

1 BOARD OF WATER SUPPLY

2 COUNTY OF MAUI

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10 REGULAR MEETING

11 THURSDAY, AUGUST 28, 2008

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16 Held at the Department of Liquor Control Conference

17 Room, David Trask Building, Room 105, Wailuku,

18 Maui, Hawaii, commencing at 9:06 a.m.

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28 Transcribed from the audio recording by Gaye

29 Hayashida, Commission Support Clerk, Department of

30 Water Supply, County of Maui.

1 VICE CHAIR HOLMBERG: Alrighty, if I hear no
2 objections I guess we'll start the meeting. Call
3 to order this meeting, Thursday, August 28, 2008 of
4 the Board of Water Supply. Attendance, we have
5 myself as Acting Chair, Michael Howden, Phyllis
6 Robinson, Ted Yamamura, Scott Luck, Kelli Meyers,
7 and Kui Lester. We are awaiting Marion Haller and
8 excused are Lee Aldridge, the Chair. For
9 Announcements, I just wanted to remind you we have
10 received our financial disclosure forms from, from
11 Gaye and so we need to remember to fill those out
12 and get those back in. And also we should have
13 received recently in the mail, the HWWA Conference
14 notice for the end August, excuse me, the end of
15 October, 29th through 31st. For those of you like
16 me who are not members in the HWWA, we need to go
17 through, and who wish to attend the conference, we
18 need to both sign up and for the, for the
19 organization and the conference, so you should let
20 Gaye know about that.

21 MS. HAYASHIDA: Yeah, and it's just a dollar to
22 become a member of the HWWA and it's a lifetime
23 membership. I believe Mike is already a member.

24 MEMBER LUCK: He splurged!

25 (laughter)

26 VICE CHAIR HOLMBERG: Yep.

27 MEMBER HOWDEN: I know.

28 MS. HAYASHIDA: So.

1 MEMBER HOWDEN: It came out of my campaign fund.
2 (laughter)
3 VICE CHAIR HOLMBERG: And I have no further
4 announcements, so I'll move to Approval of the
5 Minutes. If anyone has had a chance to review the
6 minutes from the meeting of July 24th, do we have
7 any corrections?
8 MEMBER MYERS: Page 9.
9 VICE CHAIR HOLMBERG: Page 9.
10 MEMBER MYERS: Line 2, "monkey wrench".
11 MEMBER LUCK: Wench.
12 MEMBER MYERS: I think I was tired when I was
13 reading it.
14 VICE CHAIR HOLMBERG: I'm sorry line 3?
15 MEMBER MYERS: Two.
16 MEMBER LUCK: Line case, "monkey wrench".
17 MEMBER ROBINSON: It says "wench".
18 (laughter)
19 VICE CHAIR HOLMBERG: Oh, ok.
20 (laughter)
21 MEMBER ROBINSON: Monkey wench.
22 VICE CHAIR HOLMBERG: Ok, we'll make note of that.
23 Any other further corrections or comments? Do I
24 hear a motion to approve the minutes as corrected?
25 (inaudible)
26 VICE CHAIR HOLMBERG: Seconded?
27 MEMBER HOWDEN: Second.
28 MS. HAYASHIDA: I'm sorry, who made the motion?

1 VICE CHAIR HOLMBERG: I'm sorry.

2 MEMBER ROBINSON: I did. Sorry.

3 VICE CHAIR HOLMBERG: Phyllis made the motion and
4 Michael seconded.

5 MS. HAYASHIDA: Oh.

6 VICE CHAIR HOLMBERG: Do I hear...excuse me. Yes, I
7 think you were saying...

8 MS. HAYASHIDA: You need to take a vote.

9 VICE CHAIR HOLMBERG: Yes, yes, we need to take a
10 vote. Do I hear, do I hear aye to approve the
11 minutes?

12 (a chorus of ayes)

13 VICE CHAIR HOLMBERG: Nay?

14 (silence)

15 VICE CHAIR HOLMBERG: Approved. Next we have
16 testimony from the public I believe, but I do not
17 see...yes...

18 MS. HAYASHIDA: No.

19 VICE CHAIR HOLMBERG: Nobody, nobody has shown up.

20 MS. HAYASHIDA: Nobody has shown up.

21 VICE CHAIR HOLMBERG: Ok. Well, the next, we'll
22 move to item 6, which is Appeals. First we have
23 the appeal by Thomas Behnke on behalf of his father
24 the doctor and do we have anybody from the family
25 present?

26 MS. HAYASHIDA: No.

27 VICE CHAIR HOLMBERG: And do we have any, do we
28 have any status, Mr. Yamashige?

1 DEPUTY DIRECTOR YAMASHIGE: Thank you. I guess I
2 just wanted to report that a draft agreement has
3 been prepared and the families are reviewing it, so
4 we hope to have a resolution by the next meeting at
5 least. Thank you, Mr. Chair.

6 VICE CHAIR HOLMBERG: Thank you, Mr. Yamashige.
7 So, we will carry that over until the next meeting
8 and see where we stand. Hopefully we'll have an
9 agreement.

10 *(Refer to Testimony of Terry Collins and the*
11 *Department of Water Supply. After the testimony*
12 *portion was closed, the Board went into closed*
13 *deliberations on Appeal No 07-04. After the*
14 *deliberations, the Board went back into session and*
15 *called both parties back in. Meeting reconvened at*
16 *11:05 a.m.)*

17 VICE CHAIR HOLMBERG: Ok. We've deliberated and we
18 will be coming to a decision at our next meeting
19 which is September..

20 MS. HAYASHIDA: Twenty-fifth.

21 VICE CHAIR HOLMBERG: Twenty-fifth, so we'll
22 continue this matter until the next meeting, and
23 until that time, thank you, Ms. Collins, for, for
24 taking your time to come on down here. Thank you,
25 Mr. Yamashige for your time and for your, for your
26 witnesses and, and we will close the matter for
27 this appeal for the day, but thank you very much.
28 And now I would like to move for a 10 minute break.

1 RECESS

2 (The meeting reconvened at 11:15 a.m.)

3 VICE CHAIR HOLMBERG: This meeting is reconvened.
4 If, and, if I might have the indulgence of the rest
5 of Board, I'd like to step back to item number 5,
6 Testimony from the Public, and I have a Mr. David
7 Goode, well, I guess I should ask you to officially
8 state your name and what organization you are
9 representing.

10 MS. HAYASHIDA: Oh, sorry, this is not David Goode.
11 This is...

12 VICE CHAIR HOLMBERG: Oh, I'm sorry.

13 (laughter)

14 MS. HAYASHIDA: Um, Mr. Goode, I'm sorry.

15 VICE CHAIR HOLMBERG: Oh, my apologies sir.

16 MR. GOODE: Thank you, Mr. Chair, members of the
17 Board. My name is David Goode, I'm the president
18 of KSD Hawaii, and, a, thank you for allowing me to
19 testify for later in the meeting, I'm sorry I
20 couldn't get here earlier. Just 2 items, I liked
21 to indulge on. I read the minutes of previous
22 meeting. I know the Council's been working on the
23 fire standards and I, I support, I think the
24 Department's effort to work with the Fire
25 Department in coming up with a consistent set of
26 guidelines and letting the Fire Department run the
27 show on this. The Fire Department standards are in
28 my understanding, more stringent, and they're also

1 supported by the National Fire Protection
2 Association and this, by having a single set of
3 standards this also makes sense rather than having
4 2 competing standards, but I think you'll find that
5 it'll free up your staff, engineering staff time
6 significantly, not having to review for that. It's
7 only better for everybody and you know, a whole
8 bunch regards, so I wanna lend my support to that.
9 For you folks, I don't know if you made any
10 recommendations yet to the Council, but that would
11 be my 2 cents on that. Second item I want to talk
12 about are appeals in general. We have filed an
13 appeal with, with the Board on a project. The
14 appeal was filed in June 20th. We were told it's
15 gonna be a number of months and so, I understand
16 that, again, looking at the minutes of last month's
17 meeting I know, Chair, I think you mentioned that
18 you wanna work with Corp Counsel and some of the
19 appellants and try to sort through and see if
20 there's a way to either resolve some of these or
21 perhaps get a special hearings officer or bring
22 them to the Board. 'Cause they're starting to back
23 up and as an appellant, we do have some rights as
24 relates to a speedy trial, if you will, and so I
25 applaud your effort. I do wanna say that if in my
26 opinion, a special hearings officer is gonna delay
27 things longer. I've been parties to a number of
28 appeals type thing that went to special hearings

1 officers, and what happens is it takes forever to
2 schedule the parties with hearings officer, it
3 costs money and then they come back to you folks
4 anyway. You make the decision. So the hearings
5 officer will make the report and we'll have a
6 rebuttal report and so really, you know, the buck
7 stops here with appeals and so I would say in
8 general you probably don't need a special hearings
9 officer although I don't know all your appeals and
10 all, but I would say that's a, that's a last
11 resort. So, on our side we're looking forward to,
12 to working with you, Chair or Corp Counsel or
13 coming to the Board. But I, I would ask that if
14 you can find a way to expedite the appeal process.
15 One of the appeals have been on the agenda for 3
16 months now. It keeps getting deferred, backs
17 everybody else up. I understand the one you had
18 today, you'll make a decision next month. I think
19 we have some rights to a speedy trial, up, down or
20 sideways on the pole. And so I certainly would ask
21 for that. So whatever it takes, it takes special
22 meetings. It is the one...

23 (Timer beeping)

24 VICE CHAIR HOLMBERG: Oh, I'm sorry, it's just my
25 timer.

26 MR. GOODE: Oh. Wow. It's the one area you guys
27 have the authority on, so I think it, you know,
28 exercise your authority and, and take up the

1 appeals and so, we stand ready and willing and able
2 to assist on the process and those on our
3 particular appeal so well, again I wanna thank you
4 for your efforts in trying to get some of those
5 forward.

