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HAWAII GEOTHERMAL/INTERISLAND TRANSMISSION PROJECT

OPEN PROPOSERS CONFERENCE

Taken at the Hawaiian Electric Company Auditorium, 900 Richards Street, Second Floor Auditorium, Honolulu, Hawaii, on Monday, June 5, 1989, at approximately 9:14 a.m., as reported by Stephen B. Platt, Registered Professional Reporter, CSR No. 248, a Notary Public in and for the State of Hawaii at Large.

MODERATOR: Richard K. McQuain,
Vice President of Engineering, HECO

REPORTED BY: STEPHEN B. PLATT, CSR, RPR

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COPY

1 MONDAY, JUNE 5, 1989

9:14 A.M.

2 - - -

3 MR. McQUAIN: Okay, if I could ask you to
4 take your seats, and -- let's get started.

5 Okay, one of the things that I would like
6 to do kind of quickly, we've introduced to you the
7 State's and the Hawaiian Electric's players fairly
8 quickly, but one of the things we haven't done yet is
9 to find out who all of you are.

10 Obviously, as we go along, there are some
11 of you who I know from past discussions, meetings and
12 whatnot, and I can call you by name as I'm trying to
13 moderate this; others I obviously don't know. I
14 haven't met everyone here yet.

15 It would help us just to kind of get the
16 lay of the room a little bit -- we would like to go
17 around and have you introduce yourselves, who you are
18 and what company you're with. I'm going to just go
19 through it rather quickly. You know, no sales
20 pitches, just who you are, what company you're with,
21 and I would like to just start over here on my right.
22 If you have been introduced earlier as a member of
23 the HECO or State team, don't worry about it, but
24 otherwise, let's get some introductions for the
25 benefit of those of us up front, here.

1 (The participants present were introduced.)

2 MR. McQUAIN: Okay, I think that gets
3 everybody in the room. As you can see, we have quite
4 an international gathering... It helps us to put in
5 perspective a little bit -- where various people are.

6 Okay, as far as the questions that have
7 been presented to us, as I said earlier, we had a
8 number of written questions that were submitted, and
9 what I would like to do this morning, on the agenda,
10 we had the Department of Business and Economic
11 Development listed first; however, I would like to
12 take the Department of Land and Natural Resources.
13 Mr. Paty has another commitment in a little while,
14 and we want to get through as many of the questions
15 for DLNR as we can, before we lose him.

16 What I have asked them to do is -- on the
17 written questions that were submitted, to go first to
18 those, to read the question and the response to that
19 question, so that we all have the benefit of written
20 questions that were submitted earlier. I suspect in
21 some cases, simply hearing that question and the
22 response will take care of one that you may not have
23 had the opportunity to get in to us earlier in
24 writing, and then we will go to questions from the
25 floor.

1 I would like to turn it over to Mr. Paty
2 now, and give him an opportunity to respond to those
3 written questions.

4 MR. PATY: Thank you.

5 What I'll do is walk through these
6 questions that we have had submitted to us, and that
7 are particularly related to the Department of Land
8 and Natural Resources; and then if you have follow-up
9 questions we'll try to handle 'em. We have staff
10 people, and if we can't find the answers for you, or
11 put the finish on it that you would like, we will be
12 available, and we will make ourselves available to
13 you for the balance of the time that you're here.

14 I'm going to start right off with the first
15 question: What authority does the State of Hawaii
16 have to resolve impasses in negotiations between
17 developers and the holders of geothermal resource
18 leases? If this authority differs for privately-held
19 state-owned Hawaiian Crown and federal properties,
20 please describe the state authority in each case.

21 Now some of these are a little bit more
22 than we can get our arms around, but -- so that our
23 answer on this one has to be fairly short.

24 The State of Hawaii does not have the
25 authority to resolve impasses in negotiations between

1 developers and holders of geothermal resource leases.
2 The state can only encourage settlement, but not to
3 intervene in all cases.

4 I think you recognize that we want to
5 maintain a very active presence, but legally, I've
6 tried to set forth the basis on which we would have
7 to proceed.

8 The second question: Are records of
9 pending challenges to existing leases available in
10 the document room? If not, please provide such
11 records.

12 We are not aware of any pending challenges
13 to existing leases. There are, however, two pending
14 suits filed against the state: One in federal court
15 and one in circuit court, regarding the land exchange
16 between the state and Campbell Estate.

17 A potential legal question that may arise
18 in the future relates to the ownership of mineral
19 rights. The State's position on mineral rights
20 belongs to the State.

21 Third question: Are copies of all
22 geothermal resource leases available in the document
23 room? If not, please provide such copies.

24 The answer: A complete set of all leases
25 will be available tomorrow in the documents room, and

1 in the Geothermal Permit Center.

2 The fourth question: Have any cognizant
3 federal permitting agencies refused to participate in
4 the interagency permitting group? If so, please
5 identify them.

6 The answer: The federal agencies, by
7 Statute (Chapter 196-D, HRS) are not required to
8 participate, and as such shall only be invited to
9 participate in the consolidated permit application
10 and review process. To date, no federal agency has
11 refused to participate in the interagency group.

12 I might add that they all come to our
13 meetings, they participated and have lent their
14 resource and input into our discussions.

15 Question Five: Has the State begun its
16 "slim hole" test? When will the next phase of
17 testing begin?

18 These were the SOH's that were referred to
19 earlier -- that are looking to help us evaluate the
20 resource.

21 To date, DLNR has assigned three geothermal
22 well drilling permits, (SOH 1, 2 and 4) for the
23 University of Hawaii's Scientific Observation Hole
24 Project. The County of Hawaii's Planning Commission
25 has completed public hearings on the matter, and is

1 currently scheduling mediation proceedings between
2 the applicant and objecting parties.

3 Next question: Will the State exercise its
4 power of eminent domain on behalf of the developer in
5 the event of impasse in negotiation with land owners?

6 The answer is no. Eminent domain powers
7 cannot be exercised to the benefit of private
8 parties.

9 Again, we lend a supportive presence to the
10 extent we can, but we are not permitted to do so for
11 the benefit of private parties.

12 When will the consolidated permit form be
13 issued?

14 The answer: A preliminary draft of the
15 consolidated permit application form is being
16 prepared, and a final version will be available for
17 distribution when the Act -- that's Act 301 I
18 mentioned that was passed by the last session of the
19 legislature -- administrative rules are promulgated.
20 It should be noted that all application forms
21 currently used by each respective agency will be
22 incorporated in its entirety in order to facilitate
23 the review and processing of such applications by the
24 members of the consolidated permit application and
25 review team.

1 The next question: What is the historical
2 turnaround time for permit appeals submitted to the
3 Hawaii Supreme Court?

4 Hey, I hate to tell ya'... (laughter) -- on
5 a very generalized basis, considering only the H-3 --
6 that was our third major interstate highway going
7 over the pali, and geothermal cases, the turnaround
8 time for appeals has been three years nine months,
9 and four years five months respectively -- although
10 the U.S. Supreme Court denied the submission three
11 months later. So the Supreme Court acted on 'em
12 quicker than our State Supreme Court did.

13 Our next question: I do not understand the
14 relationship between the State's intent to secure
15 permits, and the RFP assignment of responsibility for
16 permitting to the developer. Can you clarify this
17 for me?

18 It is the applicant's responsibility to
19 secure permits for the various activities to be
20 undertaken as part of the 500 MW geothermal cable
21 project. The letters included in the RFP demonstrate
22 the commitment of Governor Waihee and his
23 administration to the development of geothermal
24 power, including steps taken to facilitate applying
25 for permits, making offices, information and

1 personnel available to assist. However, the State is
2 not the applicant, the developer is the applicant,
3 and therefore, it is the developer that is
4 responsible for securing the permits.

