

BOARD OF WATER SUPPLY
County of Maui
Regular Meeting
Thursday, March 27, 2008
9:00 a.m.
Conference Room
Department of Liquor Control
2145 Kaohu Street, Room 105
Wailuku, HI 96793

I. CALL TO ORDER

Chair Lee Aldridge called the March 27, 2008 Board of Water Supply meeting to order at 9:12 a.m.

II. ATTENDANCE

Board Members:

Chair Lee Aldridge
Vice Chair Carl Holmberg
Marion Haller
Michael Howden
Kui Lester
Kelli Myers
Kenneth Okamura
Phyllis Robinson

Staff:

Eric Yamashige, Deputy Director
Edward Kushi, Jr., Deputy Corporation Counsel
Herb Chang, staff engineer
Tui Anderson, Water Conservation Specialist
Gaye Hayashida, Commission Support Clerk

Others:

John Duey
Joseph Medeiros
Cheryl Medeiros
Stephen Gingerich, USGS

Member(s) Excused:

Scott Luck

III. ANNOUNCEMENTS

Chair Aldridge announced that the Board will re-hear some missing testimony from the appeal by Dawn Silva which is scheduled for 11:00 a.m.

The Chair also announced that he sent some Associated Press articles regarding pharmaceuticals and drugs in the water to the board members through the commission clerk and hoped that the members found the articles to be informative.

IV. APPROVAL OF MINUTES

The commission clerk suggested that the Board could accept the minutes of February 28, 2008 pending a 30 day review. The Chair agreed and asked for a motion to accept

the minutes pending board member corrections submitted to the commission clerk over the next 30 days.

Motion: By Member Haller to accept the minutes of February 28, 2008 pending Board member corrections within 30 days.

Second: By Member Howden

Discussion: None.

Vote: Unanimous. Motion carried.

V. TESTIMONY FROM THE PUBLIC

A. Joseph Medeiros regarding clarification on Findings of Fact and Conclusion of Law from the January 24, 2008 hearing.

Chair Aldridge announced that this subject is not an agenda item so there is no give or take and this is only for public testimony. Mr. Medeiros stated that he understood.

Mr. Medeiros began his testimony by saying they received the Board's decision in December but they do not understand it and neither does the Department's engineer, Herb Chang, who they met to discuss this. Mr. Medeiros stated that because they are confused they cannot act without some clarity from the Board.

He was told by the Commission Support Clerk that they cannot meet with any board member or talk to them and the Water Department couldn't answer any of the questions as well. So what he is looking for is clarity and asked if it was possible for the Board to look over what was written and help them out.

Mr. Medeiros testified that Herb Chang, after conferring with the Director, told him that they would have to comply with the Department's rules and regulations and he didn't understand what they can or cannot do. He asks that the Board look this over and give him an idea of where to go from here.

Chair Aldridge stated that since this is simply public testimony the Board cannot make a decision. He added that he will attempt to establish a meeting with the Department and Mr. Medeiros some time in the future to hopefully clarify the decision of the Board.

B. John Duey regarding Water Solutions for Central Maui Systems.

Mr. Duey introduced himself as a taxpayer, a resident of 'Iao Valley and president of Hui O' Na Wai Eha and thanked the Board for listening to him today. He wanted to propose 5 solutions to Central Maui's water problems, though the solutions are expensive, some

more than others, some are one time costs, some are continued costs. Solving the water problem is not inexpensive and will not go away.

He stated that he agreed with the Mayor that the water rates are too low and something has to be done, there's no other choice. He also urged that the water meter installation charge be increased or some of that money put aside for storage.

Solution #1 Recycled water. The Kihei Waste Water Treatment Plant produces approximately 4.4 to 4.9 (mgd) of R1 water daily and on average 1.5 mgd of that is used and 3.2 mgd is pumped back down into the ground. What a waste to spend money to treat the water and not be able to use it.

Solution #2 Conservation. Mr. Duey emphasized that this is a no-brainer.

Solution #3 De-Sal. Mr. Duey stated that Director Eng testified during the Na Wai Eha contested case hearings that de-sal would be at least 3 to 4 years out after the plans are drawn up. The drawbacks are that brine is left behind and the cost of power is expensive.