6 VICE CHAIR HOLMBERG: Ok, thank you very much.

7 MR. GOODE: That's it.

8 VICE CHAIR HOLMBERG: Any questions from the Board?
9 No? Ms. Haller?

10 MEMBER HALLER: Can I use this opportunity to ask,
11 if you could give us an idea how many witnesses you
12 would be presenting at this appeal?

13 MR. GOODE: I actually don't even know the appeal
14 process. Now...I guess we gotta line up witnesses,
15 so...

16 MEMBER HALLER: Well, if, if...

17 MR. GOODE: You see we haven't, haven't actually,
18 we've, we've filed but we never got any
19 acknowledgement of the file, filing or here's what
20 we need to do, or etcetera. I would think, given
21 off the top of my head here, that we would have 3
22 or 4 witnesses. Plus I have written, I already
23 have written testimony which I think I submitted
24 with the appeal.

25 MEMBER HALLER: Thank you.

26 VICE CHAIR HOLMBERG: Any other questions or
27 comments? Ok, thank you, Mr. Goode.

28 MR. GOODE: Thanks for allowing me to speak now.

1 VICE CHAIR HOLMBERG: Certainly. Ok. So moving on
2 in the agenda, item 7, Unfinished Business, we have
3 none (inaudible). Item 8, Other Business,
4 Discussion and presentation regarding alternative
5 energy solutions to the high cost of pumping water
6 by William Bennett, Director of Hawaii Energy Test
7 Lab; and I take you sir, that you are Mr. Bennett.

8 MR. BENNETT: Yes.

9 VICE CHAIR HOLMBERG: Ah, thank you. You have the
10 floor sir.

11 MR. BENNETT: Ok, thank you. Yeah, I've been
12 working in alternative energy on Maui and, and
13 California since 1975 and I teach sustainable
14 technologies at MCC, where I started the Hawaii
15 Energy Test Lab where we do research. And
16 currently I'm consulting for several companies
17 including Maui Electric. I'm just gonna give a
18 short talk and then a let you ask questions.
19 Phyllis invited me because I gave a similar talk on
20 a different subject to South Maui Sustainability
21 group and it was really fun, got a lot of good
22 questions out of it. I think you're all aware of
23 the energy crisis, bar none. The state is trying
24 to get 70% renewables by 2030, I believe they said.
25 Well, Victor's goal for Maui County is 95%, get rid
26 of 95% of the oil usage by 2020, because we have
27 better resources here and less people than Oahu.
28 So we gotta do better than Oahu if the state's

1 gonna meet the goals. Now, the Water Department is
2 the biggest user of electricity in the County so
3 they are uniquely positioned to be able to help
4 this, and I believe save money at the same time.
5 So, I just wanna talk about this kinda big picture,
6 give you some big ideas to go beyond just the Water
7 Department here so you can see how this kinda fits
8 in to the whole energy problem here. I'm gonna
9 talk about energy efficiency and new system, using
10 your pumps to stabilize the electric grid.
11 Combining the Water Department reservoirs with
12 another reservoir to create a storage system, and
13 then portable takes for water pumping and in-line
14 hydro, which is generating power from water in your
15 system. On the energy efficiency side of things, I
16 wanna thank Water Department for doing such a great
17 job and reducing power usage, so working with Maui
18 Electric and really, really doing a lot to reduce
19 energy. In fact, I'm in the working group, one of
20 the working groups with Eric and we're gonna use
21 the Water Department as an example to help the
22 other departments in the County save energy. One
23 of those things that's happening is an
24 interruptible power rate, or if MECO needs power
25 they can ask you to shut down a pump and you get a
26 reduced rate for doing that. And that leads into
27 grid stabilization. We have a problem. I'm, I
28 worked for Maui Electric for a while and the wind

1 farm up there is great, but the wind is not steady.
2 And sometimes the wind will be blowing nicely and
3 then it just stops and right now during the day, if
4 the wind's blowing, the wind farm is 15% of the
5 demand of the island. At night it's 30%, 'cause
6 there's less usage. And if that drops, they're
7 putting out 30 megawatts that's same as a one and
8 half generators of Maui Electric. They have to be
9 able to instantly take up that slack and it takes
10 'em a half an hour to get the, to get a generator
11 going so they kinda have to keep a generator
12 running and, and using up energy just to jump in
13 when the wind stops. So, and, there are 2 more
14 wind farms proposed. If we want to go 95% off of
15 oil things have got to change. So, one thing that
16 the Water Department can do is to change the pumps
17 and the control systems such that the pumps can be
18 turned on and off, or change the speed because
19 you're a very big customer and you can help with
20 this problem with the wind. Now that would require
21 new pumps and new controls. So you could have that
22 funded by whoever's trying to get the energy to
23 control this possibly the people who are trying to
24 put the wind farms in and so you get new equipment
25 and reduced rates for doing this. So, just wanted
26 you to be aware of that that maybe some
27 opportunities here where you can work with the wind
28 farm people on this. 'Cause if they're looking at

1 options and one is batteries, those are pretty
2 expensive and they haven't really done 'em on a
3 really large scale yet so. This is more known
4 technology and, and it might be easier or maybe do
5 a combination. But the other one is pumped hydro.
6 Now that's done at places like Niagra Falls, where
7 they have excess energy. At night they pump water
8 up into a reservoir and it's higher up and then
9 they let it flow through the turbines when they
10 need it. So, with wind and wave and solar power
11 you could pump water uphill. Now, they did a
12 study, about 10 years ago, Maui, Maui Electric did,
13 of where to put this and said well, it looks like
14 it's too expensive but it might be a good idea if
15 it could be coordinated with the Water Department.
16 So, now these systems are expensive, that's one
17 thing they pointed out in the study and it takes a
18 long time to get 'em permitted. So, 'cause you're
19 building 2 reservoirs in environmentally sensitive
20 areas as, and ah pipes in between so it's
21 difficult. So, you have pumps and you have
22 reservoirs and you need more reservoirs and so I'm
23 thinking if you can combine those reservoirs with a
24 new one down at lower level like in Haiku, you'd
25 get the new pumps, maybe new reservoirs and, and
26 you'd have money to build 'em and then you'd just
27 have to work out things like the difference in
28 water quality between the 2, the reservoirs and how

1 to make sure that you'll always have enough water
2 in your reservoirs when you need it, when it's
3 being pumped up and down. But I don't think that
4 would be too hard to work out. So, but that is one
5 big thing that's being looked at for this whole
6 project. To reduce the energy usage on Maui, you
7 gotta have a lot of storage, so there's, there are
8 gonna be people that are talking to you about this,
9 sure, because for one thing, just getting permits
10 for reservoirs just, I teach a class in that and
11 there's 2 pages of agencies you have to go to to
12 get approval for reservoir. Two other things you
13 could do which are smaller is, I know Carl is gonna
14 talk a little later about using wind power to power
15 your pumps, for water pumping. But you could also
16 use solar electric systems. If you have the land
17 near any pumps you could put in photovoltaic power
18 system to power the pumps. And there, and I know
19 an organization that will come and put 'em for free
20 so that put in the PV systems if they just need the
21 land and then sell the power to the Water
22 Department and, but what they were stating is they
23 could fix the rates for 20 years at the current
24 rate and you're guaranteed it won't go up. And
25 there are companies that'll do similar things.
26 Also the Maui Electric is working with the County
27 to put in a lot of big systems so there, so that is
28 a possibility of reducing your bill or getting it

1 at least level. After some way you could afford to
2 float a bond and build it yourself, it might, could
3 even be cheaper. But it could be done with third
4 party financing and the advantage is they get to
5 take the tax credits. So they have investors that
6 can use the tax credits. The County can't take the
7 tax credits. So they take the tax credits and they
8 pass a portion of that savings along to you. Then
9 the last thing is, I don't know if you've ever
10 looked at this, but in-line hydro, where, when you
11 have to run water down a hill, you could put a
12 generator in there and generate some electricity.
13 I don't know if you do that often enough. Eric
14 says usually you're pumping water uphill. But
15 sometimes you have to run 'em down between the
16 reservoirs so it just needs a study there to see if
17 that's often enough to pay for a system. So, those
18 are just my ideas and just wondered if you have any
19 questions about that?

20 MEMBER ROBINSON: When we had, when we had a tour
21 of the water facility, particularly the Upcountry
22 water facility at, I was noticing the power of the
23 water coming through the Wailoa Ditch and wondering
24 if that's an example of what you're talking about
25 where you can capitalize on the strength of water
26 going down hill, I just was wondering just from
27 what is existing is there a way to capture that
28 water?

1 MR. BENNETT: Yeah, the East Maui Irrigation
2 generates 3 megawatts as the water comes down.

3 MEMBER ROBINSON: Oh, they do?

4 MR. BENNETT: Yeah, and they have hydro facilities
5 there.

6 MEMBER ROBINSON: But we don't benefit as the
7 County doesn't benefit from that EMI does?

8 MR. BENNETT: No.

9 MEMBER ROBINSON: Ok. Too bad.

10 MEMBER HALLER: Just to clarify for you, I've seen
11 EMI's, the, the, Maui Land & Pine's facilities that
12 generates those, they're adorable little power
13 plants from the thirties, they're amazing
14 facilities. And they drop it so in order to turn
15 those turbines they literally have a little water
16 fall, but it's no higher than this room, just
17 about, 'cause the ditch comes down with enough
18 force and it drops..

19 VICE CHAIR HOLMBERG: I have a question. As far as
20 you had mentioned that for those contractors that
21 a, that have a, that offered to contract do this,
22 do they also sell excess power to your local
23 utility or are they just, just supplying to, to in
24 this case, to the Water Department, I'm just trying
25 to see if they have any other revenue flows?

26 MR. BENNETT: Well, you..

27 VICE CHAIR HOLMBERG: You made mention, you made
28 mention that tax credit, they obviously, they,

1 they, I'm looking for nefarious purposes here, I'm
2 looking to, to maximize the chances of this would
3 be successful, that they would work some kind of
4 long term contractor with the Water Department to
5 sell them power at a fix rate, they take a tax
6 credit, in, in other instances that you're aware
7 of, do they usually have surplus power they can
8 sell to the local utility or?

