied it is part of the solution. It can raise the voltage but it could potentially harm the equipment by overloading it. If you do not have the capacity behind it, it would be like if you tried to increase water pressure but did not have the gallons behind it. In this case, you do not have enough current to run the equipment.

2. Energy Study by Brown and Caldwell – the Board had asked for a status update on the contract. The Board was given the actual contract the Department has with Brown and Caldwell, which shows their scope of work; and the proposed additional scope of work that the Department asked for Board approval on at last month's meeting.

Mr. Inaba provided an update on where they are in their scope of work for tasks in the original contract, the Power System Studies:

- 1) Electrical Safety Guideline Review – this was drafted by the Department of Water Supply and they have reviewed and made recommendations for corrections. They are scheduled for November 7 to train personnel.
- 2) Develop Electrical Power System Study Standards – developing standards that the Department can issue to future consultants for any project that would have to incorporate the power system study into it. They anticipate a draft to be completed by November or December.
- 3) Power System Study Analysis - they are performing this on 33 sites now, with QLT Well added. As of last week, they have collected all data for the 33 sites. The Department provided them with the electrical drawings for each site. It did not include any kind of field maintenance or modifications that were done in-house. After they did their initial diagram, they had to physically look into the cabinets and modify those drawings as necessary. They are now in the process of inputting the data into the software, which will take some time as they had 33 sites to work on. They will be providing those studies as they complete them.
- 4) NETA Testing, which is where they go out and take the breakers they have identified through all the diagrams they have done and physically take them out and put them on their testing equipment. Last week, two at QLT Well were found to be not functioning properly. They had a few they could replace, but the rest need to be purchased. They have done about 22 sites so far.

For the added portion of the contract, the change order is being routed for execution; however, they are assisting the Department with the protective settings on its existing equipment. Because they had already gone in and looked at the equipment, they assisted the Department over the weekend when the Honokōhau Well was brought back online.

The Manager-Chief Engineer stated that they have been helping the Department out on their own and have been terrific to work with.

Mr. Domingo asked if the utility could be providing information on the power being provided instead of the Department going through this process.

The Manager-Chief Engineer stated that the Department has put in requests to them for installation equipment to monitor voltage and current across the three legs and provide the results. Typically, it is within their tariff or what they are allowed to provide and is not going to be perfectly in balance 100% of the time.

Chairperson Takamine commented that he understood, through the PUC, that HELCO is only required to provide a certain tolerance or a variance they are allowed to be in, which may not work well with the Department's needs.

Mr. Elarionoff asked about the cost (\$209,000) and what qualifies them to do this work and if there are any competitors.

The Manager-Chief Engineer replied that this is a Professional Services procurement, a process which allows the Department to select professionals based on their qualifications. They provide a statement of qualifications over various criteria or fields of work. The Department evaluates at least three on their ability to do the work within the contract period, on past performance, and on their performance related to the type of work the Department is seeking. They are selected based on their ability to do the work, versus only the lowest bid amount.

Mr. Elarionoff asked for an explanation of the modified drawings and implementation.

Mr. Inaba explained that they made modifications to base drawing to make them an "as-built" drawing as of today. They then needed to put that into their software to develop this power system study. The power system study will identify the types of hazards the Department needs to be aware of for its personnel, such as personal protective equipment they need to be outfitted with when they open a certain cabinet. It needs to be based on what is actually there in the field.

Mr. Elarionoff asked about the other aspect of the study.

Mr. Inaba stated that initially, the power system study was intended to assist with the safety program; but because the work overlaps, it was felt to be in the Department's best interests to have them take a closer look at the equipment down in the well.

Mr. Boswell said the report was very helpful, and having this information answered a lot of his questions.

The Manager-Chief Engineer encouraged to the Board to contact the Secretary if they would like to see any detailed contracts and he would have it sent out on an individual basis or by bcc to the Board.

Mr. Boswell stated that it would be beneficial to see some of the RFP's that go out, specifically for the issues in Kona, in order to have a better understanding of what the contractor is seeing and what is being represented to them.

The Manager-Chief Engineer stated that two on the agenda today would be good ones to send out the specifications on [Job Nos. 2017-11 and 2017-13].

Mr. Boswell indicated that email would be fine, and Mr. Domingo asked to see the same.

The Manager-Chief Engineer announced that he had just received word from Board Member Iokepa-Moses that she would be able to make it in by noon, after being delayed due to road flooding. If the Board would not mind waiting, the action items could be taken up then, and that Mr. Nance had flown in especially for this meeting. The Board agreed to wait.

