

County of Maui Water
Supply

BOARD OF WATER SUPPLY
COUNTY OF MAUI
REGULAR BOARD MEETING
THURSDAY, JULY 20, 2006

9:00 a.m.

Planning Department Conference Room
First Floor, Kalana Pakui Building
250 South High Street
Wailuku, Hawaii 96793

I. Call to Order

Chair Michael Victorino called the July 20, 2006 Board of
Water Supply
meeting to order.

II. Attendance

Board Members Present:

Also Present:

Lee Aldridge

George Tengan, Director

Carl Holmberg

Edward Kushi, Jr.,

Deputy Corporation Counsel

Ginny Parsons

Holly Perdido

Mike Howden

Ellen Kraftsow

Kui Lester

Gaye Hayashida

Vice Chair Kenneth Okamura

Chair Michael Victorino

III. Approval of Minutes

Board Member Aldridge had one correction on page 50, line 14 and

the June 26, 2006 minutes, the word "staff" should be "board".

Board Member Aldridge stated that after the last meeting he received a

synopsis of the actions taken at that meeting and it does not match the

minutes. The synopsis states "The Chair recommended that this item be

deferred until September/October because the Planning Division already

has a Conservation Advisory Committee." He thought the chair had

recommended that the board sub-committee take part in the water conservation

committee, and not have the action deferred until September/October.

Chair Victorino replied that is correct -- to take part in the water

conservation committee. But as far as creating a separate committee,

the board was looking at September/October to come back and

create one

if things did not work out with the water conservation committee.

Motion: By Board Member Howden to approve the minutes as corrected.

Second: By Vice-Chair Okamura

Vote: Ayes - Unanimous. Motion carried.

IV. Public Testimony

None

V. Communications

West Maui

Com 06-08 Joseph Pluta, President, West Maui Taxpayers/

which offers

Improvement Foundation, gave a presentation on Brac Systems

solutions to water shortages.

This system can save an average of 35%, sometimes more, of water that normally would be flushed down the toilet.

The Brac System was patented in Montreal, Canada and is being used in that country and the United States. The distributor, Frederick Winfield & Associates, has utilized this system in the developments they were building in Washington State and was able to get the counties and that state to adopt it.

This grey water system takes the water from the washing machine, shower and vanity, and re-uses it by pumping it up to a special filter tank then into toilet tanks. So every time you flush you would be using this grey water

instead of fresh drinking water thereby conserving this precious resource.

The states of Arkansas, Texas, New Mexico, Washington, Florida, North and

South Dakota, Tennessee, Indiana and Missouri, have all utilized and approved

this system and looking at incorporating it into their building codes for all

new developments. Some would be mandatory, some voluntary to get green

points or energy savings credits. Examples are five points given for homes

plumbed with grey water flushing; five more bonus points are awarded upon

the installation of a Brac System. An additional ten points is awarded if

it is utilized for outdoor irrigation.

The water from the kitchen sink cannot be used because food particles can

contaminate the system, but water from vanity sinks, showers

and clothes

washers would be the main source. It is recommended that fresh water be

plumbed in so that the system has always enough in it to insure that you

will never be short.

Board Member Parsons thought this is a great idea but she has some concerns.

What they are finding Upcountry is that 100% of RO and activated filters that

were taking bacteria testing have been found to have heavy growth. The 100

micron filter would get bio-fouling in it, back up and have bacteria growth.

If you have bacteria growth in the water and flush, you would have bacteria

coming through and surface water is "microbially" unstable.

Member Parsons asked Mr. Pluta if he could find out what kind of surface

water microbial testing has been done. Mr. Pluta stated that he could

definitely get that information and added that elsewhere they had the exact

same concerns and they were all addressed otherwise they would not have

approved the system.

Members Parsons invited Mr. Pluta to the Water Oversight Committee and give

a presentation on this system.

Vice Chair Okamura asked how long has this system been around? What kind of

track record does it have? Mr. Pluta replied that he doesn't have the answers

to that. Vice Chair Okamura stated that if you're going to put something like

this in the house, you would want it to last with low maintenance.

Vice Chair Okamura then asked Mr. Pluta if he had one in his home. Whereby,

Mr. Pluta replied he wished he did. Before he does install one, he first

would like to make sure he goes through the right channels.