9 MR. BENNETT: Well, depends on the size...

10 VICE CHAIR HOLMBERG: Yeah.

11 MR. BENNETT: Of the system. Right now, the limit
12 on that metering is 50 megawatts. The utility is
13 considering a pilot program where do it with higher
14 300 megawatt or 300 kilowatts or higher. But right
15 now they lift it, limit it to 50 kilowatts.
16 Although that may, may go up to a 100, but actually
17 it's pretty expensive just to put in enough power
18 to reach your peak during the day. So you don't
19 really need to sell it back to the grid.

20 VICE CHAIR HOLMBERG: Ok.

21 MR. BENNETT: So, usually these systems are sized
22 for the load.

23 VICE CHAIR HOLMBERG: Ok. Thank you. I had, I
24 had, I, when considering the similar circumstance
25 of Molokai, I, I, there was, there was a typical
26 equation for how much head that, that you need to
27 generate X amount of power and I didn't know if, if
28 any studies had worked out, you know, you were

1 making mention of an example of, of connecting our
2 reservoirs Upcountry with say another receiving
3 reservoir in Haiku that you could rotate water back
4 and forth through to, to generate your, to generate
5 the, the pumped hydro and, and I didn't know if
6 there had been an existing study out that gave an
7 example of, of how big a reservoir for X number of
8 megawatts.

9 MR. BENNETT: Yeah, there is a formula for that,
10 that I teach. I don't have it with me but yeah,
11 they studied 3 different areas in this study for
12 MECO 10 years ago. And, they were pretty big
13 reservoirs.

14 VICE CHAIR HOLMBERG: Do you have, do you know
15 where we could obtain a copy of, of that study. I
16 presume with MECO?

17 MR. BENNETT: Yeah, MECO give you a copy. I could
18 email you the, the, the power point presentation
19 from my class that summarizes that study.

20 MEMBER ROBINSON: Could you make sure that, I mean,
21 I, I'm interested, I don't know if anyone else is,
22 that that goes to more that Carl, is that possible
23 or?

24 MEMBER HALLER: Gets to Gaye, Gaye...

25 MEMBER ROBINSON: Gaye would to us. Yeah, Gaye
26 could send it to us.

27 VICE CHAIR HOLMBERG: I wondered if it's possible
28 to that you could give your, if you could do, if

1 you could do that. Gaye, if he were to give his
2 email address that you make the request for his
3 presentation, would that be acceptable?

4 MR. BENNETT: Yeah.

5 VICE CHAIR HOLMBERG: Ok.

6 MR. BENNETT: Yeah, we already have...

7 VICE CHAIR HOLMBERG: Ok.

8 MR. BENNETT: Exchanged emails.

9 VICE CHAIR HOLMBERG: Ok. Any other questions from
10 the Board?

11 MEMBER HALLER: I'm sorry could you repeat what you
12 were talking about in the beginning, the
13 organization and who that is that is trying to make
14 Maui comply sooner and faster in order to help all
15 of Hawaii. I'm, could you just re-state that?

16 MR. BENNETT: Yeah. That's Victor Reyes at the
17 County, he's the Energy Commissioner.

18 MEMBER HALLER: Ah, thank you.

19 MR. BENNETT: So, they formed a serious of working
20 groups to see how to get Maui off of the oil, off
21 of the oil soon and I'm on one forum, making the
22 County facilities more efficient, but there's other
23 ones.

24 MEMBER ROBINSON: No, this is actually part of, of
25 what came out of the energy expo that took place
26 last year and these are, this is part of the
27 Mayor's initiative, Energy Alliance, it's called.
28 And there five working groups and each working

1 group has a goal to achieve, I think by the spring
2 of next year that will be action plans for moving
3 us toward this goal of being off of oil by 2020.
4 So, my understanding from Victor's office is that
5 there's going to be a public forum to discuss this
6 and I was told in the fall, which is soon, there's
7 been no date announced but I'm sure we'll be
8 hearing about it and that's when the public gets
9 to give their 2 cents in and that information will
10 get put into the overall action plans.

11 MR. BENNETT: There is help coming too, the
12 Governor went to the Department of Energy, the
13 federal level and asked for help. So the National
14 Renewable Energy Lab called me and talked to other
15 peoples and their helping with this good stability
16 problem and other problems to help us get to this
17 energy sustainability. So, it's become a national
18 priority to get Hawaii off of oil.

19 MEMBER ROBINSON: And, and is it my understanding
20 that that was the \$14 million grant that was given
21 to do that, to upgrade our grid?

22 MR. BENNETT: I haven't heard about that.

23 MEMBER ROBINSON: Well, it was in the newspaper,
24 but I think that's the combined effort between MECO
25 and the Department of Energy and said there was \$14
26 million to look at our power grid and begin to get
27 it upgraded. Now that Eric is back, I had a
28 question. The reservoirs that are being proposed,

1 the 300 million gallon reservoirs which I, I'm
2 using the plural because I think there was some
3 debate as to whether there's gonna be one or two,
4 and, and the proposal that you made about that
5 reser, you, that reservoirs could be used to
6 generate power. I'm just wondering is there any
7 discussion matching what Willy is saying, with,
8 what, the efforts to move the reservoirs, the large
9 Upcountry reservoirs forward?

10 DEPUTY DIRECTOR YAMASHIGE: Thank you, Phyllis. We
11 really haven't gone that far, as far as how that,
12 those reservoirs may be able to work with what
13 Willy is proposing. Prior to stepping in here, and
14 we're talking briefly, we do have the Upcountry,
15 the Kahakapao reservoirs, we have the Piiholo
16 reservoir and then the bottom system, the Wailoa
17 Ditch. Right now, we are not allowed by the
18 Department of Health to move water between the raw
19 water reservoirs. Understand that the water
20 quality is a little different, specifically with
21 respect to any organic carbons in the water. So,
22 understandably if we ever got to that point where
23 we could move water it would be because we've
24 changed our treatment process that would then allow
25 us to treat whatever water is in there. So, it's a
26 potential and certainly that reservoir or those
27 reservoirs are quite a ways out, so there'll be a

1 lot of discussion and consideration as it moves
2 forward.

3 VICE CHAIR HOLMBERG: Well, thank you. Any other
4 questions from the Board?

5 MR. KUSHI: Yeah, you mentioned 2 more wind farms?
6 Two more proposed wind farms?

7 MR. BENNETT: Right.

8 MR. KUSHI: Where, where are these?

9 MR. BENNETT: Well, one is an expansion of the
10 existing wind farm, up above Maalaea, to make it
11 almost twice as big. Then the other one is on,
12 around Ulupalakua side and that would be actually I
13 think a little bigger than the current wind farm.
14 Although it wouldn't put out quite as much power
15 'cause it's less wind over there. And, the status
16 of that is, they both applied to MECO, for MECO to
17 buy the power and MECO said they'd, yes they'd buy
18 the power from Ulupalakua but not from the
19 expansion at Maalaea and they've already ordered
20 the windmills for Maalaea so right now it's with
21 the Public Utilities Commission and there are
22 trying to figure out the technical feasibility of
23 this so they can use both of 'em. And one of the,
24 the biggest problem is the storage problem. So,
25 you're gonna find yourselves involved in this I
26 think. I just wanted to kind of give you a
27 background from. Thanks for that question, yeah
28 that's important.

1 VICE CHAIR HOLMBERG: Any other questions? Well,
2 thank you very much, Mr. Bennett. That was very
3 informative. Appreciate it. Let's see, at this
4 point I think a, a recess for lunch should be, be
5 in order. Shall we say half hour, 45 minutes?

6 MEMBER LESTER: Forty-five minutes.

7 VICE CHAIR HOLMBERG: Forty-five minute recess.
8 See you back here at 12:30, great.

9 (RECESS)

10 (The meeting reconvened at 12:45 p.m.)

11 VICE CHAIR HOLMBERG: And, just so I can be
12 official, the agenda, and so we'll go back to
13 Discussion and presentation regarding the Water Use
14 and Development Plan. Ellen and Carl, you have the
15 floor.

16 MS. KRAFTSOW: Carl, you have the floor.

17 MR. FREEDMAN: Alright.

18 MS. KRAFTSOW: This is Carl.

19 MR. FREEDMAN: Good afternoon. My name is Carl
20 Freedman. I'm a consultant to the Board of Water
21 Supply and the Water Department to do the technical
22 analysis and public process parts of the Water Use
23 and Development Plan. I'm here today, I'm gonna
24 give you a status report and I've handed out some
25 materials that are kind of the long version and I'm
26 gonna go through because we're limited on time.
27 So, you'll pardon me if I skip over some of the
28 slides in the written material here. I wanna start

1 with and overview of each district progress status.
2 I'm gonna go, go into the Central and Upcountry
3 District Analysis because that's where we're the
4 furthest along and we've done the most analysis.
5 I'm gonna talk a little about the Water
6 Conservation programs and the final candidate,
7 candidate strategy analysis for Central and
8 Upcountry, and next steps we're going in the
9 process. So, to start with I don't want to spend a
10 lot of time on reviewing but we're following an
11 integrated resource planning process that's part of
12 the Water Commission, the State Water Commission's
13 framework on updating the state's water plan and in
14 each of the districts we start with looking at
15 demand forecasts, establishing some planning
16 objectives, criteria to evaluate the plan, we do
17 that up front. What are the various resources that
18 might be available to meet the water needs over the
19 next 25, 30 years? And then we've, we, we put
20 together what they referred to as resource
21 sequences and then strategies. And basically,
22 these would be taking the various kind of menu
23 items of the various wells and treatment plants and
24 putting them together into recipes that will meet
25 the objectives. And then down at the bottom, where
26 we are in Central is more down at the bottom here
27 and where we are some of the other districts is
28 still up at the top in the information gathering.