5 But again, you would understand that, where
6 we are, with Act 301, we are committed to assist and
7 aid, and lead, and support in every way we can.

8 MR. EVERLING: I would like to add
9 something at this point: The State, through my
10 department, is doing a master plan, and will try to
11 get a master permit for the whole development.

12 If we are successful in that, the developer
13 would be responsible for site-specific permits, but
14 they in turn should be facilitated by the efforts
15 that are going on in my department. So we will try
16 to facilitate that as much as possible.

17 MR. PATY: Our next question: There is
18 some indication of geothermal potential in the
19 southwest rift zone of Kilauea. Does the State
20 intend to designate additional geothermal subzones in
21 that area? If so, what is the timetable?

22 There is currently pending designation of
23 8,090 acres in the Kilauea Southwest Rift Zone.
24 Total acreage in geothermal resource subzones will be
25 approximately 26,000 acres.

1 A procedural question is currently being
2 reviewed by the Attorney General's Office. The
3 question is whether requests made by a group opposing
4 geothermal development for a formal contested case
5 hearing before the Board of Land and Natural
6 Resources should be granted since a similar request
7 involving the Southeast Rift was already disposed of
8 by the board and the courts.

9 Next question: Will the State mandate the
10 schedule to be adhered to by the Department of Land
11 and Natural Resources, Department of Health, and
12 other state agencies for receipt and issuance of
13 permit approvals, or denials? If yes, when is this
14 legislative action to be taken? Will the State
15 guarantee this mandate prior to submission of bids?

16 Our response: Act 301 Session Laws of
17 Hawaii, 1988, requires that the State and the County
18 Agencies participate in the consolidated permitting
19 process in which all State and County Permitting
20 Agencies affected by the Geothermal System
21 Development Project must sit down and participate in
22 coordinating and consolidating their permitting
23 efforts. However, the Act provides that nothing in
24 the Act shall affect or invalidate the jurisdiction
25 or authority of any agency under existing law.

1 This means that the schedule for issuance
2 of permits cannot be mandated by the State. The
3 process shall take place according to existing
4 statutes; however, Act 301 provides that the
5 permitting process will be approached in a
6 coordinated and consolidated manner. The
7 administrative rules for implementing Act 301 should
8 be in place by August of 1989.

9 Our next question:

10 Events of default: Since the State has not
11 established guidelines for permit reviews and
12 approvals, or disapprovals, and licensing and
13 permitting approvals are included in a milestone
14 schedule subject to default, it would appear that
15 defaults associated with the permit receipt, and in
16 service dates require significant changes to insure
17 prospective developers that their investment in the
18 Project are not forfeited. What action does HECO or
19 the state propose to mitigate this concern?

20 This is our part of the response:

21 Processes for the issuance of permits are
22 established by statutes, ordinances and duly-approved
23 rules. These are public processes whose outcomes are
24 determined by the interaction of public officials,
25 concerned members of the public and existing laws.

1 There is no guarantee of the outcome of a particular
2 permitting process. The outcome can be anything from
3 denial to approval; to approval with many, few, or no
4 conditions attached to the permit.

5 While the State cannot guarantee the
6 outcome of a public process, its policy makers,
7 namely the Governor and his cabinet member, can lend
8 their full support and influence to a positive
9 outcome -- as they have done in the letters attached
10 to the RFP.

11 MR. PATY: All right, we'll continue with
12 some others we received here:

13 Will HECO or the State provide rights of
14 eminent domain or other assistance to the developer
15 to acquire the required rights of ways to construct
16 the project?

17 Again, as we indicated before: No.
18 Eminent domain powers cannot be exercised for the
19 benefit of private parties.

20 The next question: To what extent and with
21 what legal rights will the State of Hawaii intervene
22 on behalf of the successful developer in any actions
23 which are likely to occur by environmental and social
24 groups, such as the Pele Defense Fund?

25 Our response is: Subject to a legal

1 opinion from the State Attorney General's Office, the
2 Department of Water and Land Development's position
3 is that it is unlikely that the State would directly
4 intervene on the behalf of a private party/developer
5 in any legal action or quasi-judicial proceeding.

6 To the extent that it is prudent and
7 legally permissible, the Department may encourage
8 settlement of conflicts between opposing parties by
9 recommending fact-finding or mediation proceedings.

10 And in that connection, why, we're not
11 without our resources to talk to people that are
12 involved in these various areas of concern, and would
13 hope to be a positive force in settling something of
14 this nature.

15 Our next question: Will the State mandate
16 the permitting schedules to be adhered to by did the
17 DLNR, DOH, and other state agencies for receipt and
18 issuance of permit approvals? If yes, when is this
19 legislative action to be taken? Will the State
20 guarantee this mandate prior to submission of bids?

21 As we indicated before, Act 301 requires
22 that the State and County agencies participate in a
23 consolidated permitting process -- in which all
24 agencies come together. And they have to sit down
25 and coordinate. However, the act, as I indicated

1 before, also provides that nothing in the Act shall
2 affect or invalidate the jurisdiction or authority of
3 any agency under existing law -- and we covered that
4 previously.

5 Now, have I got them all, as far as you
6 know?

7 MR. PATY: Okay. That appears to be the
8 extent of the written questions we have. We are
9 available for follow-up, or other questions that you
10 might have, or --

11 MR. McQUAIN: Again, what we would like to
12 do, because of the availability, is to move in to
13 questions that you might have for the Department of
14 Land and Natural Resources, primarily permitting
15 issues. Those that are of general state policy
16 nature, or related to the activities of the
17 Department of Business and Economic Development, try
18 to hold off on 'em a little bit. If we do overlap,
19 then I'll trust Mr. Paty and Mr. Everling to figure
20 out which one of them is going to answer the
21 question. But for the most part, I would like to go
22 ahead and just open it to questions from the floor
23 now.

24 MR. PATY: Rick, I might add one thing,
25 because, during the break we got questions on the

1 energy corridor, and I responded to questions
2 relative to eminent domain; and Roger has a point
3 that he brings to my attention relative to the
4 authority on the Department of Transportation that I
5 think ought to be set out for you.

6 MR. EVERLING: The question came up
7 relative to the State exercising powers of eminent
8 domain, to assist in corridors and so forth, and
9 while Mr. Paty expressed the view of the Department
10 of Land and Natural Resources, I think that there do
11 exist other situations within state law that could
12 assist.

13 For example, within the Department of
14 Transportation there is a provision for energy
15 corridors which can be used by private concerns. So
16 the State does have the ability to establish an
17 energy corridor using eminent domain if necessary,
18 for -- in that way, to the benefit of private
19 parties.

20 And I believe another method that could be
21 used is that HECO has the power of eminent domain,
22 and to the benefit of -- or transmission for its
23 benefit could probably use eminent domain powers
24 there. So the answer was correct, but not totally...

25 MR. McQUAIN: When it comes to the

1 generation site in particular, that's the one where
2 we're all --

3 MR. EVERLING: That's right --

4 MR. McQUAIN: Yeah.

5 Okay, questions from the floor? As someone
6 said, "Speak now or forever hold your peace." Here
7 is your opportunity.

8 It may be helpful, because a number of
9 questions related to documents that would be
10 available in the reading room, or the document room
11 that's being made available by the Department of
12 Business and Economic Development, when we get to
13 DBD, I'll make sure to explain where the room is, and
14 what the guidelines are for access to it. That's one
15 of the services they are providing to us.

16 (A hand was raised.)

17 MR. McQUAIN: Yes?

18 A SPEAKER: One of the difficulties with
19 permitting geothermal activities in the state has
20 been the sequence of permits. For instance, if you
21 take the three general land use permits, specific use
22 permits, or specific operational permits, and, say,
23 the Department of Health permits, the difficulty has
24 arisen in the past of, which one do you get first?
25 And which ones depend on others?