3. Retiree of the Department of Water Supply – Mr. Ikeda announced that Mr. Ralston Medeiros started work with the Department in 1999 as a Waterworks Helper and worked his way up to Building Maintenance Worker. He is retiring October 31, 2017. He is not able to join the meeting or luncheon today. Next Tuesday will be his last day.
4. Employee of the Quarter – 3rd Quarter – Mr. Young announced the employee of the quarter, Mr. Earl Fukunaga. He started his career with the Department in 1999 as a Waterworks Helper in Waimea and worked his way up to become a Water Service Investigator. He looks for unaccounted water usage and saves the Department in electrical costs. He is a Supervising Water Service Investigator as of 2005. One of the things about Mr. Fukunaga is that he comes in about an hour early and is usually out in the field until 6 or 7 p.m., which is all out of love for the Department. It is a well-deserved award. The Manager-Chief Engineer added that he is passionate about what he does and not only saves on electrical costs but saves precious our resource, water. Mr. Elarionoff commented that it is good the Department has this appreciation program because not every department in the County does it.

7) **MISCELLANEOUS:**

G. **CHAIRPERSON'S REPORT:**

Chairperson Takamine reported on the findings, to date, from the Permitted Interaction Group. They selected about five experts from the private sector who generously donated a lot of their time. They met twice, once in Hilo and once in Kona, and some had to fly over from Oahu on their dime to participate. They were very impressed with the amount of data collected. The Department supplied the Permitted Interaction Group with a historical log of data on the North Kona wells, maps, and composition of the equipment at every site. The first meeting was to catch up and ask the Manager-Chief Engineer and the Deputy about certain issues, compile data, and make recommendations. The second meeting was held at NELHA and went into more detail about what needs to be done at the end of the day. At this point, there is no final report to present to the Board, but there seems to be an agreement that there will be some sort of third party needed to review their findings, which are very technical. The Board Members who sat in on this group got a general understanding of the type of issues the Department faces and how challenging they are. There are so many different variables that come into play and the power requirements are so large, he has a much better understanding of why it is so difficult to pinpoint some of the issues and the root causes of some of the well failures. Without going into detail, they are looking into:

- 1) Standardization of equipment and storage - they found that certain companies on the mainland that provide pumps and motors to this Department are actually able to store them. They are looking at the possibility of storage with some of these equipment vendors and having backups, not necessarily here on the island, but being tested on a regular basis, so when they are needed by the Department, it could get them in a pretty good amount of time.
- 2) Standardization of motors, not only for repairs now but for future projects.
- 3) Initiating a third-party review to look at the existing motor control centers and future design projects to ensure the design used in the future is similar to what is being used for repairs now. It all comes down to standardization.
- 4) New DWS requirements for future water development agreements and source development requirements. From what he understands, some of the developer wells that the Department has taken on have some inconsistencies. The Department would want to lead the conversation and specify what is required before a well is to be developed that will be taken over by the Department.

- 3) Routine motor control equipment maintenance program. This could either be in-house or an outside vendor to take a look at some of the control panels and perhaps purchasing equipment that can find if there are loose connections within and see what kind of maintenance needs to be done over time.
- 4) Asset Management Program. This would mean taking an inventory of all of the wells around the island and being able to schedule regular maintenance and repairs in order to plan for repairs instead of having to react after the fact.
- 5) Monitoring well data to anticipate issues and initiate proactive repairs. From what he understands, the Department has some SCADA equipment that is currently being utilized in Kona, so basically trying to monitor and have historical data to see if a repair needs to be made or if there is a failure, to look at the data and see what might have contributed to that failure. All of the information gathered leads towards having to look into getting a third party to look it over and make recommendations. Since the Department is in the process of procuring certain equipment for repairs and the Department has been working hard to get these wells back online, he feels there needs to be a sense of urgency in initiating this third-party review and hopes to get that going as soon as possible. He hopes the Board will be supportive of that initiative. He thanked the Department for helping out with providing a lot of information, and Mr. Young, who was at the last meeting. The back and forth was really good. He also thanked Mr. Nance for participating. The Permitted Interaction Group will be meeting again at a later date.

Chairperson Takamine then called for a recess until about 11:45 a.m. Mr. Nance asked if there was a way he could provide his comments related to an agenda item as he needed to catch a 1:00 p.m. flight. He was offered to sign up to make a statement from the public, without discussion, regarding the Keopu pump test.

The following item was taken out of order:

2) **STATEMENTS FROM THE PUBLIC**

The following is transcribed verbatim.