1 This table here, shows for each of the districts in
2 a very kind of schematic way where we are. Lanai
3 is, has progressed all the way through the process,
4 that's in the stage of final review with the
5 committees, and final draft. And I'm just gonna,
6 for purposes of time I'm gonna go over this pretty
7 quickly and there's several outstanding issues
8 still being discussed by the advisory committee.
9 Central and Upcountry, we've progressed fairly far
10 through the process. We've recently updated
11 several aspects of the analysis for the final
12 strategies based on the Maui Island Plan recent
13 energy costs. We've extended this study period.
14 We're using the 50 years because some of the
15 economics actually takes a long time to play out.
16 And there, we are now in the process of draft,
17 drafting a final candidate strategy so what I'm
18 presenting today will be available in written form
19 as part of that final candidate strategy, we're
20 drafting that. And the next step there would be to
21 select a final strategy based on the final
22 candidates. In West Maui and Molokai, we've
23 started the process. In West Maui it's a, we
24 really reconvened a process that had started before
25 we took on this bigger planning process done by the
26 framework of the commission. And, and we've had 2
27 and 3 meetings for each of those. We've gone over
28 the demand forecasts objectives and some work on

1 resource options for there. East Maui, we will be
2 starting shortly. East Maui, what we're calling
3 East Maui is everything that starts Huelo side, oh,
4 the existing pipes so the Water Department goes all
5 the way around to the other end of the system. So
6 it includes several department systems and a lot of
7 private systems. And I'm gonna skip over these,
8 just cover these. Oh. Are there any questions
9 about status? Alright, before anybody thinks they
10 got question, I'll move on. Central and Upcountry,
11 I wanna talk a little briefly about the Water
12 Conservation Program analysis because this is
13 something I think that we may want to be getting
14 into gear before we even go through the whole Water
15 Use and Development Plan process. And the analysis
16 focuses on what programs can the County implement
17 to encourage customers to use water efficiently,
18 and how effective will they be to be used as
19 resources to meet future water needs and are they
20 cost effective. And so, we've done substantial
21 amount of analysis on this. We've, I'm not gonna
22 dwell on the components here. We've looked at
23 several types of programs for indoor and outdoor
24 uses by using various conservant, conserving
25 measures and various delivery mechanisms and I've
26 done a substantial amount of analysis on the cost
27 effectiveness and this happens in several iterative
28 stages. I mean, the first stage we prevented,

1 presented to the Board over a year ago, and then we
2 developed those into programs and analyzed those
3 and they actually look very good as resources. And
4 so then we brought in a design, program design
5 consultant who's nationally renowned to do 2
6 things. One, to look at my work, to make sure that
7 what I was doing was reasonable in terms of
8 assumptions and in terms of analysis. And the
9 other was to recommend some specific program
10 designs. So we drove all over the island, looked
11 at the systems and so she helped us come up with a
12 portfolio of programs, particularly for Maui.

13 MR. KUSHI: Is that Vickers?

14 MR. FREEDMAN: That was Amy Vickers, yes. And most
15 recently we've updated the analysis in various
16 respects. And I was gonna go through an
17 explanation of some of these. Basically, what we
18 looked at was the different levels of
19 implementation of Demand Side Management programs.
20 From, you know, modest rebates to very, very
21 aggressive, we go in and install the whole with no
22 cost to the customer. And, what, what we found is
23 what we would expect. That for modest things it's
24 cost effective. And for rigorous things it's more
25 expensive. But we also have other issues on the
26 system. We do have some urgency. So it may be
27 worthwhile and more cost effective to get some of
28 the more expensive programs in place. So this is

1 what this type of analysis looks like. And, I
2 don't know if you remember it but we, the, I used
3 an integrated model that models the capacity
4 expansion for each system and the operation of each
5 system over a 30-year period of time. And so these
6 are, these plans are, the cost effectiveness of
7 these plans are, are expressed as net present
8 values of these different cost. So the red is
9 variable costs, the green is fixed operating costs,
10 blue is capital costs and these big bars here are
11 Demand Side Management costs and the black is the
12 net. So, it's all compared to a base plan and
13 because the differences here are just basically the
14 DSM programs, you're spending different amounts of
15 money. So in the most aggressive case you can see
16 you're spending \$14 million on DSM programs. And
17 it's not worthwhile, you know, you're saving some
18 capital costs by deferring new resources, you're
19 saving energy but if you look at a 25-year planning
20 period and energy costs at \$75 a barrel, you know,
21 your break even point is kinda, some level of
22 intensity of program implementation. So I'm gonna
23 cut to the chase with extending 2 things. One is
24 looking at a 50-year study period which gives you
25 more time for these measures to pay back and energy
26 costs at a \$125 a barrel. Now the DSM measures are
27 not assumed the last 50 years, but some of the
28 capital deferrals and you know, do affect the

1 stream of resources over that period. And, the
2 results of this say basically even very expensive
3 DSM is cost effective. In this case, this is for
4 the Upcountry system. We've done this analysis for
5 several of the districts. In all of the plans
6 we've included some level of Demand Side Management
7 in all of the strategies. Since it looks good in
8 any case, we were looking at these various
9 strategies I'm gonna be talking about. We, we
10 include the DSM in those based on this analysis.
11 So our conclusions are basically that they,
12 conservation programs can be an effective and cost
13 effective resource to meet part of future,
14 Upcountry in this case but if, so far it's true for
15 all the districts including Central. And even the
16 very aggressive programs are cost effective.
17 Looking at these strategies, now we, for the
18 Central district, we've been looking at 5 general
19 strategies. And I'm gonna go through these
20 individually. In all of the strategies that we're
21 looking at, there are differ, there are committed
22 options which are things that are already
23 happening. We're analyzing those, they're just
24 assumed to be committed. They're near term options
25 similar. It's the long term options that we're
26 really analyzing. And they are fundamentally
27 groundwater, surface water, recycled water options.
28 And there are general options, and the Demand Side

1 Management, you know, goes into that. So to look
2 at this for Central, the committed options that are
3 in all of them are the Kupaa Well, Iao Tank Site
4 Well, Waikapu Tank Site Well, Maui Lani Wells, and
5 the near term options include Waikapu South Well
6 and Shaft 33 Replacement Wells. Those we're not
7 analyzing, those are in there but one of the
8 conclusions of this analysis is that these are
9 necessary as soon as possible. Without these we're
10 capacity deficient and with them, 2012 is really
11 the target date we need them for these, what we're
12 analyzing here. We're also including the Demand
13 Side Management portfolio on all of them. And all
14 of them are gonna include some version of all these
15 things, which I'm not gonna read all of them off,
16 but like supply side leak reduction, production
17 energy efficiency, energy production office, rate
18 design, stream restoration, well development
19 policies. These are being included in all of the,
20 all of the strategies to some extent. So the first
21 strategy is the no, Na Wai Eha surface water. I'm
22 talking about the four streams up here on the east
23 side of West Maui. And it will be one or more
24 treatment plants using water from the Na Wai Eha
25 streams. And we've looked at various options,
26 either Waiale or Waihee, using the base flow from
27 the streams or some with storage reservoirs
28 designed for different objectives. And, and I'm

1 not gonna get into these too much. Here we look at
2 if you compare these to a reference strategy and
3 the reference strategy here is kind of what's in
4 the CIP. It's going north across Makamakaole Gulch
5 with more generation up in that area. This
6 northward reconfiguration is a more recent version
7 of that plan that takes into account some of the
8 hydrological information we have from USGS. So
9 this is really kind of a base plan to compare with.
10 If you look at Waiale Water Treatment Plant, in 2
11 assumptions, this is at 30 cents per gallon for the
12 raw water or 90 cents per gallon for raw water, you
13 can see that it would cost less or more than that,
14 that other plan based on the water price. Ninety
15 cents is what Wailuku Water Company has in its rate
16 increase, you know, its proposal to the pub, public
17 utilities commission now. When we look at locating
18 that plant at Waihee rather than Waiale then some
19 of the assumptions change, it's less pumping
20 because it is a higher elevation so you're using
21 more gravity flow from the plant and that ends up
22 in some energy savings in variable costs, but
23 higher capital costs. And then here is the 2
24 prices, you know, show what these. Now this is the
25 25-year look. If you look at the 50-year look then
26 you see the savings. Between the 2, then the
27 Waihee location looks additionally better because
28 you're looking at a longer period of time over

1 which you're gonna be doing less pumping. We also
2 looked at some reservoir options at the
3 encouragement of some of our advisory group input.
4 Wanted to look at taking some of the flood stage
5 waters from Iao and Waihee, capturing those and
6 using those for Central. So, I'm not gonna go
7 through the reservoir analysis now but we looked at
8 the costs and reliability, did some mass flow
9 studies and we looked at those and put those on the
10 chart so you compare here at 30 cents a gallon and
11 you know the scale's different. So here's our
12 northward, your northward base plan here. Here's
13 your 30 and 90 cents like we saw before with
14 Waiale. And with the reservoir you're spending a
15 bunch of capital cost on a reservoir but I'm
16 assuming at least for this analysis that's here
17 that we're not paying anything for the water. If
18 we're gonna go to the trouble of building a
19 reservoir to capture flood stage water I'm assuming
20 that it's free, right. There are operating costs
21 associated with it but we're not paying anybody for
22 it. And these are the costs of a 30 million and a
23 1,000 million, billion basically, gallon reservoir.
24 And you see the capital costs are high. With this
25 level of pay back, you know, here, you can see what
26 you're looking at. And on a 50-year analysis it
27 looks a little better because you're getting more,
28 more pay back on the, on the water. And so you're,