1 In other words, if you go and get an air
2 emissions permit, for example, will that hold over in
3 large part to the other permits that are required?
4 Does the State have any plans to make a sequence
5 where it does not now exist, in which permit a
6 developer should seek first?

7 MR. PATY: I don't know that we have a
8 sequence. Obviously, some appear more natural than
9 others, but I'm going to, perhaps, ask Mr. Susono,
10 who is serving as our consultant in our current lead
11 on this thing, whether he has any insight into
12 whether that might be facilitated.

13 MR. SUSONO: Yes, right now there is no
14 formal written procedure, as far as Mr. Patterson's
15 question, of sequencing the permitting steps;
16 however, with the Act 301 coming into being -- or
17 becoming effective, with that adoption of the rules
18 in August of this year, there will be a committee
19 formed, an agreement signed by all of the agencies
20 that will be involved in permitting, and from there,
21 the agencies, themselves, would have to parcel out,
22 or phase in the various steps, logically.

23 So the answer is, there is no written
24 procedure right now, but with the Act coming into
25 being in August, we feel that some of the kinds of

1 questions that Mr. Patterson raised will be addressed
2 and taken care of. In fact, that's about the most
3 beneficial kinds of results coming out of Act 301,
4 because as was previously stated by Mr. Paty, the
5 act, itself, does not overrule any existing
6 permitting requirements, or transfer any
7 jurisdictional powers to the Land Board, other than
8 two minor exceptions.

9 So we expect a major improvement to take
10 place in that regard.

11 (A hand was raised.)

12 MR. McQUAIN: Yes, sir?

13 MR. CHASE: Dan Chase, with Mission Power.
14 You mentioned in your fourth question about the
15 interagency permit group, as we were just talking,
16 and you said that the agencies are not required to
17 join that group, but they are invited. You said that
18 none of the federal agencies had refused.

19 How many have not responded? How many are
20 extra that we would have to get independently of this
21 permit group?

22 MR. PATY: All of the federal agencies that
23 we asked to come aboard with us did so. If I
24 indicated that they were not, I didn't mean to; it's
25 just that they are not required to be there. But the

1 presence has been there, and as I tried to indicate,
2 they are very active in providing their input to the
3 process.

4 So I think we have a good working
5 relationship with the federal agencies involved, and
6 they are trying to be a part of what we are trying to
7 do here.

8 The permitting process requires state and
9 county agencies to participate, but the federal
10 one -- I think your question was directed at.

11 MR. McQUAIN: We can go after the federal
12 agencies to help, but state can't mandate they do.
13 Oh, but we could...

14 Any other questions for Mr. Paty?

15 (No response.)

16 MR. McQUAIN: Okay. He is available for a
17 little bit longer. As long as he is with us, we can
18 go ahead and go to DBD, and if something comes up
19 that needs to be shifted back, we'll...

20 MR. PATY: I would just like to add that
21 our staff team here, with Mr. Susono, will be
22 available, and in the event I'm not around, why, tap
23 into them -- and we, as I indicated, will be
24 available for you all week.

25 MR. McQUAIN: Roger, before you get into

1 the questions and the responses, because there have
2 been some references to the document room, could you
3 explain where that is, and what the guidelines for
4 access to that material are.

5 MR. EVERLING: I would like to ask Jerry
6 Lesperance, who is our geothermal coordinator in the
7 department to do that.

8 MR. LESPERANCE: It's about a one-minute
9 walk from here, in the Post Office Building, Room
10 109. However, because there are so many people in
11 town, I would ask you to kind of go with what the RFP
12 asks you to do... call me. If you want to jot my
13 phone number, 548-4020. You can call me well before
14 8:00 o'clock in the morning and make an appointment,
15 because we have so many people.

16 The address is very confusing, it's 335
17 Merchant Street, and you will have trouble finding
18 it. It's the Post Office Building, old Federal
19 Building. Ask any cab driver and he'll help you out,
20 Room 109. But call me first so we don't have people
21 jamming up...

22 MR. EVERLING: It's at the corner of
23 Merchant and Richards?

24 MR. LESPERANCE: It's surrounded Merchant,
25 Mililani, Richards and Queen Street. It's a building

1 in line between those four streets.

2 MR. EVERLING: Because the different
3 departments of state government have some different
4 roles, some of my answers may add something, or take
5 a different tact from Mr. Paty's. Mr. Paty's
6 department is in charge of the land, and also the
7 permitting. My department is in the advocacy
8 department.

9 The first question I see for me is:

10 Will the State exercise its power of
11 eminent -- well, I guess you've answered to that,
12 Bill, and we' added to that.

13 The next one: The governor's letter
14 indicates that the State will assist in both
15 permitting and financing. Please discuss the
16 relationship of DBED and DLNR in the development of
17 the proposed project. Specifically, will DBED
18 provide assistance in arranging financing, and if so,
19 in what ways?

20 First I would describe the relationship
21 between the departments as a cooperative one, as
22 directed by the governor. DBED is the advocate; DLNR
23 is in charge of permitting.

24 It is not determined yet what role we will
25 have in arranging financing. I think that we need to

1 wait until we see the nature of the responses, and
2 what we might do will depend on the nature of the
3 responses.

4 I will say, however, that we are exploring
5 options from both private and public sectors,
6 including the U.S. Government, at this point; but
7 those are exploratory in nature at this point.

8 There were a number of questions that dealt
9 with legal appeals, and legal cases, and what role
10 the State of Hawaii would have. And I think if they
11 are ones where the State of Hawaii is a party, we
12 will aggressively pursue it. But we cannot intervene
13 in a case between the private developer and a group.

14 What role will the State of Hawaii play in
15 the purchase power agreement negotiations?

16 We will work with Hawaiian Electric on
17 this. We expect to be a partner in it, and in that
18 capacity we can end up as an advocate before the
19 Public Utilities Commission, which we think will be
20 beneficial to the solution of the entire arrangement.

21 Has HECO and/or the State applied for PUC
22 declaration of general guidelines under which the
23 purchase power agreement would be negotiated, and if
24 negotiated within those guidelines will the State
25 guarantee PUC approval of the purchase power

1 agreement?

2 The State has not applied for any
3 guidelines, and I will leave up to Mr. McQuain the
4 answer as to whether HECO has. And I've already
5 indicated how we feel we could interact with the PUC.
6 We cannot guarantee approval by the PUC, but we are
7 willing to be an advocate in that.

8 Would the State be willing to underwrite at
9 least a portion of the resource risk associated with
10 the first increment of development?

11 At present the State has budgeted
12 \$6 million for proving the resource. This will
13 include the Slim Hole, observation wells, as well as
14 other wells. We will be asking the legislature for
15 an additional \$3 million next January, and we have
16 asked the federal government for \$15 million toward
17 this end. That would give us a total of \$24 million
18 toward this effort.

19 So to that extent, the State is willing to
20 underwrite a portion of it, and we are trying to get
21 the federal government to underwrite a portion of it
22 as well.

23 I do not understand the relationship
24 between the State's intent to secure permits and the
25 RFP assignment of responsibility for permitting to

1 the developer; can you clarify this.

2 I mentioned earlier that the State is doing
3 a master plan, and will attempt to get a master
4 permit for the whole project. The developer would
5 then be responsible for site-specific permits, and we
6 feel that those would be facilitated by the State's
7 effort, as in getting a master development permit.

8 Although this project is endorsed by both
9 HECO and the State Administration, we see no evidence
10 of strong public support; why not?

11 We believe that there is strong public
12 support for this project. Surveys that we have had
13 done indicate this; specifically, that there is
14 strong public support for alternate energy, in
15 general, and for geothermal in particular.