1) Mr. Tom Nance

T. Nance: Okay, to give you a little background, all of these wells that you've been talking about in North Kona that are above Māmalahoa Highway tap into what we call high-level groundwater that is standing fifty, sixty, several hundred feet above sea level. Further makai, you drill into what is called basal groundwater, which is in the North Kona area, typically brackish as you get to the shoreline, of a certain limited recharge, and it's floating on saline groundwater beneath it. In about 2002, the State drilled a monitor well at Keopu, and I think, Kurt, you have a map showing where that is. The intention was to just drill a deep monitor well. They had no expectation other than drilling through basal groundwater, the top of which is about 2½ feet above sea level, and proceeding down and 40, 50, 60 feet in the ground, start to see the salinity increase, continue on down and see that salinity get close to sea water. They drilled...the ground elevation up there is 735. They drilled at about 1,315 feet and weren't taking information on what quality of water they were passing through as they went; but when the drill string came out of the hole, low and behold, they were very surprised to see fresh water in the well. Didn't know where it had started, but the water level, instead of being only 2½ feet above sea level, was then about 25 feet above sea level. And the salinity was extremely fresh, pretty much as fresh as all your high-level groundwater wells up mauka. There has been controversy, or let's say disagreement, among professionals as to what creates

that high-level groundwater, whether it's an unusual series of vertical dykes that are holding it back or some people thought that the slides and so forth might have created impermeable surfaces; but it really, in my opinion and the opinion of at least one other, Don Thomas, it looks to be that there's a series of conformable lava flows that are far less permeable than the lavas above it or below it. So we did some work on this original State well, trying to isolate where that fresh water came in, and ultimately got money to drill a second monitor well at the same place. It's only about 60 feet away from the first one. And we drilled down and at a little bit, a little past the 1,100-foot depth, which is about 400-odd feet below sea level, we ran into that same fresh water. So, we installed a 10-inch casing, grouted the annular space, so the well is only open to the fresh water at that depth; and the water is sitting about 25 feet above sea level. And the salinity of the water down there is essentially the same as the high-level wells above Māmalahoa. The State...we actually drilled this well deeper than what we thought we would originally have to go and there was a whole bunch of problems and caving and so forth so that the money the State had put aside for this, which theoretically was going to cover pump testing, has been consumed. And the pump testing portion could be done years down the road when the State gets other CIP budget and then comes back to it. But the proposal is that the County go ahead and do the pump test that was previously scheduled as part of the State contract with a company called Water Resources International. I can't tell you that this groundwater will be developable or not, but this is what this pump test is all about. Because if we can develop the same water that you are pumping at the 1,700-foot elevation and spending tens of millions of dollars with storage tanks and transmission lines, if we can actually access it with a well at the 700-foot elevation, a pumping lift of 700 feet or less, it's a tremendous savings. Far easier to implement, far less costly to operate, and we need this pump test to determine if that is in fact possible. I'm not laying any odds on it, but I just will tell you that the fresh water down in that hole, which is 400 feet below sea level, is in fact the same fresh water that you're tapping up mauka. And the pump test will then determine is it developable at this location; and if it is, then we've got a way forward that's far less expensive than chasing wells at the 1,700-foot elevation and at a cost that is probably eight to ten times greater than developing at 700-foot elevation. So that's my vote. It's a cutting-edge kind of thing that's happening in North Kona and knowing whether it's a developable source sooner rather than later is a key to a way forward.

Chairperson Takamine: That was very helpful. Thank you.

B. Boswell: Yeah, it's literally in my back yard. You've just confirmed it.

RECESS: Chairperson Takamine called for a recess at 11:23 a.m.; to reconvene at 11:45 a.m.

(Mr. Nance left the meeting, as well as Mr. Fukunaga and Ms. Gray.)

RECONVENE: Chairperson Takamine reconvened the meeting at 11:46 a.m.

The following item was taken out of order:

6) **NORTH KONA:**

A. **MATERIAL BID NO. 2017-11, FURNISHING AND DELIVERING MOTORS FOR KAHALU‘U SHAFT PUMP #2 & #4 FOR THE DEPARTMENT OF WATER SUPPLY:**

Bids for this project were opened on October 12, 2017, at 2:00 p.m., and following are the bid results:

Bidder	Bid Amount
Alliance Specialty Motors, Inc.	\$57,918.00
Technology International, Inc.	Non-Responsive
Derrick’s Well Drilling & Pump Services, LLC	\$90,000.00
Gexpro	\$102,210.00

Project Costs:

1) Low Bidder (Alliance Specialty Motors, Inc.)	\$57,918.00
Total Cost:	<u>\$57,918.00</u>

The project consists of furnishing and delivering two (2) motors for Kahalu‘u Shaft Pump #2 & #4, including all equipment, materials, taxes, and shipping. Funding for this project will be from DWS’s CIP Budget under Pump Replacement. The contractor will have 120 calendar days to complete this project. The Engineering estimate for this project was \$130,000.00.