1 with the 300 million gallon reservoir you're
2 looking somewhere at least in the ballpark of these
3 other ones. Now, one thing that really important
4 to realize is there's a big difference between this
5 scenario, taking the base flow from the streams,
6 and this one using a reservoir and that is that
7 this is using as a water source what's otherwise
8 agricultural water available for other things.
9 This is providing the water by additional
10 reservoirs. So, the Waiale Reservoir option you
11 have to realize is not apples to apples. In, in
12 the one sense that it means that it's taking water
13 away from the agricultural uses that, that it would
14 otherwise have. So, that much more discussion, the
15 northward basal groundwater development is what I
16 was calling the, the reference plan and that's
17 going north, to the North Waihee and across to the
18 Kahakaloa Aquifers. And there's several analysis
19 issues that we are taking into account, there's
20 several pos, policy and feasibility issues. We'd
21 be transporting water from the Kahakaloa Aquifer to
22 Central district use. We haven't gone out there
23 and talked to the residents about that yet and it's
24 also in an area where we don't have real
25 verification of sustainable yield or well
26 production. Another, the next strategy is eastward
27 basal water development. Now the old East Maui
28 water plan would be going to Haiku and what we did

1 is we also looked at Hanapou which is beyond Haiku.
2 Now the, the original concept of this analysis was
3 kind of an engineering analysis, you know. We can
4 go to Haiku, we're pumping water up to a 1000 or
5 1500 feet and then running it down the hill to the
6 Central system. The original question I was asking
7 was, is it worthwhile to put in any extra pipe to
8 go out where we could go only to 600 feet and save
9 the pumping costs and then run it back? We can't
10 pump it 600 feet from Haiku because of water
11 quality issues. So, the, that's, this is gone
12 through several iterations of analysis and I won't
13 describe too much there. We also looked at
14 transporting water from the East Maui wells to the
15 Central system using the ditch, be the Lowry ditch
16 system and then, for water treatment plant, so we'd
17 be doing something like they do on Molokai. You
18 pump a well, you put it in a ditch, you transport,
19 then you treat it again and then use it. So,
20 you're saving on some transmission costs by using a
21 ditch but then you got water treatment costs. So,
22 we've put those all in a paper and the one thing
23 you can tell by those big black lines is none of
24 these are looking very cheap, right? And you look
25 at the scale, we're up here in the \$50-60 million
26 net costs, you know, in that range. Haiku Well
27 field 1500 feet versus a 1000, you can see, you
28 save by going down, down in the fuel costs. But

1 here are these capital costs for transmission and
2 these are not paying back over the 25-year
3 analysis. You look at the 50-year analysis, they
4 pay back more but there's still not, you know, the
5 extra transmission just does not pay back to run
6 out further. Now there are other issues just, that
7 just economics but you know, so this is the
8 economic view on it. And some of the other
9 policies issues are compliance with the Consent
10 Decree, we have standing regarding the old East
11 Maui water plan in the Haiku area. We're
12 transporting water from the east area aquifers and
13 there's some question of acceptance by the, those
14 residents. Oh, I would add that, that in this most
15 recent analysis because of the concern of the
16 Hanapou residents I added extra transmission costs
17 to go beyond the Hanapou to Waikamoi Aquifer. So
18 I've gotten both, you know, scenario analyzed here
19 but what's presented there actually goes to
20 Waikamoi for the water. Brackish water
21 desalination is another general strategy. And as
22 you know that uses a lot of electricity so that is
23 one issue and I've looked at different
24 configurations of brackish water desalination. Sea
25 water was even more expensive and we kinda pushed
26 that off the table earlier in the process. Policy
27 issues are basically some that are associated with
28 using energy so greenhouse gas emission reductions

1 and we have cost of volatility because of the
2 energy cost volatility. We're gonna see that in
3 all the pumping scenarios too. But basically de-
4 sal is a pumping strategy. The costs are, you're
5 pumping against membrane so just like the wells
6 you're gonna see energy costs and disposal of
7 brackish water, water is an issue. This one's been
8 very popular, large scale water recycling and
9 conservation. This is kind of the, the one, this
10 the fuzzy green one that everybody likes. This
11 would be taking, making an extension to the
12 transmission that comes from the existing Kihei
13 Water Treatment Plant and running it down to the
14 Wailea area. And I did 2 scenarios on this, one
15 was to, to capture about 3 million gallons a day of
16 potable water, so this would be just placement.
17 And one, targeting 1.5 million. So that, the one I
18 ended up analyzing was the more modest one. It's
19 still \$20 million of investment for that line. The
20 piping down there is very expensive to get in the
21 ground. And then I did some sensitivity analysis
22 on 1.5 to see you know, are we really gonna get
23 1.5, what if we only get different amounts and I
24 can show you that. I'm gonna skip some of the
25 policy issues on that but what I would say you
26 know, the efficient use of water and energy is
27 something that kind of rings with everybody. The
28 scenario that, that we have here is a conjunction

1 of con, of extensive conservation and the
2 recycling. So what you see when I show you the
3 numbers is a combination of the economics of
4 spending more that twice as much as conservation
5 than we are on the other ones and the water
6 recycling. So, but that was that strategy, is what
7 can we do with recycling and conservation if we
8 really push that. So, here's all of those things
9 on the same page. Here's our northward revised
10 plan. The best of the well field out to the east
11 was the Haiku with 1000 feet, brackish de-sal,
12 here's our Waihee Water Treatment Plant at 30 cents
13 a gallon, so that's giving us an optimistic spin.
14 And here's our recycled water with a, with a lot,
15 and you see here's the extra Demand Side
16 Management. They all have Demand Side Management
17 but this is what you see, this the difference
18 between the other ones added in there. And it's
19 coming out you know. Now this is 25 years. You
20 look to 50 years and things look better, you know.
21 You look at now what if we only get 1 million
22 gallons out of that, potable. So we put in the
23 pipeline but we only find 1 million gallons of
24 potable you know, customers out there. This is a
25 subject that merits some investigation and some
26 further analysis. So, I'm talking with the
27 Department of Environmental Management a little
28 about that. And the other thing that's with that

1 is to look at is we've got the Waihee at 30 cents
2 but if we were to put in the 300 million gallon
3 reservoir so we still come up with the same amount
4 of agricultural water and all these scenarios. So,
5 you've got that, I'm gonna skip past, well there's
6 our 1000, 1 billion gallon reservoir, it's looking
7 a little expensive there. The one important part,
8 point here is that all of these plans are
9 expensive. If we look at this, I've been comparing
10 'em to a reference plan and so you look up above,
11 above, but what if we were to compare these to what
12 we're used to, you know, the wells, the type of
13 wells, what if we can go up and just drill the same
14 kind of wells that we've been drilling all along
15 with these big heads all backed up against the
16 isthmus, you know, then, so what I've done is I've
17 used this northward expansion as a reference plan
18 on this chart and here's what, here's what it looks
19 like if you compare it to the ideal wells you know,
20 they're all expensive and you look at the scale
21 here, you know. So, all of these plans no matter
22 what it is, are gonna cost more than what the
23 imbedded costs of water supply are for the
24 Department. And I always put these 2 slides in
25 here just to bring you know the fact that I'm
26 talking about economic analysis here but we wanna
27 get this all on the page of all the planning
28 objectives, not just the, the economics, we wanna

1 look at this long list of objectives that's been
2 developed by working groups. And we've put that in
3 some kind of matrix, I'm trying to work out some
4 way to do this that's intelligible, that can all
5 fit on the page, that isn't over simplistic, you
6 know. I don't know if it's ever been done before
7 but. Quickly going to Upcountry then, I have no
8 idea how I'm doing with time. But I'm gonna keep
9 on rolling here.

10 VICE CHAIR HOLMBERG: You got about another 7
11 minutes.

12 MR. FREEDMAN: Seven minutes. So Upcountry we have
13 expansion of raw water storage, full basal
14 groundwater back-up and in the interest of time,
15 I'm just gonna explain 'em right off here,
16 expansion of raw water storage would be building
17 reservoirs Upcountry to expand the storage of water
18 treatment. I've done analysis of reservoirs on all
19 the different systems, different sizes, different
20 financing assumptions. Full basal groundwater
21 back-up is looking at, and this was in response to
22 the, to the Upcountry advisory group. They were
23 saying, "We want reliability. We don't want these
24 droughts. Build us a system that is drought
25 proof." So that's looking at a drought proof
26 system and basically it's drilling enough wells to
27 meet the engineering standards of the Department
28 with no water in the upper reservoirs, still some

1 water from the ditch but, and I'll show you what
2 happens with that. Another scenario was limited
3 growth with extensive conservation measures and
4 this was saying, what if we're to have less growth,
5 let's say on the Upper system or maybe we ought to
6 move the growth, and of course this is not the
7 Board of Water Supply's or the Water Department's
8 business to go messing around with (unintelligible)
9 growth. But part of this is to inform the planning
10 process here. So that was a scenario we tried to
11 run with some interesting results. I mean the no-
12 brainer is if you serve less water to fewer people,
13 it costs less. So the economics don't really tell
14 you too much. But we did look at the costs of
15 serving this same amount of water on different
16 systems. And got some, some results that were
17 initially surprising but in the end made sense
18 when, when you think about it. And of course
19 extensive conservation measures, I don't know
20 compared to the amount of growth we have up there I
21 don't know if you can compensate for that. At
22 least not with digging into ag, ag sector if we
23 don't want to do, or DHHL sector which is a
24 substantial amount of growth on the, on the Lower
25 Kula system. And the last was expanded Kamole
26 Water Treatment Plant capacity and volume. And
27 these are what can we do with the Kamole Water
28 Treatment Plant to increase reliability, because a

1 lot of these resources Upcountry are being built
2 for drought period reliability, you know. So, like
3 well, some of these wells we're putting in
4 hopefully we'll never have to pump, 'cause they're
5 really expensive to pump up the hill. But never
6 the less you gotta have them there for the
7 reliability. What can we do at Kamole? And
8 there's some very simple things we can do there and
9 I think the Department's already moving on now.
10 But that's basically (unintelligible) and of course
11 the other option that was unspoken at first is
12 basically what we're doing and so I used that as
13 the reference plan and I call it the drill and
14 pump. I say the drill and, drill, pump and boost
15 but drilling basal wells and then when you need
16 'em, pumping the water uphill and then boosting it
17 up to the upper systems. So that's what we've been
18 moving towards for decades, right? Even the use of
19 the existing use of the Kamole Water Treatment
20 Plant was never envisioned in the earlier Water Use
21 and Development Plan, that was kind of Plan C, you
22 know, where you didn't want to go there too much.
23 And I'm gonna skip through a lot of this just to
24 cut to the chase, but we have similar with the
25 other one, we have committed and all the
26 independent strategies, we did a lot of analysis,
27 I'm gonna cut down to the chase here, look at the,
28 so here we are, here we are looking at all of these