16 What you, I think, are hearing, is the
17 opposition to this project, and as most of you know,
18 the opposition groups tend to be the most vocal.
19 It's quite difficult to get the silent majority out
20 to speak on the subject, but the surveys we have
21 taken do show the support. The public information
22 program that we have is designed to mobilize this
23 grass roots support.

24 And with that, if there are additional
25 questions, I would be happy to take 'em at this time.

1 (A hand was raised.)

2 MR. McQUAIN: Go ahead.

3 A SPEAKER: You mentioned the \$15 million
4 that might potentially be available from the federal
5 government. How do you propose spending that kind of
6 money if you do receive it? How would you allocate
7 the funds for exploration, and so on?

8 MR. EVERLING: The money would be all
9 earmarked for wells designed to prove the reserve, in
10 terms of the master plan that's being developed.

11 Maurice, do you have additional comments on
12 that?

13 MR. KAYA: I think it's important to
14 realize that -- most of us recognize that the proving
15 of the geothermal resource remains one of the biggest
16 unanswered questions of this whole effort. So the
17 State's program is intended to address, in as timely
18 a manner as possible, some of those unanswered
19 questions with respect to the resource.

20 So what we have done is for initial
21 increment of the funds, the public funds that we have
22 obtained, to go out with a -- what is loosely being
23 termed as "Slim Well Exploration Program."

24 Subsequent funding that might come in for
25 this resource verification, such as what Roger has

1 been referring to, while no commitments and no
2 decisions have been made yet, it's our initial
3 thinking that they would be best spent on direct
4 exploratory drilling to prove out portions of the
5 resource. Thus, should we be successful in obtaining
6 these moneys from the federal government and
7 elsewhere, they would go into holes that would be
8 your full-size exploratory holes that, in fact, could
9 be used as producers, as the case may be.

10 I hope that clarifies it a little bit.

11 A SPEAKER: Is all of that money designated
12 for the East Rift Zone?

13 MR. EVERLING: I think that will depend on
14 the master plan.

15 MR. KAYA: The State's program is intended
16 to find out as much about the geothermal resources as
17 they have been identified in areas that are designated
18 as geothermal resource subzones. So the bulk if not
19 all of the money that we do receive will go into
20 exploratory drilling programs to prove out the
21 resource within those subzones.

22 However, we also recognize that there are
23 portions of the State, other areas within the State,
24 that may have some significant yet-untapped
25 geothermal potential. The difficulty has been for

1 us, in earmarking these funds, is that by statute we
2 are required to conduct geothermal exploration only
3 in those areas that are designated as geothermal
4 resource subzones. So should we be, in the same time
5 frame, successful in designating other areas -- and
6 Mr. Paty has also indicated some efforts in the
7 Southwest Rift Zone, as well -- if these are
8 designated, then we can adapt our program to those
9 areas as well. But until such time as those
10 additional subzones are designated, we are unable to
11 earmark any of these funds.

12 I might also mention at this point in time
13 that part of the master plan effort that Roger has
14 been referring to will be looking at the programmatic
15 attempts or sequence to conduct this exploratory
16 drilling program; and thus we can't get any more
17 specific than that right now.

18 I would invite DLNR, if they have any
19 comments on the subzones related to exploration, to
20 make them, as well.

21 A SPEAKER: What's your current thinking
22 again on the slim well program? And when are the
23 results from that program to become public?

24 MR. EVERLING: They will become public as
25 soon as we get them. While the program we estimate

1 being under way in July, there still is a county
2 hearing or mediation activity going on this month,
3 and so we expect that the permits could be issued to
4 begin that program in July. And those results will
5 be available as soon as possible.

6 A SPEAKER: About when?

7 MR. EVERLING: Have you got any estimate on
8 time?

9 MR. LESPERANCE: The first part of 1990.

10 MR. EVERLING: The first part of 1990, you
11 think, Jerry? I presume the raw data on those could
12 be put in the document room as it becomes available,
13 from each individual well.

14 MR. McQUAIN: This is one of the things
15 that we are going to be doing. As certain steps in
16 the process being undertaken either by the State or
17 HECO are achieved, appropriate data will be made
18 available to you.

19 Obviously, the assessment of the data by
20 those working on it is going to take a little bit
21 longer, but we anticipate that some of the parties
22 involved in putting together proposals, for the most
23 part, would rather look at the raw data themselves,
24 anyway, rather than someone else's opinion as to what
25 it means. And to that regard, we felt that it was

1 appropriate to make sure that as much of the raw data
2 as possible should be made available. That's one of
3 the reasons that we started talking about a document
4 room, because there is so much of it.

5 MR. EVERLING: We will make the data
6 available as quickly as possible. We feel it's in
7 our interest to get it in that room in a form that
8 you can review just as rapidly as we get our hands on
9 it.

10 I see, Rich, that there are a couple more
11 questions here that I missed, if I could do those:

12 Evaluation criteria: What role will the
13 State of Hawaii play in the purchase power agreement
14 negotiations? Assuming that a subsidy may be
15 required to make the project feasible, who will
16 commit for the State during these negotiations?

17 We believe that there will be an individual
18 of the State responsible for the State participating
19 in those negotiations, and I can't give you the name
20 of that individual at this point in time, but that
21 person will be empowered to come up with a
22 recommendation which ultimately would have to go to
23 the legislature for their approval.

24 I think the rest of them I've covered
25 already, they are just different forms of the same

1 question.

2 MR. McQUAIN: I might add to that, again,
3 one of the reasons for the schedule that we're on is
4 to try to get as far along as we can in the process
5 so that if there is anything that's required from the
6 state, we've got opportunity to get into the 1990
7 session of the legislature, so that we are not in a
8 position of having had a contract that we know
9 requires some kind of support, but we don't know
10 whether we are going to get the support or not. We
11 are trying to coordinate with the various activities
12 that we know have to take place.

13 MR. EVERLING: And for those of you who are
14 not familiar, the State legislature convenes in
15 January of 1990, and runs for 60 working days. So
16 essentially, we are talking about the first quarter
17 or a little beyond the first quarter to have an
18 answer.

19 MR. McQUAIN: Any more questions at this
20 point?

21 (No response.)

22 MR. McQUAIN: You guys are in a hurry to
23 put me on the spot, huh?

24 MR. EVERLING: One other thing that has
25 been brought to my attention, that probably you would

1 be interested in, is that the State is going out and
2 is planning to do, in addition to the master plan,
3 VEIS, and so, we are undertaking the preparation of
4 an EIS for this program.

5 MR. McQUAIN: This is one of the issues
6 that we are very pleased with the role being played
7 by the State, because I think anyone recognizes that
8 we talk about geothermal power being available in
9 1995; you can't wait until you know you've got a
10 contract to start some of these activities. That's
11 one of the beauties of this partnership, is that the
12 State is going ahead and commencing some activities
13 right now, to try to help enhance the schedule.

14 Obviously, there is limitations as to how
15 far they can go with it, but to the extent they are,
16 we are really pleased with that.

17 MR. EVERLING: The other thing that I think
18 is important is that the state will be monitoring all
19 of the challenges and so forth that may come about,
20 and to the extent we can possibly take action to
21 speed those up, or to intervene if it's appropriate
22 for the State to do so, we will. We will follow them
23 all; some we may not be able to.

24 MR. McQUAIN: Okay, any more questions for
25 the Department of Business and Economic Development?

1 (No response.)

2 MR. McQUAIN: If not, we've got a couple of
3 things -- or at least one that I know of, that was
4 directed more specifically to the Department of
5 Health, and I would like to ask Mr. Ikeda to go ahead
6 and address that, and we'll put him on the spot for a
7 little bit.