The Manager-Chief Engineer recommended that the Board award the contract for MATERIAL BID NO. 2017-11 FURNISHING AND DELIVERING MOTORS FOR KAHALU‘U SHAFT PUMP #2 & #4, to the lowest responsible bidder, **Alliance Specialty Motors, Inc.**, for their bid amount of **\$57,918.00**. It is further recommended that either the Chairperson or the Vice-Chairperson be authorized to sign the contract, subject to review as to form and legality of the contract by Corporation Counsel.

MOTION: Ms. Iokepa-Moses moved for approval of the recommendation; seconded by Mr. Domingo.

The Manager-Chief Engineer stated that this item needed to be deferred to the next meeting due to the low bidder not being compliant, at this time, with the Hawai‘i Compliance Express (HCE). This is a mainland company, and it is their first-time bidding on one of this Department’s material bids. There is no reason to believe they will not become compliant. Their company has been around for over 100 years.

MOTION TO DEFER: Ms. Iokepa-Moses moved to defer to the next Water Board meeting; seconded by Mr. Boswell.

Mr. Elarionoff asked about the price difference and if it brings up questions.

Mr. Ching stated that the low bidder was asked to double check that they were meeting all of the requirements in the bid; and they did check and wanted to proceed.

Mr. Elarionoff asked if the difference between the two prices was shipping. The item still has to be shipped here.

Mr. Boswell asked if it may be due to double handling charges; the well contractor bought it from a supplier and you also have the supplier who is able, so that is the mark-up.

The Manager-Chief Engineer replied that the reason for the difference is not known; however, someone like Derrick's Well Drilling would typically go through some kind of broker who deals with a motor manufacturer. There are probably several steps in between, whereas apparently, this is a motor company and may be more of a direct purchase.

Mr. Boswell asked if this motor matches the motor that came out by brand name.

Mr. Ching replied that the manufacturer is the same, but the model number may not be exactly one-for-one. This U.S. Motors.

Mr. Boswell stated that it seems to be desirable if the Department had certain manufacturers it had a preference for, based on performance.

The Manager-Chief Engineer replied that for this one, the bid was based on a U.S. motor, or approved equal. (Mr. Ching said no one submitted a substitution request.) The Manager-Chief Engineer continued that in that case, they are supposed to supply what was specified in the bid documents. (Mr. Ching added that he double-checked that with Alliance Specialty Motors, and they said they are submitting a U.S. Motors, through a factory certified distributor.

In response to Mr. Boswell's question of the chances they will become compliant by next meeting, the Manager-Chief Engineer replied the Department has seen companies become compliant within the one-month period. What they need to show to the Department of Taxation is that they are current on their IRS and state taxes and are compliant with the Department of Labor and the Department of Commerce and Consumer Affairs. If they are still not compliant by the next meeting, the recommendation may change.

Mr. Boswell asked if it was common that the HCE document is required with the bid.

The Manager-Chief Engineer replied that the Department's understanding, from Corporation Counsel, is that they need to be compliant prior to award. The requirement could be made on the bid itself; but until now, it has not been a problem.

ACTION: Motion to defer was carried unanimously by voice vote.

The following items were taken out of order:

3) **APPROVAL OF MINUTES**

ACTION: Ms. Iokepa-Moses moved for approval of the Minutes of the September 26, 2017, Water Board Meeting; seconded by Mr. Elarionoff and carried unanimously by voice vote.

4) **APPROVAL OF ADDENDUM AND/OR SUPPLEMENTAL AGENDA**

ACTION: Ms. Iokepa-Moses moved to add the Supplemental Report for 6) North Kona, Item B – Material Bid No. 2017-13; seconded by Mr. Elarionoff and carried unanimously by voice vote.

5) PRESENTATION OF COUNTY OF HAWAII AUDIT REPORT ON CASH HANDLING:

Taken up earlier in the meeting.

6) NORTH KONA:

B. MATERIAL BID NO. 2017-13, FURNISHING AND DELIVERING SPARE PUMP AND MOTOR SET FOR KEAHUOLŪ DEEPWELL AND REFURBISHING SPARE MOTOR FOR HUALĀLAI DEEPWELL FOR THE DEPARTMENT OF WATER SUPPLY:

Bids were received and opened on October 19, 2017, at 1:30 p.m, and the following are the bid results.