Board Member Aldridge stated that he assumes the State of Hawaii, Department

of Health services has not approved this yet. Mr. Pluta replied, no, not

yet but they are looking into it.

Board Member Aldridge asked what does a system like this cost? He imagines

that to retrofit an existing house's plumbing would be quite a bit more

expensive than installing in a brand new home. Mr. Pluta stated that he

just had a complete system shipped here for \$1,200 plus whatever the plumber

would charge to hook it up. If there are multiple purchases the price drops

significantly. The big cost is shipping.

Board Member Parsons stated that there is a program for solar hot water

heaters where the county financed it and allowed to you pay over time while

Maui Electric and the State gave you energy credits. Member Parsons

suggested Mr. Pluta look into something like that from a financing standpoint.

Chair Victorino stated that if Mr. Pluta wants to put this in, he has to get

the Department of Health's approval. This is conceptually very good, but

until the regulatory agencies approve it, all the board can do is say this is

a great system. Mr. Pluta agreed and stated that it might take some time to

get this through the Department of Health.

Mr. Pluta will get the answers to the questions the board asked. The Chair

stated that if he gets it to him, he will forward it to all the board members.

VI. Announcements

The 2006 Hawaii Water Works Association will be on Kaua'i from October 11 to

13, 2006. The Chair felt that this is a very important conference for board

members to interact with other board members and other departments throughout

the state.

Director Tengan stated that this organization was formed among the 4 counties

at a time when Hawaii was part of the Cal-Nevada section of the AWWA. It was

felt that a local conference was needed for employees and board members to

discuss common issues. It is different from AWWA in that it was made up of

the 4 county water departments, the Department of Health and in past years,

included the Division of Land and Water Development. These six agencies made

up the membership of this organization and did not include any suppliers or

consultants. The Director recommends that the board members attend this

conference.

Chair Victorino asked the board members to let the department know by July

31st if they will be attending this conference.

VII. Other Business

Presentation by Alex Michailidis, Project Coordinator for the East Maui

Watershed Partnership on the EMWP and the Importance of
Protecting Our

Native Forests.

The East Maui Watershed Partnership was formed in 1991 with
the County of

Maui and the six major landowners/land managers of East Maui.
EMI, the

national park, Haleakala and Hana Ranch, DLNR and the
Nature Conservancy

got together to protect our watershed from degradation by
pooling their

expertise and resources, and implementing an active
resource management

program. The East Maui Watershed is perhaps one of the
last strongholds

of our native forests in the entire state and a lot of water
is harvested

for agricultural, domestic and commercial needs for the
entire island.

Our watershed is an extremely valuable resource, billions of
dollars in goods

and services, and we are not doing enough to protect these areas. This area

is approximately 100,000 acres.

A watershed is an area where water drains and collects. It acts as an

umbrella, reducing erosion from the rain, enabling more water to seep into

our aquifers. Our forests are directly related to our water supply. Well

managed natural forests almost always provide higher quality water with

fewer sediment and fewer pollutants. Tropical montane cloud forests which is

the type of forests we in East Maui, increase our total water flow.

Sixty million people, 3400 communities in 33 states rely on forests for fresh

water. Maui has 3 partnerships, East Maui, West Maui and Leeward Haleakala,

which is more of a restoration partnership. Now these partnerships have

sprung up over all the islands. A million acres are now being managed.

Our watersheds are under threat from feral animals, mostly ungulates that dig

up the forests and invasive plants, such as miconia, that transform a native

forest with 100 different species living in synergy to a monotypic forest.

You lose a lot of the functions that a forest provides. Nothing grows under

bamboo and pine therefore you lose that ability to hold the soil. When

vegetation is denuded erosion happens, causing our reefs to die and our

watershed suffers.

Maui used to have all native forests and now it is only in the more mauka

regions of our island. If we don't do what's needed to protect

our forests

we won't have a forest and without a forest it is going to
stop raining. Then

we're going to need a whole lot of grey water systems and de-
sal plants to

generate the fresh water that we need to survive.

This project involves 2 main facets, natural resource management
- controlling

and abating the threats, and public outreach. We need to
find young,

passionate people to follow in our footsteps to become
future resource

stewards. Education is a paramount importance.