8 James...

9 MR. IKEDA: The question that we had was,
10 air permitting requires that hydrogen sulfide
11 standards be established by the Department of Health.
12 When will these standards be in place?

13 We have been wrestling with the adoption of
14 Chapter 60, which is the Air Quality Standards, for
15 the past few years. Our staff has indicated that in
16 all probability, we are looking at September to
17 October to send these rules up to the governor for
18 final adoption. Once the governor signs it, it goes
19 into effect ten days after the governor's signature.

20 MR. McQUAIN: Okay, that's the one I
21 specifically knew about that had come in in writing.
22 Any questions now for the Department of Health?

23 (No response.)

24 MR. McQUAIN: The whole permitting process,
25 we know, is pretty complex, and to the extent that we

1 can help clarify questions right now, that's what we
2 would like to try to do.

3 If nothing else, it looks like you
4 gentlemen have gotten off fairly easy...

5 A list of written questions we got for
6 Hawaiian Electric is much longer. We can go ahead
7 and get started on some of those, but is there
8 anything else you would like to add?

9 MR. EVERLING: Yeah, just as Mr. Paty
10 indicated that Susono would be here to respond to
11 additional questions, Maurice Kaya, from DBD Energy
12 Department, will also be here to address other
13 questions that might pertain to DBD.

14 (A hand was raised.)

15 MR. McQUAIN: Yes, sir?

16 A SPEAKER: One or two questions:

17 Is there a geothermal subzone defined on
18 Maui?

19 MR. PATY: Yes, there is.

20 A SPEAKER: And will there be a copy of Act
21 301 in the data room?

22 MR. PATY: Yes, there will be.

23 A SPEAKER: Thank you.

24 MR. McQUAIN: If you want to follow the
25 progress on the rules promulgated for Act 301, there

1 is a hearing later this month --

2 MR. PATY: The 21st.

3 MR. McQUAIN: The 21st of this month.

4 MR. ONO: Copies of the draft rules also
5 would be available.

6 MR. McQUAIN: Okay, okay.

7 Again, if you don't hear Mr. Ono, copies of
8 the draft rules for Act 301 are available in the
9 document room. Anything else for the State at this
10 point?

11 (No response.)

12 MR. McQUAIN: None?

13 Gentlemen, thank you.

14 There will be opportunities during the day
15 to catch up with the State people and ask more
16 questions as the day goes along -- as you think of
17 things.

18 I think that what I would like to do now,
19 given our time, there are a number of questions that
20 came to Hawaiian Electric, some of which are more of
21 a policy nature. I'm not going to put my whole panel
22 on the spot yet, I'm going to let them wait a little
23 while. But if you would bear with me, I would like
24 to go ahead and wade through some of the questions
25 that we got and give you a response to them.

1 Some of them are more policy, or procedural
2 questions, as to what you can expect. Let me go
3 ahead and get through some of those. Hopefully I'll
4 do it in a reasonable order.

5 (At this time Mr. Paty, Mr. Everling and
6 Mr. Ikeda left the conference room.)

7 MR. McQUAIN: I have tried to keep notes a
8 little bit on some the State tossed my way. Okay,
9 some of the questions:

10 One, if the interisland transmission system
11 is constructed, will the MECO generating capacity be
12 considered as an integral part of the HECO system?
13 In other words, will we essentially combine Maui
14 Electric and Hawaiian Electric Company, from a
15 systems standpoint? And the answer to that is no.

16 We've stated in the RFP that it's possible
17 for there to be a tap on Maui; some of the power
18 produced from the geothermal field on the Big Island
19 sold to Maui Electric -- that's a separate contract.
20 They are a wholly-owned subsidiary of HECO, but they
21 are a separate regulated utility, and we've got to
22 keep it that way.

23 Will HECO disclose the identity of all
24 proposers, including those on the short list?

25 Well, to a great extent, the identity of a

1 lot of the proposers is known to you right now, just
2 by looking around the room...

3 The list of people who are attending today
4 will be made available to everyone else who is
5 attending today. Pretty much, with only a few
6 exceptions, everyone who submitted an intent to
7 respond is already represented here today.

8 As far as the short list, I'm not going to
9 commit at this point in time. We need to get a
10 little further through the process and see how things
11 shake out.

12 I think from some conversations I had at
13 the break, some of your expectations are the same as
14 mine, and that is, that even out of the rubbing
15 elbows that goes on this week, there may be a few
16 marriages that occur as a result of people finding
17 out who else is interested.

18 When I was asked before, my first comment
19 was, I'm not in the marriage brokerage business, so
20 I'm not going to try to help you to put consortiums
21 together; that's your responsibility, not ours.

22 To the extent appropriate, as it is right
23 now, given who is here, we'll make sure you have a
24 list of who else is sitting here in the room with
25 you, and to that extent we've tried to give you a

1 jump by giving you a list of the responses that we
2 got as to who was going to attend.

3 Depending on how the process goes, we may
4 or may not advise those involved who is on the short
5 lists. I just don't know yet until we see, really,
6 what we end up with in the way of serious responses.

7 We have been asked if we would rank in
8 order of importance the technical and commercial
9 evaluation factors for those parts of the proposal,
10 and rank the evaluation criteria for business
11 management/financial aspects of the commercial
12 proposal.

13 That's a tall task. At this stage of the
14 game, no, I'm not going to try to do it here right
15 now. We want you to be creative. We don't want you
16 to be constrained by preconceived ranking. There are
17 some things, obviously, that you don't have to spend
18 a whole lot of time studying to know what's very
19 important to us. Obviously, the reliability of the
20 system ranks number one.

21 HECO looks at it as, we've got the
22 obligation to serve. If the customers' lights go
23 out, they are not going to come out after you because
24 you are the guy who is cranking out the kilowatts
25 from Kilauea; they are going to come after me,

1 because I'm the guy sitting here on this island who
2 controls the flow to their homes.

3 It's possible that you may come up with
4 something creative we haven't thought about, and we
5 want to be free to take that into consideration.
6 But, again, we don't want you to be constrained by
7 targeting, "Well, this is what they are going to
8 focus on"; we would rather you give it your best shot
9 in a proposal. We had developed some ranking and
10 waiting; we consider that for our internal use right
11 now.

12 Will HECO disqualify a proposal if the
13 proposed cost of the power exceeds HECO's projected
14 avoided cost?

15 We hope that as a result of the State's
16 participation, that's not going to happen. In the
17 final analysis of what's presented to the PUC for
18 approval, we've got to structure this in such a way
19 as to -- what's being presented to our customer out
20 there is that, no, we've managed through cooperation
21 with the State to bring this thing in at or below
22 avoided cost. It's putting Hawaiian Electric in a
23 pretty tough spot to go out and say that we are going
24 to pay above avoided cost for this simply because
25 it's geothermal; some of our customers aren't going

1 to be too happy about that.

2 We do feel that because we are working so
3 close with the State, that as we get through the
4 evaluations, there will be things that will be
5 developed that will help the final number.

6 And obviously, as you present your proposal
7 initially, don't be constrained by whether or not you
8 are above avoided cost. You know, that's what we are
9 working with the State on, is to try to make sure
10 that if the cost for the project is above avoided
11 cost -- then what kind of means do we have to work at
12 your cost structure in concert with the State to get
13 it below avoided cost?

14 And we don't want you to stop because your
15 initial assessment says, Well, we think we are going
16 to be slightly above HECO's avoided cost, or
17 somewhere above it; don't let that stop you from
18 submitting a proposal. I mean, that's why we've got
19 the State involved.

20 If you just did a little bit of quick
21 arithmetic as to what the Plasch report said the cost
22 of the system would be, and looked at HECO's most
23 recent filed avoided cost, you might say -- How are
24 we going to do this? We also want to be creative in
25 how we structure the costing analysis for

1 presentation to the commission.