1 plans. So here's our incremental base wells. This
2 is drill and pump as, as a reference plan, looking
3 at a 100 or a 300 million gallon reservoir in Kula.
4 And this is a 25-year planning period first and you
5 can see that a 300 million is more expensive than
6 100 million, still reasonable if you call drill and
7 pump reasonable. This is the wind generation and
8 transmission option, which I'm not gonna probably
9 have time to go into but it was cost effective.
10 This is looking at what we can do with Kamole to
11 increase some of the reliability which would not
12 affect too much of the output in terms of how many
13 thousands of gallons but increase the drought
14 reliability of that facility. You wouldn't have to
15 drill as many wells. And here's the basal back-up.
16 You know, if we wanna really back-up all the
17 Upcountry stuff, it's very expensive, you know,
18 it's the bottom, so this is something for the
19 Upcountry water advisory group to mull over. They
20 wanted to see this and, uh, reliability costs a
21 lot. It's a question of what, what we wanna do for
22 drought reliability Upcountry. On the surface
23 water system, you can't be a hundred percent
24 reliability or reliable, so you got to deal with
25 that one way or another. Looking on the 50-year
26 plan, then you see the larger reservoir starts to
27 look better than the smaller reservoir, looking out
28 further. And the really, you know, the reservoirs

1 are a long, long term option. That's one of the
2 reasons we did the 50-year thing was because we
3 knew this was what gonna happen, we might as well
4 analyze it and look at it, because it's more
5 meaningful. I don't know if you go beyond 50
6 years, starting to get way out there. And once
7 again, these others look about like what they did
8 but the big difference is whether or not these huge
9 capital costs for the reservoirs are gonna pay off
10 in the long run, and they do. You know, it's
11 basically what it comes down to. And once again,
12 all the plans are expensive, we looked at the costs
13 of adding 200,000 gallons per day to each of the
14 sub-systems and on the average the capital costs,
15 this is just the capital costs to the Water
16 Department was about \$14 to \$19 per gallon per day.
17 So, for a 600 gallon per day (unintelligible) 5/8
18 inch meter equivalent, you're talking about \$9,000
19 of capital costs. Now our source development fees
20 right now are running 2,000 to...

21 (timer beeping)

22 MR. FREEDMAN: Three thousand, you know, depending
23 on whether you include trans, some of the
24 transmission costs in this. But, I think that's my
25 deadline there, right?

26 VICE CHAIR HOLMBERG: Oh, yeah but...

27 MR. FREEDMAN: Ok. So, the cost of development
28 Upcountry is much higher than what our source

1 development fees indicate or what we've been used
2 to in the past. And, cutting to the chase, I'm
3 gonna skip wind generation analysis, except to just
4 say that we looked at a number of different
5 locations. We looked at a number of different
6 scenarios, different number of turbines, some of
7 them net energy metered. We looked at a whole wind
8 farm and we looked at selling this to MECO with a
9 power purchase agreement, using wheeling like the
10 PUC is now considering or building the, the DWS
11 building it's own transmission lines up to the
12 booster pumps so we can actually pump water uphill
13 within our own system. And, they call came out
14 cash positive, you know. But there's some risk
15 involved in all of these and I have to say that
16 some of the larger systems, you know, you'd need
17 more investigation but the conclusions, I think the
18 Kamole Water Treatment Plant is a very good
19 potential site for wind generation. It has
20 substantial displaceable electrical loads and good
21 wind regime. There would be some land purchase and
22 easements necessary because the site is not large
23 enough for the turbines right now. And
24 environmental studies would be required. I think a
25 good first step would be 2 of these 50 kilowatt
26 machines there, which could be net energy metered.
27 That'll be a low risk reasonable investment. And
28 if we're going that direction it would be a good

1 first step. And, private partnering options should
2 be considered, both for financing reasons and some
3 of the tax, federal tax credits are available.
4 And, next steps, we're gonna be finalizing and
5 start the formal review process of Lanai Water Use
6 and Development Plan. The, we have to determine
7 the Central and Upcountry districts selective
8 strategies. I don't know exactly how that
9 finalization is gonna do. Probably initially by
10 the Department and bring it to you and the advisory
11 committees in the Council. Proceed with the next
12 steps to investigate and implement the conservation
13 programs. Those are all looking at, like solid
14 winners. Proceed with West Maui and Molokai
15 planning and start the East Maui district process,
16 and there we go.

17 VICE CHAIR HOLMBERG: Ok, thank you. Any questions
18 for anyone, from anyone? We'd, we had a little
19 chit chat with the previous, with Mr. Bennett about
20 wind generation options and various alternative
21 energy alternatives and, and it looked real
22 promising but one of the things they were looking
23 at was, was hydro pumping to, you know, get night
24 time storage of, of energy which looked a little
25 expensive but on the other hand if you have to be
26 building large reservoirs anyway, in any case that
27 was very informative that, so that's looking your
28 (inaudible)

1 MR. FREEDMAN: Yeah. Yeah, sorry I missed Mr.
2 Bennett's analysis.

3 VICE CHAIR HOLMBERG: Yes, ma'am.

4 MEMBER HALLER: Slide that you call Next Steps,
5 could you go over that a little more slowly...

6 MR. FREEDMAN: Yes.

7 MEMBER HALLER: And perhaps with some references to
8 what kind of timing you think, I mean, I know it's
9 just your opinion, but that you think we're looking
10 at before we make a decision and do something.

11 MR. FREEDMAN: Ah, timing. I think Lanai, Ellen
12 could speak to more specifically but that's
13 something that ought to be, you know, in the next
14 couple of months I would think that you're gonna
15 have something on the table. Yep.

16 MS. KRAFTSOW: I hoping to post one chapter for
17 public review to the web tonight. And there's 8
18 chapters and I'm hoping to have them all posted and
19 formally submitted by mid-November, but posted well
20 before then. Sort of, I have a succession
21 scheduled, you know. That's Lanai.

22 MR. FREEDMAN: And for Central and Upcountry, I'm
23 in the process of taking all these presentations,
24 you've seen several of them, that have been power
25 point presentations and they've been more morphing
26 based on comments. And right now I'm drafting that
27 in a final candidate strategies chapter. I'm
28 looking about a month off, having that ready and

1 then the, then there's gonna be some kind of a
2 process of putting this in a form that resembles
3 the final ordinance or would be a recommended
4 strategy and that's gonna involve some dialogue
5 with the Department. That's gonna be this fall.
6 And then I think ready for review I think I don't
7 know if, how final that's gonna get before it goes
8 through more review by you folks and, and the
9 Council. It seems like before it gets too
10 finalized we wanna have some review. So I'm a
11 little uncertain exactly but it's this fall is, is
12 the timeframe on that. The Molokai and West Maui
13 processes I would think we'd wanna be at that same
14 place in spring and with East Maui also, so that we
15 have a resolution and something on the table by
16 June for all, everything, altogether. There's
17 gonna have to be some iteration between some of the
18 districts which I think is gonna happen in that
19 intervening period. In terms of conservation
20 programs, I think the next steps are being taken.
21 We need to get some vendors in here to give us more
22 specific numbers. I've developed numbers so far
23 that are based on kinda industry estimates but what
24 we need to do is to get some actual vendors in here
25 to tell us what it would cost to do what. And at
26 that point, perhaps that may not wait for the Water
27 Use and Development Plan, I don't know, we may..
28 MS. KRAFTSOW: Tui, tui's actually..

1 MR. FREEDMAN: Be part of the next budget..

2 MS. KRAFTSOW: Yeah.

3 MR. FREEDMAN: Cycle.

4 MS. KRAFTSOW: I think Tui's working on a, just a
5 small pilot out of this budget year, a small pilot
6 retrofit rebate for high efficiency toilets. He's
7 working on putting a program together right now.

8 MR. FREEDMAN: But what we've got in these
9 scenarios is pretty aggressive. We're talking the
10 base conservation program that's in all of them, is
11 about a million dollars a year for Central and
12 another half a million for Upcountry. So, for the
13 whole county is on something like \$2 million a year
14 we're talking about. And for that aggressive one
15 you looked at, it's more than twice that you know,
16 for, for that one district, it's more than twice
17 that, maybe that would be a \$3 million dollar, you
18 know, thing. That's a substantial budget for a
19 water department this size. So, but it is gonna
20 take some gearing up. But I think the steps are in
21 process now.

22 MEMBER ROBINSON: What criteria is used to
23 determine whether to use, whether to use an
24 aggressive methodology as opposed to..

25 MR. FREEDMAN: For the Demand Side Management?

26 MEMBER ROBINSON: Yeah.

27 MR. FREEDMAN: Well, from an analytical standpoint,
28 I've looked at fundamental economics so, you got

1 different rates at which you can implement Demand
2 Side Management so you could have your programs out
3 there and get 45% technical potential in 10 years.
4 Where, and if you just keep the program going
5 longer, you'll get more and more kind of a thing.
6 Or, if you're in a hurry, you can make the rebates
7 higher and try to get that same amount sooner.
8 And, and then if you want more, if you wanna even
9 get more, then you're looking at more expensive
10 measures, not only are we gonna get people to do
11 the inexpensive stuff but we want them to have
12 their energy and water efficient washing machines
13 and some of the more expensive per thousand gallon
14 measures. So I've taken all those different
15 combinations of things and run dozens and dozens of
16 these analysis and the criteria that I'm using are
17 with different program assumptions in there, and
18 their costs. How does that affect the timing of
19 resource needs for the Water Department when, so,
20 so what's paying back those costs are deferrals of
21 capital expenditures, because we'll need wells or
22 water treatment plants not as soon as we otherwise
23 would with some level of growth, and energy
24 savings. And then the criteria are then broken
25 down between the costs to the different parties
26 because these Demand Side Management costs, some of
27 them are the Department's costs, like the rebate.
28 Some of them are the customer's costs like the

1 other part of the rebate, what they have to take
2 out of their pocket. And so far, I've been looking
3 primarily at what I'm calling total resource costs.
4 These are standard costs tests that have kinda
5 evolved from the electrical utility industry. But
6 that looks at all of the costs whether it's the
7 Department or the customer paying for 'em. We're,
8 we're treating as all as the same pool, as the
9 service territory costs you could say. And I've
10 been looking at those and so those charts that you
11 saw, the criteria of whether that black line is
12 above or below, is for a 25-year period, costs to
13 everybody, whether or not the dollar's spent on all
14 the measures, whether they are rebates or the
15 customers costs altogether, pay back in terms of
16 saved water production costs and capital costs.