Before fences can be constructed, all materials are
decontaminated before it

is sent up the mountain. Because these areas are remote
and inaccessible

helicopters are used to bring the materials in. The staff
uses heavy duty

weed wackers to cut a trail where the fences will go. When they cut a path,

they try to minimize as much as possible the disturbance or impact they make

because this bare ground is an ideal location where weeds can grow. Over time

the native species come back and repopulate the disturbed area where the fence

is. Fences are really effective in keeping out animals and enabling plants to

flourish.

All this costs money. A roll of fence is a couple hundred dollars, an hour

of helicopter time is \$800 and a mile of fence is \$5,000. The cost is over

\$100,000 for labor, material and the use of a helicopter to install one mile

of fence.

EMWP has an educational outreach program where a staff member

goes to the

schools and gives demonstration models showing how erosion happens. They

participate in a lot of community events. They take students out on hikes

and they work with volunteers of partner agencies and reforestation projects.

Since 1991, EMWP drafted management monitoring plans and increased access for

hunters in the Koolau Forest Reserves by utilizing EMI's roads to access the

lower reaches of the watershed. They developed an EA which allowed them to

build the first 10 miles of fence and now have developed a draft EA to protect

an additional 13,000 acres. Their project site will ideally be between 25,000

to 30,000 acres. It is currently 12,000 acres where active management is

happening above fence lines. The eight staff members have raised over a

million dollars in the last 4 years.

In the future, they hope to finalize their draft EA before the end of the

year, hire an additional 6 to 8 people and to support the state and the

Leeward Partnership with fence construction in the Kahikinui Forest Reserve.

They are all staff of the UH-Manoa Pacific Cooperative Studies Unit, hired by

RCUH (Research Corp. of UH) and supported by UH staff. There are no dedicated

sources of money. All their funds come from grants from private landowners

and contributions from the U. S. Fish and Wildlife Service, the DLNR's

national area reserve fund and the county's Office of Economic Development

and the Department of Water Supply. The EMWP has an operating budget that

is a little over half a million dollars a year.

This board can help by making sure the State of Hawaii's Land
and Natural

Resources Natural Area Reserve fund remains intact and continues
to increase,

help develop secure funding sources, support programs that keep
kids out

there, spread the word, volunteer, plant native trees, scrub
your boots before

you go hiking, conserve water and donate money.

Board Member Holmberg asked if they have a lot of problems
with people

punching holes in the fence. Mr. Michailidis replied that the
only reason

they don't have a problem with that is because the fences are
too inaccessible.

Vice Chair Okamura asked how is the effort going with the feral
pigs and deer?

Mr. Michailidis explained that regarding feral pigs, there are not a lot pigs

in the mauka area because of the cold wet weather, and their food sources

aren't there. Regarding the deer, the Nature Conservancy recently built a

deer fence around Waikamoi Preserve. He has seen herds of 40 to 50 just

across the street at Piiholo Ranch and on the road in the middle of the

afternoon. The state needs to do something about it. Until they sit down

with the private landowners to reduce the liability concerns the deer problem

will keep getting worse.

Chair Victorino stated that the board will continue to support East Maui

Watershed Partnership's efforts and will do whatever they can to encourage

funding for this organization and thanked Mr. Michailidis for his presentation.

In closing, Mr. Michailidis stated that they need the partnership programs to

have the same type of support that is being provided to the invasive species

issue. The East Maui project is getting \$140,000 for FY 06. They would like

to get up to \$500,000 to \$600,000 per year. They need to think outside of the

box to generate funds to support these projects.

Board Member Parsons asked if they have ever used the water department's

billing, such as putting in a notice along with the utility bills. Mr.

Michailidis stated that they have a donation program now but that is a good

idea and will check on it.

Director Tengan stated that he has seen billing systems whereby the subscriber

or customer could dedicate a dollar or two as part of their bill payment and

then the department would set aside that money and dedicate it to programs

like the partnerships. This could be something the board could consider in

reviewing next year's budget.

Chair Victorino stated this would be placed as an item for review on the

next meeting and will check with Corporation Counsel making sure they are

being fair to all. The Chair further stated that is one of those essential

programs that they cannot continue to let flounder because of financial

issues.

VIII. Unfinished Business

DIR 06-05

Regulatory Calendar of Safe Drinking Water Act

and Non-Safe

Drinking Water Act Federal and State Health and
Environmental Regulations

Applicable to the Department of Water Supply Systems.