2 There are literally innumerable ways of
3 presenting the avoided cost, and we will be working
4 with the commission on just how open they are to
5 alternative structures.

6 What alternate sources of long-term
7 capacity and energy will HECO consider in evaluating
8 the proposals? What capital, fuel, and operating and
9 maintenance costs does HECO foresee for alternative
10 resources?

11 As I stated earlier, one of the things that
12 we have to contend with is, when is the geothermal
13 going to be available? And what impact does that
14 have on our sources of generation?

15 Right now, we are in a little bit of a
16 bind. I could not tell you what that longterm
17 alternative resource picture looks like, because I'm
18 waiting on two major decisions from the PUC. I've
19 got a contract over there for 146 megawatts of
20 coal-fired generation, and another contract over
21 there for 180 megawatts of combined cycle cogen. I
22 need to know whether the commission is going to
23 approve those, or are we going to move forward with
24 them. We should know in the fairly-near future.

25 Once we know more about the answers to

1 those questions, then we can give you something more
2 definitive on what the alternative is that is our
3 base for comparison.

4 We don't view this as being a situation
5 right now where we can give you a real clear-cut
6 snapshot right now, and say -- "That's the
7 alternative; that's what we would do." We are in the
8 midst of a process, and as soon as we know, we'll
9 keep you abreast of what's going on.

10 We, again, don't want you to be constrained
11 by your computation or ours, either one -- of avoided
12 cost, by one particular methodology. We are at a
13 situation where somebody asked the question, have we
14 approached the commission on some general guidelines
15 for review of the power purchase agreement, and --
16 you know, rules for presentation of the commission.
17 And unfortunately, due to the two open dockets I've
18 got on major prior purchase agreements, I can't do
19 it. I've got to wait until they make decisions on
20 those two dockets, and then we've already talked with
21 the commission at that point in time; then we need to
22 sit down with you and talk about the geothermal RFP,
23 and how we are going to establish a methodology for
24 presentation, and -- you know, what can we do to work
25 with you and your staff to make this thing go as

1 smooth as possible?

2 Although we have had purchase power for a
3 long time in the state, when you present them at one
4 time with 326 megawatts of purchase power, that was
5 an awfully big pill for them to swallow, particularly
6 given the fact that the chairman of our commission,
7 and one of the other two members, have only been on
8 the commission for about a year now. We've given 'em
9 an awful big one to swallow right now, and it will
10 set a tremendous precedent. Those decisions are
11 public record, and to that extent, anyone here can
12 find out how the commission rules on those two
13 dockets, and assess for yourselves, as we will be
14 attempting to assess, what the impact is on this one.

15 To that extent, the next question was, in
16 evaluating the price of capacity and energy, does
17 HECO intend to use a leveled cost of service for each
18 phase of all phases for the term of the PPA? And a
19 real good question: What discount rate will HECO use
20 to compute levelized cost? Oh, that I knew the
21 answer to that one.... (laughing)

22 I spent nine hours on the witness stand
23 last week at the PUC, about a third of which was
24 arguing what discount rate should be used. When we
25 get the decision in order in the EIS documents, I'll

1 be able to answer that question much more directly.

2 Again, we are not fixed on whether or not
3 we would use a levelized cost of service. We don't
4 think that if you look at all of the different time
5 tables upon which geothermal could be developed --
6 and it may be that you look at the economics of the
7 cable, and the various increments, and you say, Hey,
8 we think it's best to develop this in blocks of 150
9 or 200 megawatts... Whatever that may be, you know,
10 we are willing to sit down with you and look at it.

11 You can find various capacity studies that
12 show essentially 500 megawatts coming on over a
13 ten-year period. Obviously, it wouldn't make sense
14 right now to commit to a price for the development
15 covering the entire ten-year period. I don't know
16 about you, but I wouldn't want to pay the cost up
17 front to hedge money for that kind of a time period.

18 So we obviously are going to look at fixing
19 the price for the first increment, initially, and
20 setting down some, if you will, basic agreements
21 relative to further increments out into the future.
22 But the price for those subsequent increments is
23 established at later times, as you look at what's
24 happening to the cost of equipment, or looking at
25 what is that time frame?

1 If it can all be developed in a relatively
2 short time frame, fine, let's fix it all now. But if
3 that's not really feasible, you know, these are
4 issues that -- we are looking to you as respondents
5 to tell us to some extent what you think is feasible
6 in the way of time frame.

7 Will HECO please clarify the conflicting
8 statements in Section 7.1.3 regarding the importance
9 of acquiring geothermal mineral rights? Does HECO
10 intend to give no credit to a proposal that owns or
11 controls a geothermal resource? Please clarify the
12 extent to which a proposer must control the
13 geothermal resource in order to be shortlisted.

14 Well, we tried to make that one clear in
15 the RFP, that we won't consider ownership of the
16 resource so that evaluation is on a "level playing
17 field" -- failure to control the resource up front is
18 not a basis for exclusion, but control of the
19 resource is not sufficient in itself to guarantee an
20 award.

21 Now, obviously, if we get down to the point
22 that we've got a shortlist that's two bidders, and
23 all things being equal, one controls the resource and
24 the other doesn't, it may be a tie breaker. But we
25 don't want to constrain our assessment of proposals

1 up front due to control of the resource.

2 One of the things that we are trying to do
3 in concert with the State, and those who do control
4 the resources, is to maintain enough flexibility as
5 we go, so that if someone has a better mouse trap, a
6 better way to go about developing this resource and
7 getting it to Oahu, that -- that we hope to get
8 cooperation of those who do control the resources to
9 participate, so that we can take advantage of whoever
10 happens to have the best mouse trap.

11 Another question: At the time the PPA is
12 executed, must the developer control sufficient
13 geothermal mineral resources for 500 megawatts, or
14 just for the Phase One Capacity?

15 One of the biggest uncertainties we face
16 is, just how big is that resource? And we understand
17 that. And we are not, obviously, going to ask for
18 somebody, at the time we make a firm commitment
19 through a PPA, at the end of 1990, to guarantee us he
20 has got 500 megawatts; that's an impossibility.

21 We want enough resources to cover what it
22 is we are committing to, in that first block in the
23 PPA, obviously. We want you to tell us that you've
24 got enough confidence that 150 or 200 megawatts, or
25 whatever it is that we cover in that first block, is

1 going to be there, and that you're committed to
2 develop the resource to that extent. But, no, we are
3 not -- you know, the 500 megawatts -- where did the
4 number come from? That is an estimate that was
5 developed of what some people believe the potential
6 is. It's not a magic number.

7 We are not affixed, specifically, to the
8 500. That's what we think the potential is. That's
9 what we have stated we are willing to buy, but we are
10 not fixed on that number as -- you know, we are not
11 going to do business if somebody can't come up with
12 that number exactly.

13 Will the developer be granted schedule
14 relief for force majeure events, including permitting
15 and financing delays beyond the reasonable control of
16 the Developer?

17 Generally? Yes. Exactly? No. Let's sit
18 down and negotiate that one, as to exactly what the
19 terms and conditions would be.

20 I think relative to permitting delays,
21 we'll address that one in the contracts. Relative to
22 financing delays, well, it depends on what you
23 present us with in the way of a financing plan up
24 front. That's an issue for negotiation at a later
25 date.

1 Is HECO willing to pay liquidated damages
2 to the Developer in the event HECO is in default, or
3 delays or cancels the project?