17 MEMBER ROBINSON: Thank you.

18 MR. FREEDMAN: Yeah.

19 MS. KRAFTSOW: If I can just add, just please
20 remember that when we come in with our 2010 budget
21 proposal, 'cause there's not gonna be much of any
22 increase except for staff and money for
23 conversation. There's gonna something that might
24 raise some eyebrows, so please remember this moment
25 and this reason. Thank you.

26 MEMBER HALLER: Raised eyebrows because..

27 MS. KRAFTSOW: Because it's gonna be a huge
28 increase request, requested increase to our budget

1 so that we can accommodate that, yeah, yeah.
2 Assuming that makes it through all the other people
3 that it has to go through before it gets to you,
4 which I think it will, but.

5 VICE CHAIR HOLMBERG: (unintelligible)

6 MR. KUSHI: Mr. Chair, if I may, ah, Carl, you know
7 when your Upcountry strategies, the whole basal
8 well backup, have you guys, are you looking at the
9 well site location only in the Upcountry area? Are
10 you looking at towards Haiku, Honopa, Honopou side?

11 MR. FREEDMAN: Oh, for, for that we're looking at
12 about the 1300 to 1800 foot elevation, something
13 alike in the area up above Kapakalua Road. Now
14 these wells do not have specific sites at this
15 point, but in order to characterize the economics
16 we have to know generally how far we're drilling
17 for the well costs and how far we're pumping for
18 the pumping costs. So the assum, that's different
19 than like this Haiku or the Hanapou, that was a
20 Central strategy, to serve the Central area, so
21 that wells about 1000 foot elevation in Haiku would
22 be running downhill into the Central system. What
23 we're looking at for Upcountry in these analyses is
24 something like, well, you've seen Pookela and
25 Piiholo up at 1800 feet, they're go 16, 15, 13,
26 about 1300 feet above the use, in areas where
27 there'd be any kind of contamination for wells. So

1 it's basically above Kapakalua Road. That answer
2 your question?

3 MR. KUSHI: Yeah, I mean, I mean, you're gonna
4 gravity down Haiku to Central, you're gonna pass
5 Upcountry way.

6 MR. FREEDMAN: That's true, yeah.

7 MR. KUSHI: Why not stop on the mid-way?

8 MR. FREEDMAN: Well, yeah, and there is, we, I
9 looked at earlier on and we did a bunch of analysis
10 on interconnection of the systems, and we have a
11 couple issues there. One is according to our
12 memorandum of understanding with Alexander and
13 Baldwin, we're not using Upcountry surface water
14 for Central system. I don't know, I'm not trying
15 to be a legal expert, state say any prefer,
16 preferred policy but that's an issue. The other is
17 simple operational and we can have a whole
18 conversation about the operational issues. You can
19 back the systems up by interconnection and there
20 are various ways to do that. The, we've looked at
21 taking the Hamakuapoko wells, for example, which
22 are not approved for potable use but could be
23 traded, you know, they, they, they have to, they,
24 currently or they used to pump up to Kamole Water
25 Treatment Plant anyway, right, so if that could be
26 pumped up and just dumped in the ditch for a trade
27 for the additional water out of the ditch, it still
28 has to be treated but isn't, you know, contaminated

1 with DCDP, right. We've looked at those scenarios
2 in terms of pumping, interconnecting the systems
3 and for reliability and water storage you get down
4 to the issue of the transportation costs, or the
5 transmission costs involved and the fact that both
6 systems need new source. So you're not gonna solve
7 the source problem by interconnection, you could
8 solve some of the back up issues with
9 interconnection, and then we're looking at what are
10 the different scenarios. So the answer I guess in
11 terms of the, the strategy there for the full well
12 backup, that does not, looking at that
13 interconnection and that's a good idea, we could,
14 we could look at full well backup in terms of
15 interconnecting with the Central system, but it
16 isn't gonna be cheap either.

17 MR. KUSHI: Is there a problem with the community
18 plan concept, planning wise? That bringing water
19 from one aquifer to, one district to another
20 district?

21 MR. FREEDMAN: Yeah, in the prior community plans I
22 think we had some conflicting, one, one area
23 community plan said, you know, we'll take water
24 from there and the other community plan says well,
25 non, non, nothing that's here leaves. But I don't
26 know, I think we're looking forward to another
27 planning cycle, and one of the things that going

1 through this island plan process may do is address
2 that, I don't know. But...

3 MR. KUSHI: It should 'cause then otherwise all
4 development should go to Hana.

5 (laughter)

6 MEMBER ROBINSON: That's right.

7 MR. FREEDMAN: Yeah. We're not...

8 MS. KRAFTSOW: No comment.

9 MR. FREEDMAN: I'm being pretty cautious about...

10 (laughter)

11 MR. FREEDMAND: Being pretty cautious about saying
12 anything about planning. We're supposed to be
13 consistent with the plans. And to some extent, and
14 by various administrations, you know, there,
15 there's a sentiment that's been expressed that
16 water follows planning. But there's also very
17 strong issue with water resources that planning
18 also needs to take into account, water. So, we've
19 been careful about trying to provide good
20 information without trying to re-do, you know,
21 planning, you know, of deciding who lives where...

22 VICE CHAIR HOLMBERG: Well, some...

23 MS. KRAFTSOW: Land use planning.

24 VICE CHAIR HOLMBERG: Somebody's, somebody's got to
25 since you know they're still thinking back when
26 there was 30,000 people here.

27 MEMBER ROBINSON: Right.

1 VICE CHAIR HOLMBERG: Any other comments or
2 questions after my outburst?

3 (laughter)

4 VICE CHAIR HOLMBERG: Ok. And any, any, anything
5 you'd like to add, Ellen?

6 MS. KRAFTSOW: Just thank you.

7 VICE CHAIR HOLMBERG: Ok, well thank you very much
8 for coming. Again, our apologies for rushing you
9 through, that was extremely informative. And, good
10 hand-outs.

11 MR. FREEDMAN: We can come back anytime you want.

12 MS. KRAFTSOW: Stay tuned.

13 VICE CHAIR HOLMBERG: Ah, let's see, our next item
14 was Discussion of, and update regarding Upcountry
15 Water System and Drought Conditions, and I guess I
16 pass that on to Eric.

17 DEPUTY DIRECTOR YAMASHIGE: Ah, very briefly, Gaye
18 passed out this morning an updated, updated report,
19 the Upcountry Water Report, this table thing. And
20 if you take a moment and add up Waikamoi 1 and 2
21 and Kahakapau 1 and 2, you'll come to a hundred and
22 one million gallons. So, right now in the Upper
23 Kula system, you could say that we're full. When
24 you look at the Piiholo Reservoir, we're at 48.,
25 ah, 49.8 million gallons and that is a 50 million
26 gallon reservoir. So, for all intents, we are
27 full. So we've been very fortunate, the recent
28 rains have allowed us to recover in those raw water

1 reservoirs. You have probably noticed that we've
2 put in the paper and we've converted disinfection
3 in the Upper Kula system back to chloramines. And
4 we are operating Olinda.

5 VICE CHAIR HOLMBERG: Thank you very much.

6 MEMBER ROBINSON: Do we need to continue the
7 declare drought watch?

8 DEPUTY DIRECTOR YAMASHIGE: If I can make, in my
9 opinion, yes. If you recall last year you're able
10 to end the drought, any designation, somewhere in
11 the late November, I think, timeframe. We are
12 still not into September's, I, I would not take
13 that measure yet. We have not gone into drought
14 watch, we're still in the, we're in the drought
15 watch, we have gone into the warning...

16 MEMBER ROBINSON: Right.

17 DEPUTY DIRECTOR YAMASHIGE: And we hesitate doing
18 that because the Upcountry people have done really
19 well, so we don't want to take that..

20 MR. KUSHI: Quick question, Mr. Chair. Eric, we're
21 under voluntary, we're in the drought watch, yeah?

22 DEPUTY DIRECTOR YAMASHIGE: Yes.

23 MR. KUSHI: What about tie-ins? The drought watch,
24 are you allowing tie-ins?

25 DEPUTY DIRECTOR YAMASHIGE: Yes. I kinda gave up
26 my copy but, it's...

27 MR. KUSHI: Drought warning.

1 DEPUTY DIRECTOR YAMASHIGE: Drought warning that we
2 postpone.

3 VICE CHAIR HOLMBERG: Any other questions for the
4 Director? Ok, thank you very much. Next item,
5 Discussion and update regarding, oh, well, let's
6 see...

7 MEMBER HALLER: Could I just make a comment?

8 VICE CHAIR HOLMBERG: Yes.

9 MEMBER HALLER: Oh, I guess what I'm, I guess what
10 I'm observing here is between last year and this
11 year is that our rainy summer season isn't doing it
12 for us. Because if we have to leave the rainy
13 summer season, it should end theoretically within
14 the next couple of weeks, and wait until November,
15 December for the next rainy season to start before
16 we get out of the drought, we're looking at having
17 these 6-month drought periods, so I just wanted to
18 point that out, this is getting to be, I guess it'd
19 be old news, is like, you know, how many times do
20 you cry wolf or, and I'm ssh, I'm so pleased with
21 how Upcountry's doing, it just amazes me. When I
22 just, it's...