Ellen Kraftsow explained that the regulatory calendar shows the
name of the

rule, then the proposed date, the date the final rule expected,
and then the

date when compliance is due. One of questions (posed at the
last meeting)

was when is the exact schedule? That would be shown in the
middle column

and the right side summarizes the main bullet points. As
to questions about

the disinfection by-product rules, on the application and
regulatory timeline,

the earliest deadline for community systems serving less than
10,000 is April

1, 2008.

If total trihalomethanes or haloacetic acids by the LRAA tests are not in

allowable levels then the department is required to comply by either putting

in GAC or Nano Filtration and that is section IV D-1. So it's 40 CFR Parts

9 141 and 142, specifically 142, section IV D-1 specifies what the BATs are.

Water systems that use surface waters or ground water under the direct

influence of surface water and use conventional filtration treatment are

required to remove specified percentages of organic materials that may react

to disinfectants to form disinfection by-products. Removal is achieved

through a treatment technique which is either enhanced coagulation or

softening unless the system meets alternative criteria that are defined in

the rules. If the public water system is unable to achieve the

MCL it may be

granted a variance if it is using best available technology similar to the

lead and copper rule. Best available technology is enhanced coagulation,

enhanced softening or granular activated carbon.

There needed to be an initial distribution system evaluation of which there

are four approaches. These are a standard monitoring, system specific study,

certification and a very small system waiver. Determine stage 2 monitoring

locations then comply with stage 2 MCLs on the required schedule. The

compliance dates are April 1, 2008 if less than 10,000, and October 1, 2007

if greater than 10,000. The best available technology specified is either GAC

or Nano Filtration.

The schedule itself is in the table, it would be the compliance dates in the

second column.

Board Member Holmberg asked if radon and other radionuclides are a problem

in Hawaii compared to some of the sediments (found) on the mainland? Ms.

Kraftsow believed that there were some tests done and pretty much almost

everything was ok.

Board Member Okamura asked which of these would the department be most

concerned about in terms of costs to comply? Ms. Kraftsow replied that in

the near term it would be the disinfection by-products rule. Whether that

would apply once the ground water disinfection rule takes place she doesn't

know.

Board Member Parsons asked if we have any bromide numbers in our water? Ms.

Kraftsow stated that she believes bromide is usually a by-product of UV.

Board Member Parsons explained that bromide is natural but when it mixes

with organic matter as a disinfection by-product it becomes a bromate.

Board Member Aldridge corrected by saying that bromide naturally occurs in

water, primarily in sea water or ground water that has been contaminated by

sea water. Bromide is converted to bromate by oxidation such as ozone. So

those systems that use ozone for disinfection as opposed to chlorine will

form bromates and those are compounds of regulatory concern.

Board Member Parsons again asked if we need to be concerned with any of that

in our water? Ms. Kraftsow replied that she was not aware of any problems

with that. She has not seen any tests that showed high bromide.

Board Member Parsons asked if we have to test for bromide?
Ms. Kraftsow

replied that she did not know and can follow up on these questions.

Board Member Parsons stated that she only asked this question because someone

asked her about a table top filtration system that was in Sharper Image that

uses ozone. She was concerned that bromide and ozone can cause disinfection

by-products. Ms. Kraftsow stated she didn't know and can follow up but not

on the Sharper Image product.

Board Member Aldridge stated that he has a list of chemicals that are under

the Safe Drinking Water Act regulations and bromide is not listed
as one of

the inorganic chemicals and it is not required to be
tested. Utilities that

ozonate their water do test for bromate and would be concerned
about bromide

in that case.

Chair Victorino asked if we were meeting these timetables
as specified by the

EPA? Ms. Kraftsow replied that right now we are in compliance
with everything.

Yes, it is the number one priority in CIP, even if money has to
be taken from

another project.

The Chair stated that it concerns him when you have to take
money away from A

to pay B. Ms. Kraftsow explained that we do not have the money
to do

everything that needs to be done.

Board Member Parsons asked Ms. Kraftsow what she would do in getting money?

Ms. Kraftsow replied, hopefully a rate increase and a look at our fees and

costs benefit analysis of the source option. In addition, the county could

designate districts that it anted to focus on improving by putting some

general funds money towards that but once it is improved and up to standard,

no further development is allowed to happen without meeting system standards.

Board Member Howden stated that the mayor has publicly made it clear that he

considers the running waters within the state are actually owned by the state,

yet we continue to pay HC&S and EMI for our water. Has this been looked at

in terms of renegotiating contracts with people who supply our water? Ms.