4 Well, there are two parts to that question
5 in my mind: If HECO is in default; well, the extent
6 to which HECO would pay any damages if HECO were in
7 default, again, is an item for negotiation as to
8 exactly how you would handle it. We obviously think
9 that if we go into a contract, and you have an
10 obligation, we have an obligation, and we don't
11 perform, yeah, then we are going to be penalized in
12 some way for failure to perform on our part. Now,
13 exactly how, and what we can do, that's open to
14 negotiation.

15 If we delay or cancel the project, I can
16 tell you that as a utility, we would expect to go
17 into the project on a basis that we would want to
18 negotiate into the contract provisions for HECO to be
19 able to exercise rights to delay or defer the
20 project, or even to cancel the project if something
21 were to develop that none of us could anticipate.

22 Now, at this point in the game, I could
23 think of absolutely no circumstance offhand whereby
24 HECO would desire to delay or cancel this. Of
25 course, there could be a monumental eruption of the

1 volcano over there, and we look at it and say, this
2 is pie in the sky, we are not going to go on with it.
3 But that becomes force majeure for a couple of us.

4 But we firmly believe in the State's goal
5 of developing agency self-sufficiency. And to the
6 extent that we can achieve a geothermal resource that
7 will replace some of this oil we are burning, we want
8 to go through with it. And we would not be prudent
9 as a utility if we didn't recognize, though, the fact
10 that we are regulated, and there are certain
11 constraints that we've got to work within. And we
12 will seek to develop a contract that recognizes those
13 constraints.

14 If a developer is unwilling to grant HECO a
15 first right of refusal to purchase the project, would
16 his proposal be disqualified?

17 Well, if you refuse to grant us the right
18 of first refusal to purchase the power, yes. The
19 project? No, not necessarily.

20 We would look for -- you know, what other
21 benefits are in the agreement that we develop that
22 could offset this. But if you had a lot of
23 difficulty with giving us first right of refusal to
24 purchase the project upon expiration of the contract
25 term, we can offset that other ways. We are not

1 going to reject your proposal for it.

2 Obviously, what you've got is an RFP that
3 says HECO wants to buy the power; that's first and
4 foremost. You know, we are not going to agree to let
5 you sell power to somebody else instead of selling
6 power to Hawaiian Electric.

7 There are some technical questions I'm
8 going to skip over. We'll let the working group
9 handle most of those.

10 Will HECO assume exchange rate risk for
11 foreign suppliers of goods and services?

12 No. That one I can tell you real quick.
13 The man upstairs in our financial office would string
14 me up if I said yes to that one. We are not in the
15 business of assuming that risk; never have been,
16 never will be. Just -- I can't do that. If the
17 State -- you know, that may be one area that the
18 State can look at, I don't know. I can't speak for
19 'em on that issue. I can tell you that HECO won't
20 take that risk.

21 Someone asked if we knew of any factor that
22 might cause us to delay or cancel the project after
23 the power purchase agreement is signed. Again, I
24 know of no reason other than some catastrophic
25 natural disaster on the Big Island -- or, you know,

1 that could even hit us...

2 One of the things that we have to look at
3 right now, Hawaiian Electric's peak, most recent, is
4 1,080 megawatts. Our capacity currently is 1,277
5 installed capacity. We got a peak that's growing at
6 about 30 megawatts a year. We've got some old units,
7 too. We need the power, and we intend to, again, go
8 through with purchasing what we can get out of the
9 geothermal source.

10 A question of rights of eminent domain --
11 this one gets a little tricky. Hawaiian Electric
12 could not exercise its rights of eminent domain for
13 the benefit of another private party. There is some
14 debate, a little bit, as to whether the State could
15 or could not. Mr. Paty has said that the State does
16 not believe they could or should.

17 One of the difficulties is, you are talking
18 over-land transmission on the Big Island; that's not
19 within HECO's jurisdiction. That's not our franchise
20 area. I can't do it. But the Department of
21 Transportation and their responsibilities or rights
22 currently relative to energy corridors -- is
23 something that will help us.

24 We had worked with the Department of
25 Business and Economic Development in the 1989

1 legislative session in an attempt to get past
2 legislative action that would give the Department of
3 Business and Economic Development, as a lead agency,
4 the right to establish a corridor for the over-land
5 transmission, and even in that legislative action,
6 giving them the rights to utilize eminent domain, to
7 establish that corridor.

8 Out of that process came a lot of
9 discussion about what's going on on the Big Island
10 relative to the Big Island's own transmission needs.
11 And to the extent that we can marry, merge, work
12 together on transmission requirements relative to the
13 Big Island, and use complimenting corridors, we'll
14 exercise whatever rights we can to help there. But I
15 could not commit Hawaiian Electric to utilize its
16 rights of eminent domain relative to the Big Island
17 transmission corridor. That's not our franchise
18 area.

19 As far as the landing on Oahu, and rights
20 to the Aniani Substation site, yeah, we've got the
21 rights to that site, and we would work with any
22 developer to the extent necessary to take care of the
23 Oahu transmission system. That's our franchise area,
24 and we would utilize whatever means are available to
25 us to help there.

1 There are the possibilities of over-land
2 transmission on Maui. That depends upon what
3 develops relative to a tap for Maui. There is some
4 technical considerations involved there, and I
5 couldn't tell you right now that I'm convinced that a
6 tap on Maui is technically feasible, if you crank in
7 the economics involved for the converter stations and
8 whatnot.

9 A question that was submitted says, We
10 assume that in the event of the cancellation of the
11 project that HECO will make the developer whole for
12 out-of-pocket costs incurred. We also assume that in
13 the event of delay at HECO's convenience, that HECO
14 will compensate the developer for all additional
15 costs incurred due to the delay.

16 As far as making a developer whole for
17 out-of-pocket costs incurred, it's been our general
18 position that, up until the point in time that the
19 contract we have is approved by the commission, both
20 we and the developer are at risk for whatever we
21 spent up to that point in time. Once the commission
22 approves the contract, and we know then that we are
23 both legally bound, that's a different story.

24 If HECO were then to delay or cancel, then,
25 yes, we are obligated to do something for the

1 developer. Exactly what and how much, that's an item
2 for negotiation, but obviously, we believe that if we
3 caused you to incur a delay for our convenience, then
4 the cost that results from that delay -- you know,
5 HECO is going to have some obligation involved there.

6 Someone has asked, Please discuss how the
7 unique characteristics of the proposed project will
8 enter into HECO's evaluation of the proposed formulas
9 for the cost of power produced by the project.

10 This project has got a lot of unique
11 characteristics. One of the things that we tried to
12 point out in their quest for proposals is -- you
13 know, what we would get if we had, totally, our
14 "druthers."

15 Now, we know geothermal doesn't exactly
16 meet our needs verbatim. For one thing, obviously,
17 as a utility our size, when you look at 500 megawatts
18 of geothermal, it would be ideal if that geothermal
19 would follow the load... you know, if it had some
20 quick-load pickup characteristics, if it had some of
21 the other operating characteristics of the balance of
22 our system.

23 Well, we are realists. We know a bit about
24 geothermal. We know that it's basically a base load
25 technology. We don't expect a lot of quick-load

1 pickup capability out of a geothermal that's coming
2 across that long a DC transmission; no. But you need
3 to know what our concerns are. You need to know what
4 kind of a utility you are dealing with.

5 We are sitting out here in the middle of
6 the Pacific. If I drop a unit, I can't plug into
7 PG&E and get a few kilowatts. It doesn't work that
8 way for us. We have some system constraints that are
9 different than our mainland counterparts, and we felt
10 that it was appropriate and necessary in the RFP --
11 we point out to you as much of that as possible.

12 I mean, we want you to be creative in how
13 you look at this project. And I'll give you an
14 example of one of the things that I would invite you
15 to consider, and this is just tossed out for
16 clarification of what we mean when we say "be
17 creative."