SECTION	DESCRIPTION	Beylik Drilling and Pump Service, Inc.	Derrick's Well Drilling and Pump Services, LLC
1	KEAHUOLŪ DEEPWELL	\$164,500.00	\$175,496.40
2	HUALĀLAI DEEPWELL	\$85,000.00	\$69,503.60

The estimated cost for the pump and motor set and refurbished motor, respectively, were as follows:

- Keahuolū Deepwell: \$300,000
- Hualālai Deepwell: \$80,000

The Manager-Chief Engineer recommended that the Board award the contract for MATERIAL BID NO. 2017-13, FURNISHING AND DELIVERING SPARE PUMP AND MOTOR SET FOR KEAHUOLŪ DEEPWELL AND REFURBISHING SPARE MOTOR FOR HUALĀLAI DEEPWELL FOR THE DEPARTMENT OF WATER SUPPLY, by Sections to the following bidders for the amounts shown above, and that either the Chairperson or the Vice-Chairperson be authorized to sign the contract(s), subject to review as to form and legality of the contract(s) by Corporation Counsel.

Section 1 – Keahuolū Deepwell to Beylik Drilling and Pump Service, Inc.

Section 2 – Hualālai Deepwell to Derrick's Well Drilling & Pump Services, LLC.

MOTION: Ms. Iokepa-Moses moved for approval of the recommendation; seconded by Mr. Elarionoff.

In response to Mr. Boswell's question of what would be done with the pumps once received, the Manager-Chief Engineer replied they will be put back in the wells because those are the two wells that are currently out of service.

Mr. Boswell indicated this would be a good RFP to see, in its current fashion.

The Manager-Chief Engineer stated he would get that one out for their review.

Chairperson Takamine asked if storage cost was a line item.

Mr. Takamoto replied that the total cost in the write-up reflects only one month storage. For two full years, the pricing is higher.

Mr. Boswell asked if the equipment is SME National.

Mr. Takamoto replied that it is SME National and Gicon Pumps.

Mr. Boswell stated that was a bit contrary to the conversations they have had where they learned SME does offer storage. If you do not ask, they will charge you.

The Manager-Chief Engineer indicated that is something which can be followed up on because it is worthwhile, based on the information gathered by the Permitted Interaction Group. However, since it was put in this bid, it is not something that can be negotiated at this point.

ACTION: Motion was carried unanimously by voice vote.

6) **NORTH KONA:**

C. **STATE OF HAWAI'I KEOPU DEEP MONITOR WELL PUMP TEST:**

The Department would like to enter into an agreement with the State of Hawai'i, Department of Land and Natural Resources, in order to help the State fund a pump test of the Keopu Deep Monitor Well located on State land and identified within Tax Map Key 7-5-010:016 for the purpose of determining the potential viability and capacity of a mid-elevation deep well. The resultant analysis of pump test results should indicate whether the vicinity surrounding the Keopu Deep Monitor Well could be a potential potable source of high quality water that could tie-in to the Department's existing North Kona water system. The State would continue to maintain control over the overall project and study but would share its results with the Department. The estimated cost to perform the pump test, in accordance with the State's existing contract specifications, is approximately \$100,000.00, inclusive of contingencies.

The Manager-Chief Engineer recommended that the Board authorize either the Chairperson or the Vice-Chairperson, on behalf of the Water Board, to enter into an agreement with the State of Hawai'i, Department of Land and Natural Resources, in order to fund a pump test of the Keopu Deep Monitor Well in an amount not to exceed \$100,000.00, per specifications contained in the State's agreement with Water Resources International, subject to the review and approval as to form and legality by the Corporation Counsel.

MOTION: Mr. Boswell moved for approval of the recommendation; seconded by Mr. Elarionoff.

Mr. Elarionoff asked about the contingencies and what they might be.

The Manager-Chief Engineer replied that the Department does not foresee anything major at this point. As Mr. Nance testified on earlier, the hole was drilled and cased already. Basically, the work is to install a pump and run a pump test to see how much water can be pumped from this well.

Mr. Boswell asked what type of pump would be used and how long it would take.

The Manager-Chief Engineer replied it would likely be a line shaft with the motor on the top, and the pump at the bottom. Mr. Inaba indicated the test would run twenty-four hours a day for four days. It is a Commission on Water Resource Management (CWRM) requirement. The

contingency is typically for the pump test and this is what they call a long-term pump test; to see if at the end of four days, they see something happening to the water level.

In answer to the question of what would happen if more tests are needed, Mr. Inaba stated that the pumping could be scaled back until it stabilizes, and there are ways to analyze it at that time. Somebody like Mr. Nance would have to look at it and see whether it is worth continuing or maybe scale back and see what the safe yield is from that well.

Mr. Boswell asked if the State is going continue going horizontally at that elevation and try again, after choosing this one location as the starting point.