Solution #4 Tunnels. The 'Iao Tunnel (5330-02) in Happy Valley is controlled by HC&S and they have a permit in for 100,000 gallons. Mr. Duey added that this is part of the contested case hearing of Na Wai Eha. This tunnel goes under homes and the 'Iao Stream then drops into Spreckles Ditch. He believes it is a shame that this water goes to irrigate sugarcane. He recommends 'Iao Tunnel (5332-02) be condemned and used for municipal use.

Solution #5 Storage. Mr. Duey proposed that the County acquire the Waiale Reservoir which currently holds 36 million gallons and build a billion gallon reservoir.

VII. OTHER BUSINESS

A. Presentation by Stephen Gingerich, USGS, on the 'Iao and Waihe'e Aquifers

At this time Chair Aldridge announced he was moving the agenda items around and so he asked Mr. Gingerich to give his presentation on the 'Iao and Waihe'e Aquifers.

Mr. Gingerich gave an overview of the project that the USGS has been working on in cooperation with the Water Department for the last 4 years. It is now near the end of the project and it will be going out for a review process. This is a 4 and a half year project and it cost approximately \$1 million which is split between them and the Water Department.

The last 4 years of data shows that the average rainfall at Puu Kukui dipped below the 50% average in 2007, which is approximately 160 to 170 inches of deficit rainfall. During that same time period the pumpage from 'Iao and Waihe'e Aquifers has been

pretty stable though there was a slight rise until it dropped down in December of 2007 due to the rains. The monitoring wells of the aquifer show the seasonal pattern of water level. It dropped in the last 4 years but not as serious as it was 6 or 8 years ago.

The Waiehu Deep Monitor Well goes through the freshwater into the saltwater of the aquifer and collects samples to monitor the depth of the transition zone beneath the freshwater. What they see is a trend or movement of this zone migrating up even though pumping is stable and rain goes up and down. This kind of response takes at least tens of years, so what we are seeing are the effects of pumpage from about 20 to 30 years ago.

Their study area originally included only the areas around 'Iao and Waihe'e, but the groundwater system and the hydrology are affected by the groundwater recharge throughout Central and West Maui. So they included the volcanic rift zone of Haleakala and all of West Maui.

The objectives of the study were to understand the regional groundwater flow better, get updated estimates of groundwater recharge to the system, and to look at future scenarios. They approached it by looking at the existing historical data, collected additional data for recharge estimates, compute a new recharge estimate with a water budget approach, and finally develop a numerical computer model to simulate future conditions.

The recharge computation method is like an accounting method where they add up all the rainfall, moisture collected from fog, irrigation from agriculture and subtract out the losses like evaporation from the sun, use by plants and runoff to the ocean; and mixed with the hydraulic properties of the soil and the land cover. All this is put together in a GIS approach to come out with estimates of recharge to the groundwater system. This is the "driver" of how much water can be taken out of the aquifer.

They took the recharge study and looked at the historic records from 1926 because of the good rainfall data they had from that time on. The time periods were broken down based on different rainfall events and agricultural use which began with the period from 1926 to 1979. From 1979 on they looked at the recharge in 5 year increments. Their 5 Year Moving Average Study of Area Rainfall showed that there were dry periods in the mid 70's but 1998 to 2002 period was the driest ever recorded in the 100 year rainfall record.

They looked at land use during the same period which would have a big impact as to what type of land cover, vegetation and irrigation. The main land uses were sugar and pineapple from 1926 to 1979 and as time changed the land use changed and more efficient irrigation systems were used. Most of the significant changes were in the 'Iao and Waihe'e areas.

Taking the rainfall data and the land use data and using the GIS package they came up with estimates of groundwater recharge. Drier periods, less irrigation and more efficient irrigation caused less recharge to the system.

During the period of 1926 to 1979 there was approximately 700 million gallons a day (mgd) of recharge for Central and West Maui. As you move along in time, in the 2000 to 2004 period there is a 44% decrease over the whole study area and an 18% decrease for the 'Iao area alone. He would estimate that approximately 20% would be due to rainfall change and 20% to 25% to irrigation change for the past 10 years or so.

Another component that feeds into the groundwater model is the infiltration of stream flow into the aquifer as recharge; though most of these streams have been diverted for irrigation. There are volcanic rocks that are less permeable and act like "dikes". They fill up like a bathtub and the water spills out into the streams and tunnels. If the streams weren't diverted the water would flow down and outside of the "dike" into the outer lava flows above the water table and it would sink back through the stream bed and act as recharge.