23 VICE CHAIR HOLMBERG: Well, that's why that I think
24 why we discussed it a few weeks, a few meetings ago
25 that idea of coming to the Director and saying,
26 what does it take and we're kinda getting a feeling
27 now, what does it take to get out of this, what's
28 becoming a permanent drought condition and so until

1 they put together that budget and plan and it's
2 just never gonna stop. Any other comments
3 regarding Upcountry? Ah, then let's move on to
4 item D, Discussion regarding Central and West Maui
5 Water system, drought conditions.

6 DEPUTY DIRECTOR YAMASHIGE: Thank you. If you take
7 a look at your monthly source report, which is page
8 1 of your reports. And just take a real quick look
9 at June and July of '08. If you add up the Central
10 Maui wells, you'll come with about 24.2 million
11 gallons in June. Then you gotta look back in the
12 report and you'll get that Iao Surface Water
13 Treatment Plant added, about 1.6 million gallons.
14 So, in June we're running about 25.8 million
15 gallons. Keep in mind that the Director's goal was
16 25 million. When you look at July, our wells were
17 providing about 24 million gallons, the surface
18 water treatment plant went down to 1.2 million
19 gallons. So, we're at 25.3 million gallons which
20 is a move in the right direction. And, I don't
21 want to say too much and all, but the, you'll
22 notice that the surface water treatment plant
23 reduced by about half a million gallons, 1.6 to
24 1.2, and that's because of the weather. There just
25 wasn't a whole lot of water in the, the ditch that
26 we take water from for the Iao Treatment Plant.
27 That happens in the Upcountry system as well. As

1 long as we're dependent on surface water, we're
2 gonna have these drought issues.

3 VICE CHAIR HOLMBERG: Any other questions or
4 comments?

5 (silence)

6 VICE CHAIR HOLMBERG: Ok, then I will move on to
7 item D, and Scott is not here any more but it's
8 Discussion/possible action by the Board regarding
9 it's concerns on future water resource use, and as
10 you may recall, Scott and Lee had discussed Lee
11 coming up with a draft letter that would, that we
12 can go over that would state those concerns that we
13 could perhaps pass on as a resolution. And, I
14 discussed this with Lee via email and unfortunately
15 he is not yet got to that and so we'd, I told Scott
16 that we would go ahead and, and move that on as
17 a(n) agenda item for next month. So unfortunately
18 we do not have anything more there unless anybody
19 else has anything to add to that one. Ok.
20 Finally, we've got for that, for Other Business, we
21 have any other agenda items, you'd like to add. I
22 already had a few from Scott earlier and if anybody
23 else has any others they'd like to add, you can
24 either let me know now or, or email Gaye by, I
25 don't know, what's your usual drop dead date?

26 MS. HAYASHIDA: Umm.

27 VICE CHAIR HOLMBERG: I remember Mike used to do it
28 by the 5th of the next month. Let's say that, yeah.

1 So, if you could do that and, so that takes us out
2 of Other Business, Communications, I have none.
3 Director's Report, unless anyone has any comments.

4 MEMBER HALLER: Can I get back to agenda?

5 VICE CHAIR HOLMBERG: Yes. Oh, yes. Ok.

6 MEMBER HALLER: Sorry.

7 VICE CHAIR HOLMBERG: No worries.

8 MEMBER HALLER: I just wanted to suggest that we
9 put on the agenda talking about our schedule going
10 forward to try to address these, since we can't sit
11 here and figure when to have an extra meeting
12 because we've got these extra meetings coming up,
13 anyway, and you going on vacation, we kind of have
14 to wait 'til you get back and then we're already in
15 this extra meeting mode. Let's at least talk about
16 it at the end of September, how we want to address
17 all these appeals.

18 MEMBER YAMAMURA: Or along those lines, if there's
19 an alternative method or, or facility where you can
20 perhaps address some of these appeals without full
21 board and then maybe the recommendation will be to
22 the board as to what they've decided.

23 MEMBER HALLER: That's a good point.

24 MEMBER YAMAMURA: We've got so many.

25 MEMBER HALLER: Schedule as well as method. There
26 was an option presented to us, I think, one there
27 that we could have a subcommittee, right? Yes.

28 MR. KUSHI: A panel.

1 MEMBER HALLER: A panel.
2 MEMBER YAMAMURA: Yeah.
3 MEMBER HALLER: Yeah.
4 MEMBER ROBINSON: Is that what the public testimony
5 was saying was not an effective method.
6 VICE CHAIR HOLMBERG: Well, actually what he was
7 discussing was having a special...
8 MEMBER MYERS: Hearings officer.
9 MEMBER YAMAMURA: Hearings officer.
10 MEMBER HALLER: Hearings officer.
11 VICE CHAIR HOLMBERG: Hearings officer. He was
12 suggesting that a hearings officer would slow
13 things down...
14 MEMBER ROBINSON: Ok.
15 VICE CHAIR HOLMBERG: Because theoretically the
16 idea would be that he would, he or she would triage
17 the things but in the end that person would
18 spending the time taking testimony, we'd have to
19 sit and hear it anyway..
20 MEMBER ROBINSON: Got it.
21 VICE CHAIR HOLMBERG: 'Cause of the rules of, of
22 appeals and so we, we'd lose time rather than gain
23 it.
24 MEMBER ROBINSON: Ok, thank you for clarifying
25 that.
26 MR. KUSHI: And there's no right to a speedy
27 appeal.
28 (laughter)

1 VICE CHAIR HOLMBERG: Despite what he says.

2 MR. KUSHI: That's a criminal issue.

3 MEMBER ROBINSON: I thought we did pretty well on
4 this appeal.

5 VICE CHAIR HOLMBERG: Well fortunately for that
6 one, for Ms. Collins, that she either didn't have a
7 leg to stand on or did. So, so, so, I, I, I went
8 in after having read her stuff, just assuming that
9 she hasn't got a leg to stand on, but that you
10 know, after talking it over it's, it fortunately
11 didn't take long to come back with a conclusion.

12 MEMBER ROBINSON: Yeah.

13 VICE CHAIR HOLMBERG: Anybody else who's got, who's
14 whining about meters again or stuff like that, I
15 don't think there's ever gonna be a fast way to get
16 through those. Let's see, Division Reports, has
17 anybody, if anyone has any comments, corrections?
18 Let's see, did we need to, I forgot, did we need to
19 move to accept the Division Report? No?

20 MR. KUSHI: Move to file.

21 VICE CHAIR HOLMBERG: Ok. Just move to..

22 MR. KUSHI: Just file. Recommend you file, file,
23 file.

24 VICE CHAIR HOLMBERG: Ok. Is that something we need
25 to move on?

26 MR. KUSHI: No.

27 VICE CHAIR HOLMBERG: Ok. Then...

1 MEMBER HALLER: Can I just ask where we got this?

2 This is the...

3 VICE CHAIR HOLMBERG: Oh, that's from Michael. I'm
4 sorry. Ah, where did I put that? This was
5 something that Michael wanted to, where he wanted
6 to review this document. I don't know if he wanted
7 to invite the author or not, but any case, he
8 wanted to review the water re-use document that a,
9 that a, I think was put before you. And we didn't
10 have time to stick it on the agenda for today, but
11 we'll try and stick that on next month's, where
12 he's basically looking at the water treatment
13 plants, at this, of course looking at the water
14 treatment plants in the Westside and down in Kihei,
15 and just wanted to discuss I think after having
16 reviewed that document how we could push getting
17 better use of that water, since the vast majority
18 of it is injected.

19 MEMBER ROBINSON: Yeah.

20 VICE CHAIR HOLMBERG: As I understand it.

21 MEMBER ROBINSON: And there's been a problem with
22 the algae forming..

23 VICE CHAIR HOLMBERG: And, and all, I, I, I tend to
24 believe that, having visited the Kihei Water Plant,
25 the gentlemen there are, they, they've sworn to God
26 that they put isotopes in there for tracing and
27 that they've never seen it pop out in the sea, but

1 you know, and, and I, and so that's pretty hard
2 evidence but I just don't know.

3 MEMBER ROBINSON: Yeah, well there's some people
4 working right now, there's a working group going
5 on, on our water quality and they're, they're
6 actually looking at these, the formation of algae
7 and with that..

8 VICE CHAIR HOLMBERG: And ultimately to really
9 solve that I mean, if, if we suspect it but we
10 don't know unless somebody actually does some test
11 wells to look at the bloom and, and if you don't
12 know what the bloom looks like then we're just
13 guessing. And, and, and it's, and I, I hate to,
14 really what we need to do is use the water, but I
15 hate to, to you know, if, if we're not using the
16 water and we don't inject it then what are our
17 alternatives. Well, one of the alternatives is to
18 treat it to where it's potable and then inject that
19 but then that's extra money too, so it, it'd be
20 nice to have the extra science to know where we
21 really stand.

22 MEMBER ROBINSON: Well, I guess it's also whether
23 or not we, if we produce the water we have to
24 customers for it that are willing to buy it and
25 then you have to transmit it and that's where the
26 big cost comes so that's been the big, big thing in
27 the way is the cost of transmission.

28 VICE CHAIR HOLMBERG: Yeah.

1 MEMBER ROBINSON: But all things that are good to
2 address, I applaud being able to, maybe we should
3 talk about this at some point.

4 VICE CHAIR HOLMBERG: Yeah, I was gonna add that on
5 the agenda for next month.

6 MEMBER ROBINSON: That'll be great.

7 VICE CHAIR HOLMBERG: Ok. Unless I have any other
8 further comments, issues, agenda items they're
9 thinking of right now, then I adjourn the meeting.

10 MEMBER ROBINSON: Thanks, Carl.

11 VICE CHAIR HOLMBERG: Thank you for coming.

12 MEMBER ROBINSON: Good job.

13 MR. KUSHI: Good job.

14 (The meeting adjourned at 1:45 p.m.)

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Prepared and submitted by:

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Approved on: _____