The Manager-Chief Engineer replied, not from his understanding.

Mr. Inaba pointed out the location on a map and indicated they had also done a test well in the Kealakehe area at the 595-foot elevation. They found that same fresh water there, so the Department has a good feeling there are opportunities from there, north at least.

Mr. Boswell thought Hienaloli might be the transmission potential, although not an optimal road.

Mr. Inaba stated that it could either be done that way, or work with the land owners. The State owns a small portion, and two parcels to the north are private owners.

Mr. Boswell stated that HELCO currently has no major electrical distribution there so it would require quite an extension. He asked if the Department could end up bearing those costs.

Mr. Inaba replied yes, typically.

Mr. Boswell asked if the State would be turning over the well or retaining ownership of it.

The Manager-Chief Engineer replied for this one, they are not turning it over. The Department is basically paying to get the information, because it is State property. He thinks they intend to retain it as a monitoring well, not a production well. What this Department is trying to get out of this a potential resource.

Mr. Boswell stated that this site was for exploration, and it gave an idea that at an elevation down below, there is water. But where you drill from when you put your well together, that is in the Department's hands?

The Manager-Chief Engineer replied it will be at the Department's own risk down the road; but without this pump test, it would be a much larger risk because first you would have to find the site and then see if it is a viable resource. With this well, since it was drilled by the State, this Department will benefit from their work with information that can be used in the future. The information from this site will be used to determine whether or not the Department will take the risk elsewhere.

Mr. Boswell asked if the Kealakehe location was pump tested.

Mr. Inaba replied they were not able to do what they did with this well, which was to isolate the fresh water from basal lens above. Before they went on with this Keopu Well, they thought about what type of design to use.

Mr. Boswell stated that it sounds promising.

Mr. Domingo asked if the site is surrounded by many houses.

Mr. Inaba replied that the Nani-Kailua subdivision is just to the south. The thing about the consumption in Kona, most of it is at the lower elevation, so pumping it all the way up to the 1,700-foot elevation means you have to invest in the transmission to the lower elevations.

Mr. Boswell stated that by supplementing the water supply to the lower area decreases the demand on the higher-level aquifer.

Mr. Inaba agreed, that is part of the strategy. If this is successful and the source can be built there, the Department can also look at modifying the existing wells upside to not be so large.

The Manager-Chief Engineer added that for lower elevation wells, it would mean using less energy because of lower "head," plus the ability to use line shaft motors where the motor is at the surface. The Department is very hopeful for the results of this test.

Mr. Boswell asked at what point it would move the Department forward in its CIP and if it would be ready to go at the point these test results come in.

The Manager-Chief Engineer indicated once the results come in, and when next year's budget comes around, that is something that could probably be added on--exploratory drilling and pumping.

Mr. Elarionoff asked about the mention of the water being four feet above sea level. This well is not capped so the water is stable, but would it affect the higher aquifers?

The Manager-Chief Engineer replied it remains to be seen. Part of what can be done while this pump test is going on is continue to monitor the water levels in the mauka wells to see if there is any interrelation. He was sure CWRM would also want that information. Everyone wants to have a better understanding of this aquifer, which is very complex. Even as Mr. Nance mentioned, the professionals are not quite in agreement on what the geologic features in that area are. More information is always a good thing.

Mr. Elarionoff asked if there was a connection, if the water would drain out.

Mr. Inaba replied there is hydraulic head, and it came up about 25 feet. When it punctured that layer that was holding the water down, the water rose 25 feet in the casing. At that height, the hydraulic head is able to or was probably escaping wherever it was escaping to out into the ocean somewhere. Water is taking the path of least resistance.

The Manager-Chief Engineer explained that another way of looking at it is that they are there already and if it was directly connected like that, you would see impacts to the water levels up mauka.

In response to Mr. Elarionoff's question of whether as much water is taken out of the well as possible to see if it drops, the Manager-Chief Engineer replied he was not sure what the State's specifications said when it procured Water Resources International for this portion, which is why the Department gets to piggyback on this Memorandum of Agreement as they had

followed the procurement law. They decided not to fund a portion of it, and the Department offered to have it done. He was not sure what their pump rate was in their specifications. That can be looked at; but like Mr. Inaba said, this will be a starting point and if the water levels start dropping while the pump test is being done, the consultant might say drop it to a lower level and then monitor the water level to see if it stabilizes and will give an indication of what this resource is able to sustain at a certain pumping rate.

Mr. Elarionoff asked once the pumping starts, if the Department would not know if the water level is dropping until the pump dries it up.