One of the things the USGS wanted to look at was how much water would return to the aquifer if they weren't diverted. Based on their Stream Infiltration measurements of Waihe'u, 'Iao, Waihe'e and Waikapu, they estimate it to be at about 12 mgd of potential recharge which is a significant number considering that the sustainable yield of the aquifer is about 20 mgd.

They used a computer model to mimic the actual physics of groundwater flow in the system. A numerical mesh of this area is made, next they put in the geological properties of the system, and then they run the water through the system to see what happens. The unique geology of West Maui is what allows it to be a good aquifer.

Using this model they can project out to 150 years from now and plug in the "what ifs". What if new wells are put in, what if these wells were pumped differently, what if there is a drought, what if agriculture goes away. These different scenarios give them a picture of what to plan for in the future.

Their plans for the next 6 months are to finish the modeling report draft and start the review. Next they will begin field work in the Lahaina District.

VIII. APPEALS

- A. Appeal 07-01 An appeal by Dawn Silva of the Director's decision/order dated April 16, 2007, denying her request for a water meter for her property located at 937 Kokomo Road, tmk (2) 2-7-011-031

Chair Aldridge announced that the Board will now hear again the testimony of witnesses, Catherine Silva and Dawn Silva. The recording of their original testimony,

along with Deputy Corporation Counsel Madelyn D'Enbeau's opening statement on February 28, 2008, was lost due to a malfunction of the recording equipment. The parties involved agreed to a re-hearing of only the witnesses' testimony. Present for this portion of the meeting were Paul Mancini, attorney for the appellant; Dawn Silva, appellant and witness; Catherine Silva, witness; Madelyn D'Enbeau, Deputy Corporation Counsel for the Department of Water Supply; and Jeffrey Eng, Director of Water Supply.

Refer to *Testimony of Catherine Marie Silva (Mrs. Silva) and Testimony of Dawn Marie Lahela Silva Augustine (Ms. Silva)*.

VII. OTHER BUSINESS (continued)

A. Resolution 08-01 Commending Kenneth M. Okamura for Five Years of Faithful Service

Chair Aldridge read into the record, the following resolution regarding Member Okamura's service to the County of Maui Board of Water Supply.

"BOARD OF WATER SUPPLY, COUNTY OF MAUI

RESOLUTION NO. 1 (2008)

Whereas, Kenneth M. Okamura of Kula, Maui, Hawaii was appointed to the Board of Water Supply of the County of Maui on April 1, 2003 and his term will expire on March 31, 2008; and

Whereas, the said Kenneth M. Okamura served as Vice Chairperson of the Board of Water Supply from April 2004 to October 2006 and as Chairperson of the Board of Water Supply from November 2006 to November 1, 2007; and

Whereas, the said Kenneth M. Okamura has unselfishly and with dedication devoted, without compensation, his time and energy into matters dealing with the Board of Water Supply, all in the interest of the people of the County of Maui; and

Whereas, during the time of his service as a Board Member, the said Kenneth M. Okamura has contributed generously of his knowledge and skills to make decisions for the Board of Water Supply that will influence its direction and operation for the years ahead; and

Whereas, the said Kenneth M. Okamura's interest in the Board of Water Supply and the Department of Water Supply has been greatly appreciated by his fellow Board Members; now, therefore,

Be it resolved by the Board of Water Supply of the County of Maui that it does hereby congratulate, commend, and thank the said Kenneth M. Okamura for the five years of faithful and outstanding service he has rendered as a member of the Board of Water Supply; and,

Be it further resolved that the members of the Board of Water Supply extend to Kenneth M. Okamura our sincere Aloha and Best Wishes for his continued success and much happiness in his future endeavors; and,

Be it further resolved that certified copies of this Resolution be transmitted to the said Kenneth M. Okamura, to the Mayor and to the Maui County Council of the County of Maui.”

Motion: By Member Howden to approve Resolution No. 1 (2008)

Second: By Member Haller

Discussion: None.

Vote: Ayes – Chair Aldridge, Marion Haller, Carl Holmberg, Michael Howden, Kuilauokalani Lester, Kelli Meyers, Kenneth Okamura, Phyllis Robinson.

Nays – None.

Excused – Scott Luck

Motion carried.