Kraftsow explained that what we pay for is not the water but the transmission,

the collection, the system, the maintenance, the infrastructure necessary to

get the water.

At this time Chair Victorino asked that Board Member Howden bring this up as

an agenda item for the next meeting.

Ms. Kraftsow said she will check into radionuclides, radon, bromides and

bromates and will submit her findings by letter to the board.

IX. Director's Reports

None

X. Other Business (continued)

Discussion/possible action regarding Budget Process Timeline
for Fiscal Year

2007 - 2008.

The board has October/November at the most to look at the budget
and give

their input so that the director and the department can send it
up to the

mayor's office by January. At this time Holly Perdido explained the

timeline to the board.

Usually the department gives a draft of the budget to the
mayor's office by

end of November/December then in January the director submits
a completed one.

When the board was semi-autonomous the department would
start preparing the

budget in December/January, then present it to the board in
February/March,

sometimes April. By the board's last meeting in May it was approved.

Now with the department under the mayor, there is a lot of pre-budget items

that need to be submitted to the mayor by November/December then the final

draft goes up in January. This means that the department will start working

on the budget in August/September and get something to board by October/November.

The Chair requested that the department submit a draft budget to them by

October's meeting in order for them to review and return a draft back to the

department.

Director Tengan suggested that the board hold a budget workshop to iron out

the budget before the November meeting. Then at the November meeting the

board could take action to recommend approval of forwarding the budget to the

mayor.

The Chair asked that a date be secured for the budget workshop prior to the

October meeting. Board Member Aldridge recommended that a budget workshop

be held also in November if needed. The chair agreed with this recommendation.

Vice Chair Okamura asked how does the department come up with the figures for

the budget especially CIP, what the priorities are? Ms. Kraftsow replied that

for CIP, first there is the demand forecast compared to actual production. At

this time the Chair asked that Ms. Kraftsow provide the board in an outline

form how they determined the priorities. He also asked the same from Ms.

Perdido.

Verbal Update on Status of Pookela Well

The Director stated that last week the pump was tested and water was coming

out of the well. Either tomorrow or early next week, the well will be

bombed with chlorine, let it sit awhile, and then they will do a 6 hour

of the pump test to make sure everything is working well. At the end

test they will be taking a sample to send out to the lab for evaluation and

analysis. Following that, the results will be sent to the DOH for approval.

He foresees that it will be 3 to 4 months before the well is on line.

Board Member Parsons asked if we are giving water meters out for Upcountry

at this point? The Director replied yes, the department has

been issuing

water meters since 2003. Board Member Parsons asked for a list of who was

issued those water meters. The Director replied that if you go to the old

list then you run up to the current number. The only thing you wouldn't

have are which applicants accepted the meters and which did not and which

ones need to do improvement before they can receive the meter.

Vice Chair Okamura asked if the department does something to calculate the

total gallons? The Director replied that it is correct; the engineers are

keeping tabs over how many meters are being issued.

The Chair suggested that this be placed under concerns and requests from

board members for future agenda item.

Receipt of Board Member Requests For Agenda Items To Be Placed

On Future

Agendas.

The following items will be placed on the next agenda

the water?

1. Who owns the water and what are we paying for the use of

will have on

2. Rate increases in terms of agricultural rates and effect it

Maui's agricultural producers

a public

3. Charter amendment 9 and 9A and the fact that there never was

meeting to hear the merits between the two amendments.

recommended that

4. Field orientation for new board members. The chair

only 2 board members at a time should go with a staff member

due to security

issues and compliance with Sunshine Laws requirements. He also asked members

to contact the department to arrange for a field orientation. (This matter

will not be placed on the next agenda.)

5. Status of letter to Council Chair Hokama requesting report on special

counsel's finding.

Chair Victorino asked that board members submit any requests for agenda items

to the department by the fifth of next month.

XI. Division Reports

Board Member Aldridge thanked Director Tengan for providing a response to the

question on Kamole and Piiholo (wells) in the division reports.

XII. Adjournment

The July 20, 2006 Board of Water Supply Meeting was adjourned.

Prepared and submitted by:

Gaye Hayashida

Commission Support Clerk

Approved on: _____

"By Water All Things Find Life"

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[\[Back\]](#)