The Manager-Chief Engineer replied no, it would be monitored to check drawdown. That is the reason for doing a long-term pump test because if you do a short-term pump test, it might draw down, and when you stop, it will recover. They will check how fast it recovers also. If you continue to pump at that certain rate to see if the drawdown stays the same or if it continues to gradually decrease, then you know it is not a stable rate to pump at.

(Ms. Amy Self joined the meeting at 12:13 p.m.)

Mr. Elarionoff mentioned news articles about the situation in Kona and people there saying enough development, yet the Water Department's attitude is to just supply water.

The Manager-Chief Engineer stated that the Department's mission is the distribution of water and leaves the land use planning to the Planning Commission. The Department of Water Supply is always part of that conversation for their planning of future land use and takes into account the availability of water in the region; however, it is really their responsibility. The Department does not have a position on whether development should continue or stop.

Mr. Domingo stated the reason he had asked if there were homes in the area was a concern if their cesspools would have an effect on the water quality in the area.

The Manager-Chief Engineer stated that well construction standards issued by the State of Hawai'i CWRM is for a cased hole, grouted from the surface, down to at least minimum depth to account for not getting the cesspool hitting the casing going down into the hole.

Mr. Inaba added that in this case, the source is actually below the basal lens where the cesspool water would be and the basal lens is isolated from the deeper source.

ACTION: Motion was carried unanimously by voice vote.

(Chairperson Takamine welcomed Ms. Amy Self to the Meeting. Ms. Keyra Wong left the meeting at 12:17 p.m.)

6) **NORTH KONA:**

D. **JOB NO. 2017-1060 HUALĀLAI DEEPWELL REPAIR – CHANGE ORDER:**

The contractor, Derrick's Well Drilling and Pump Services, LLC, is requesting a contract change order for the additional work required to expedite the installation of Hualālai Deepwell, drilling services for seepage pit, and cost to bail the oil from the well in preparation for the subsequent reinstallation work. The description of additional work and associated fees are as follows:

ITEM	DESCRIPTION	AMOUNT
1.	Additional funds required for the expedited installation of Hualālai Deepwell.	\$ 44,880.10
2.	Drilling services required to deepen discharge seepage pit, to prevent flooding of neighboring properties.	\$16,200.00
3.	Surface bailing of well to remove oil.	\$3,000.00
	TOTAL	\$64,080.10

Original Contract Amount: \$ 327,000.00
Original Contingency amount: \$ 32,700.00
1st Additional Contingency request: \$ 31,380.10

Total Revised Contract Amount: \$ 391,080.10

The Manager-Chief Engineer recommended that the Water Board approve an increase in contingency of \$31,380.10 to Derrick’s Well Drilling and Pump Services, LLC, for JOB NO. 2017-1060, HUALĀLAI DEEPWELL REPAIR. If approved, the total revised contract amount shall be \$391,080.10.

ACTION: Ms. Iokepa-Moses moved for approval of the recommendation; seconded by Mr. Elarionoff and carried unanimously by voice vote.

7) **MISCELLANEOUS:**

A. **DEDICATIONS:**

(This item was deferred at the Water Board’s September 26, 2017, meeting.) The water system has been constructed in accordance with the Department’s standards and is in acceptable condition for dedication.

1. GRANT OF EASEMENT AND BILL OF SALE

Subdivision No. 96-000039
Grantors/Sellers: Brandie L. Oye and Alton M. Oye
Affects Tax Map Key: (3) 6-6-004: 003
Lālāmilo, South Kohala, Island of Hawai‘i, Hawai‘i
Facilities Charge: \$16,500.00 Date Paid: 3/10/2017
Final Inspection Date: 10/16/17
Water System Cost: \$42,000.00

The Manager-Chief Engineer recommended that the Water Board accept this document subject to the approval of the Corporation Counsel and that either the Chairperson or the Vice-Chairperson be authorized to sign the document.

ACTION: Ms. Iokepa-Moses moved for approval of the recommendation; seconded by Mr. Elarionoff and carried unanimously by voice vote.

7) **MISCELLANEOUS:**

B. **MONTHLY PROGRESS REPORT:**

Taken up earlier.

C. **REVIEW OF MONTHLY FINANCIAL STATEMENTS:**

Taken up earlier.

D. **POWER COST CHARGE:**

Departmental power costs have decreased as a result of a decline in fuel costs. The Department proposes to reduce the Power Cost Charge from \$1.73 to \$1.62 per thousand gallons to reflect this decline. In order to accept public testimony on this change, a Public Hearing should be scheduled before the new Power Cost Charge is reduced.

The Manager-Chief Engineer recommended that the Board approve holding a Public Hearing on November 28, 2017, at 9:45 a.m., to receive testimony on reducing the Power Cost Charge from \$1.73 to **\$1.62**, effective December 1, 2017.