Member Okamura expressed his appreciation in working with this Board and thanked the members for their support. He also thanked Deputy Corporation Counsel and the Department and staff for a job well done and for their support of the Board. Being the the Board for the past 5 years, he is impressed with what the Department does with all the limitations they have.

The Chair also read into the record a letter dated February 12, 2008, from the Office of the Mayor to Member Okamura congratulating him for his service to the Board of Water Supply.

“Dear Mr. Okamura:

Congratulations on a job well done. On behalf of the people of the County of Maui, please accept my deepest appreciation and gratitude for your dedication and service on the Board of Water Supply. Your efforts and contributions have made a positive difference. I truly believe that it is important for citizens to play an active role within both our community and government.

The process of recruiting and selecting nominees to the various Maui County boards and commissions has given me a greater appreciation for the volunteerism and community service. I would like to commend you for your willingness to devote your time, energy, resources and insight to the betterment of Maui County.

Once again, thank you very much for doing your part to make our county the best that it can be and I hope that your experience has been rewarding and worthwhile.

*Sincerely,
Charmaine Tavares”*

Included with that letter was a certificate of service.

Chair Aldridge asked for a recess before continuing to the next agenda item.

VI. UNFINISHED BUSINESS

B. Discussion/possible action regarding the Water Conservation Plan (WR-14)

Chair Aldridge submitted a proposed resolution on the enforcement issue of the Water Conservation Plan and asked the members to review it.

The Chair asked Tui Anderson, Water Conservation Specialist, what the other water agencies are utilizing as enforcement procedures, other than restricting outdoor watering.

Mr. Anderson stated that his research didn't show much in Hawaii, though on Oahu they were going around and fining restaurants serving water when it wasn't requested. The Maui DWS has sent letters out to restaurants asking restaurants not to serve water unless it is requested.

Mr. Kushi asked who fines the restaurants.

Mr. Anderson replied that on Oahu it is the semi-autonomous Board of Water Supply.

He researched other utilities such as Las Vegas, Albuquerque, Tucson, and Southern Florida Water Management; and for the most part most of the violations are reported by “snitching”. Most utilities would give a warning before assessing a fine and the fines vary between \$20 and \$25 for the first offense, though some places are much higher. Tucson is the strictest. They don't give any warnings and issue fines immediately. It is a \$250 fine for the first offense, the next is \$500 and goes up from there.

Las Vegas' fines are based on the size of the water meter. For less than a 1-inch meter the fine is \$20, 1 to 3-inch meter is \$40, and 3-inch and greater meter is \$80 for first offense. Each offense after that is doubled indefinitely.

Chair Aldridge asked if the fines are handled through the Water Department.

Mr. Anderson stated that most utilities add the fine on to the water bill, though some have it as a criminal violation, a misdemeanor offense. And most allow for an appeal process.

He corrected himself by saying that it was Albuquerque who didn't give any warning. Tucson did giving warnings and tried to work with people but if the people were unresponsive, they had to pay the fine.

The fines were based on water waste, though it could be because of watering on the wrong day. The utilities were strict on the watering schedule, the run-off, and running irrigation systems with broken sprinkler heads.

Mr. Anderson quoted Albuquerque's definition of water waste. "Water waste is any water other than natural precipitation that flows from a property to the public right-a-way or adjacent private property. Landscape irrigation is the most common cause of water waste but it can also result from air conditioning system leaks, car washing and other uses of water. Water waste will result in the loss of valuable natural resources."

The utilities he researched all seemed to have extensive conservation programs. Some utilities offer water conservation workshops or classes in lieu of a fine. But if the people don't go to these classes then they would have to pay the fine. The whole idea is to get people educated.

He suggested that the way to go is that the amount of the fine increases with the size of the water meter as Las Vegas does it. He likes the idea of doubling the fine if people just continue to waste water, but definitely there should be a warning first, then education and only fine people if they still don't comply.

Chair Aldridge stated that he would like to get some resolution to this Water Conservation enforcement issue and asked Mr. Anderson if he was preparing some kind of enforcement rules?

Mr. Anderson replied not at this time.

The Chair asked if he would prefer to do that rather than having it imposed as a misdemeanor.

Mr. Anderson replied he was not sure.

Deputy Director Yamashige stated he too, could not answer that, but added that we don't want to go through the court system route. The Department is probably looking at adding more staff, following up on water waste complaints, and maybe strengthening the Water Conservation ordinance and incorporating proven measures.