ACTION: Ms. Iokepa-Moses moved for approval of the recommendation; seconded by Mr. Boswell and carried unanimously by voice vote.

E. **RFP NO. 2017-07, PROVIDE A CUSTOMER INFORMATION AND UTILITY BILLING SYSTEM TO THE DEPARTMENT OF WATER SUPPLY:**

The Department issued a request for proposal (RFP) in June 2017 to select a vendor to provide computer software, implementation, and support services for a new Customer Information & Utility Billing System. The Department received eight (8) proposals and, after an initial evaluation, narrowed the list of vendors to three (3) finalists. The three finalists conducted demonstrations of their software and submitted Best and Final offers (BAFOs) which formed the basis for the RFP committee's selection of Advanced Utility Systems (AUS), a division of N. Harris Computer Corporation, at a cost of \$1,727,217.00.

The Department's existing billing system has been in place since 2001 and is outdated and inefficient for staff's daily tasks. In addition, the existing system will no longer be supported at a reasonable cost in the near future.

The Manager-Chief Engineer recommended that the Board award the contract for RFP NO. 2017-07, PROVIDE A CUSTOMER INFORMATION AND UTILITY BILLING SYSTEM TO THE DEPARTMENT OF WATER SUPPLY, to Advanced Utility Systems, a division of N. Harris Computer Corporation, at a cost of \$1,727,217.00. It is further recommended that either the Chairperson or the Vice-Chairperson be authorized to sign the contract, subject to review as to form and legality by Corporation Counsel.

MOTION: Ms. Iokepa-Moses moved for approval of the recommendation; seconded by Mr. Elarionoff.

Mr. Elarionoff asked how this benefits the Department.

Mr. Sumada explained that the existing system has been in place since 2001 when email and smart phones did not exist. The Department has run into a lot of limitations with the existing system. Customers now expect e-bills which cannot be provided with the existing system. Another problem is getting reports out of the old system. The new system will give easier access to information and will allow flexibility for customers to access to their account information. There will be a lot of improvements in the way the Department serves its customers because the program is written for the technology available to everybody today. The current system is difficult to maintain. The vendor that provided it does not want to support it any longer, and they will be increasing the cost to support it.

Ms. Iokepa-Moses asked if any workers are being displaced because of this upgrade and if there is a monthly maintenance fee on top of this price.

Mr. Sumada replied that it would not displace any employees; and there will be an annual support fee, which is common in the industry. The price shown includes annual support for three years.

The Manager-Chief Engineer added that customers now have to call Customer Service Representatives to get their account information. This will help the customer access it on their own. Another benefit is the access to information such as consumption history for internal evaluations by Engineering to run hydraulic models or when a private consulting firm is going through its design with its client, they need that information as well. The Department currently has to go through a third-party software to extract the information from the existing billing system. Part of this RFP made the requirement to have a database that is in a common format, easier to extract information from without the need for a third-party software.

Mr. Elarionoff asked how long implementation would be and if it will affect the audit just conducted.

Mr. Sumada replied it will be at least a year before the Department goes live with it. It should improve the ability to meet some of the recommendations made in the audit because the auditors wanted the Department to be able to review certain transactions in the billing system, which was hard to do with the existing system because the transactions could not be extracted in a way that could be reviewed. This new system will make it easier to comply with the recommendations.

In response to Chairperson Takamine's question of whether the vendor will provide all of the training for staff, the Manager-Chief Engineer replied they will, and also migrate the older information into this new system. Software and hardware requirements are included in the price.

Mr. Domingo noted this is a sizeable investment.

The Manager-Chief Engineer stated it was not an overnight decision. The Department has observed the Honolulu Board of Water Supply and others and contemplated it for some time. It has been several years in the making.

ACTION: Motion was carried unanimously by voice vote.

7) MISCELLANEOUS:

F. MANAGER-CHIEF ENGINEER'S REPORT:

Taken up earlier.

G. CHAIRPERSON'S REPORT:

Taken up earlier.

8) ANNOUNCEMENTS:

1. Next Meeting:

November 28, 2017, at the West Hawai'i Civic Center, Community Center (Building G);
74-5044 Ane Keohokalole Highway, Kailua-Kona, Hawai'i

2. Following Meeting:

December 19, 2017, at the Department of Water Supply, Operations Center Conference Room;
889 Leilani Street, Hilo, Hawai'i

9) ADJOURNMENT:

ACTION: Ms. Iokepa-Moses moved for adjournment of the meeting, seconded by Mr. Boswell and carried unanimously by voice vote. Meeting adjourned at 12:33 p.m.

Recording Secretary