Chair Aldridge's proposed resolution supports the arena of enforcement being the exclusive purview of the Department and that the Department will develop rules for enforcement and penalty assessment. Rather than micro-managing this he would like to see it in the hands of the Department rather than the courts.

If the members are willing the Chair stated that he would like to propose the resolution he submitted at this meeting to the Water Resources Committee.

Motion: By Member Howden to accept the proposed resolution

Second: By Member Holmberg

Discussion: None.

Vote: Unanimous. Motion carried.

VII. OTHER BUSINESS (continued)

A. Discussion regarding the Upcountry Water System

Deputy Director Yamashige stated that the Board may have noticed that the reservoir levels are going down. The Department has started phase 10 pumping and is even considering starting phase 6 which would be putting some water in the upper system. The recent rains have not affected Kahakapao, but things have recovered quite well at Piihola and Wailoa Ditch has gone up as high as 140 mgd. The Department is continuing to monitor the situation.

Member Howden stated that the Waikamoi intake system is pretty shabby and needs to be redesigned so that there would be a better capture of water.

Member Haller asked for a review of the Upcountry system again. She wants to know what the total capacity is now and how it is managed.

Deputy Director Yamashige stated that the Chair had previously requested that Director Eng was asked to provide a simplified sketch of the Upcountry system.

Member Howden stated that the Board needs to look at the Piihola Well Agreement and he asked the Deputy Director when will it be ready.

Deputy Director Yamashige replied that the wells just got completed with the pilot hole. They will be putting in a pump to test it, either this week or next. If it proceeds on schedule then it should be completed in late 2009.

Member Howden asked, then no meters would be allocated to Maui Land & Pine until we know what the production of the well is?

Deputy Director Yamashige replied that's correct.

Member Howden stated that if indeed as part of our agreement, we are to pump water up to the Maui Land & Pine parcels, we really should consider a pumping surcharge and asked if that seems reasonable.

Deputy Director Yamashige stated that in the Maui Land & Pine agreement for Piiholo Well, their service area is the Pukalani area and the agreement says that the service area is identified by the Maluhia tank which is above Pookela where the Piiholo water will be going to. That agreement goes further to say that 120,000 gallons can be delivered outside of that service area, and only to certain tax map properties. So it is limited and the Department is aware of how much it costs to take water above the source and the agreement did limit that ability.

B. Discussion/possible action on the Central Maui Water System and West Maui Water Availability

Deputy Director Yamashige stated that the Monthly Source Report in the Division Reports shows the 12-month moving average of the Central system is down to 16.272 mgd. The Department's permit with State's Commission on Water Resource Management is for about 17 mgd. We were over pumping for a little while but have made a lot of effort to reduce the pumping to a little over 16 mgd. We are now well within our allocation. The Department makes sure to spread the pumping and comply with the water allocation from the commission.

To help reduce pumping from the wells in the 'Iao Aquifer, the Department tries to produce as much as it can out of the 'Iao Treatment Plant to reduce its dependency on groundwater. The plant is able to process up to 2.1 million gallons.

C. Receipt of Board Member request for agenda items to be placed on future agendas

1. Progress report on the Medeiros case
2. Discussion on the Dual Line
3. Revisit mandatory restrictions for Central Maui

4. Discussion regarding pumping water from Kamole to the Upper and Lower Kula Systems
5. Review of schematic of the Upcountry System
6. Discussion on the Piiholo Well Agreement

IX. COMMUNICATIONS

A. None

X. DIRECTOR'S REPORT

A. None.

XI. DIVISION REPORTS

XII. ADJOURNMENT

Chair Aldridge announced that the attorneys for both parties in the Appeal of Dawn Silva will get their written closing arguments to the commission clerk 10 days before the April 24th meeting. The Board will hear their closing arguments on the 24th and may deliberate in close session that day or at a later date. But he would like to get it done and deliberate that day.

The Department staff announced the reappointment of Scott Luck to a 5 year term and the appointment of Ted Yamamura as new board member.

There being no further discussion, Chair Aldridge adjourned the March 27, 2008 Board of Water Supply meeting at 1:31 p.m.

Prepared and submitted by:

Gaye Hayashida
Commission Support Clerk

Approved on: _____