18 One of the problems we have, you look at
19 what our minimum load is. Now, you want to base load
20 500 watts of geothermal, and I've got a link to the
21 Big Island where that geothermal source is; well,
22 I've got to be prepared on Oahu somehow, if I should
23 lose part of the capability of that link, I've got to
24 have spending reserve. I don't want to turn the
25 customers off because I lose part of this geothermal

1 capability.

2 So the wee hours of the morning I've got a
3 problem. Right now, my minimum during the wee hours
4 of the morning is slightly less than 500 megawatts.
5 Well, that minimum is growing, and depending upon
6 what our schedule is for geothermal, you know -- the
7 problem gets mitigated somewhat.

8 But I've got to have spending reserve
9 available here on Oahu, somehow, to cover the loss of
10 at least an increment of the cable or an increment of
11 the geothermal power.

12 Well, if 500 megawatts were to be here
13 today, just to give you an idea of the extent of the
14 problem, if you were to suddenly plug in 500
15 megawatts of base load geothermal, and I go out at
16 490 megawatt minimum, you know, what am I going to
17 do? There is no room for me to run something over
18 here. There is no load for me to put on a machine
19 here to provide spending reserve and backup for you.

20 So what I encourage you to look at -- what
21 can you do with that geothermal capability in the wee
22 hours of the morning? Could you incorporate into
23 your proposal, for instance, some pump storage, so
24 that you've got some way of using some of your
25 geothermal generating capability during the night

1 hours, and yet can provide me even more power on
2 peak? You know, that's an example of some -- the
3 extent to which we invite you to get creative in
4 helping us solve our system problems.

5 Now, to what extent can you cut back on the
6 geothermal export, to enable us to meet our off-hour
7 problems? These are some of the things that get
8 involved when we say this one's unique, and depending
9 upon the nature of the responses we get, we may have
10 to change some of the ways that we think we are going
11 to evaluate it. We don't want to go into this with
12 some preconceived ideas of -- "You've got to fit this
13 little box, and if you don't fit this box it won't
14 work." No, that's not the kind of a utility you are
15 dealing with.

16 As a couple of the folks sitting in here
17 will attest to, back in 1987, we ended up with some
18 things that we didn't think we would end up with.
19 That's because our eyes were opened, and we allowed
20 the market to tell us what would work, what was best
21 at that point in time. And we are willing to listen
22 again.

23 Okay, there are a number of technical
24 questions, and, again, I'm skipping over those right
25 now to get some more of the general stuff...

1 Okay, we are running ahead of schedule.
2 You folks didn't grill my friends from the State like
3 I thought you might... (laughter) This was not
4 prerehearsed. I heard some of those answers for the
5 first time today, too. And I'm very pleased, again,
6 with the support that we are getting from the State
7 in the project.

8 I think what I would like to do at this
9 point, since we are ahead of schedule, is go ahead
10 and break. We had scheduled to come back at 1:30, I
11 believe, but we can break now, and come back at
12 1:00 o'clock. And what we will do is, we will have
13 the HECO working group, along with our consultants,
14 available, and they are going to go through some of
15 the written questions that we got that were of a
16 technical nature, and then we are going to throw this
17 thing wide open for whatever questions you have. It
18 should be an interesting afternoon.

19 We'll give you a couple of hours to spread
20 out, find some place to have some lunch. This room
21 is available if you want to talk with some of the
22 other folks who have come today. Feel free to stick
23 around here, whatever time you would like.

24 We have tried to introduce to you some of
25 our key players, both from Hawaiian Electric's side,

1 and from the State's side. We'll make ourselves
2 available for informal discussion. I would ask my
3 people if you could at least stay available until
4 11:30, and then you can scoot out and go get some
5 lunch, also.

6 But, again, the primary purpose is to be
7 available to you to answer as many questions as we
8 can.

9 For my folks, the one thing I would ask, is
10 that if you are picking up questions during the lunch
11 break, kind of try to feed 'em back to John or I, so
12 if it's an appropriate question that needs to be
13 shared with the whole group, we can do that after
14 lunch, also.

15 Okay, any general questions at this point
16 of mechanics?

17 (No response.)

18 MR. McQUAIN: Then at 1:00 o'clock, be back
19 here. And, again, the room is available now for the
20 next couple of hours.

21 Thank you.

22 (A luncheon recess was taken at 10:44 a.m.)

23 - - -

24

25

1 AFTERNOON SESSION

1:02 P.M.

2 - - -

3 MR. McQUAIN: John Richardson, over at the
4 far end of the table, is HECO's project manager for
5 this total project.

6 Jerry Lesperance, next to him from DDED,
7 and resource person for the State.

8 Jackie Erickson is HECO's corporate
9 counsel.

10 Bill Bonnet, Manager of Environmental
11 Department, and also formerly the manager and --
12 still is of the Deep Water Cable Project.

13 Bill D'Olier, geothermal consultant.

14 Bob Flugum, high voltage DC consultant.

15 And Vince Fesmire heads up the project team
16 force for us.

17 I am going to let these folks answer some
18 questions for you this afternoon.

19 As stated this morning, I spent most of my
20 time the last couple of years chasing a couple of
21 other purchase power contracts, so the technical
22 details of this one, I'm going to look at these folks
23 and say, "You know 'em, I don't..." They are the
24 ones that I hope can answer all of the questions you
25 have.

1 We did receive a number of written
2 technical questions, and what I would like to do is
3 to allow this panel to go through and answer some of
4 those technical questions first, and then we'll open
5 it up again for wide open discussions.

6 In order to make sure that you can kind of
7 see who it is that's answering the question, to get a
8 little better eye contact, I'm going to ask them, as
9 they answer questions for you, to stand. I was
10 advised during the lunch break, that this morning, it
11 was difficult for people in the back to see, really,
12 who was speaking up here at the front. And we are
13 going to try to help make that a little better for
14 you.

15 If you can't hear somebody, you know, give
16 'em a high sign and let 'em know you can't hear 'em.

17 What I would like to do first, there were a
18 number of questions that dealt with the DC system,
19 and I'm going to put Mr. Flugum on the spot right off
20 the bat, and let Bob go through some of the questions
21 that we received in that regard, and then we'll go to
22 Mr. Bonnet who has handled a number of the deep water
23 cable research issues.

24 Okay, Bob, I'm going to give you the
25 microphone. Your turn...

1 MR. FLUGUM: The first question that deals
2 with the transmission system was, Why couldn't the
3 converter terminal proposed for Aniani be sited to
4 the nearest 138kV AC substation with a short DC line
5 from the cable landing?

6 Well, it could. And Section 3.6.2.1 in the
7 RFP deals with the options there. There could be a
8 converter station on the shore with a short AC line
9 up to the Aniani Sub. The converter station could be
10 on some land near the Aniani Substation, with a short
11 DC interconnection. So that's an option that's up to
12 the developer.

13 The Aniani Substation, itself, is only
14 three and a half acres, and that's not enough for a
15 500 megawatt, 300 KVDC terminal, unless you have some
16 wonderful ways to shrink everything that usually goes
17 in there; remembering that we are also requiring the
18 developer to supply enough reactive to take care of
19 the HECO system requirements, as well as those to
20 compensate the DC converter to a unity power factor.
21 So there will be a lot of capacitors in the general
22 area.

23 With respect to the steady state reactive
24 requirements, reading in the conflict the wording
25 might be a little muddy. The question says there

1 appears to be a conflict between Paragraphs A and B,
2 and 3.6.4.4. One requires a compensation of 85
3 percent power factor, and the other to one per unit,
4 or 100 percent power factor.

5 What we are saying is, that the developer
6 must supply sufficient reactive not only to take care
7 of compensating the terminal to what unity power
8 factor, but also to supply an additional 310
9 megabars, which are AC system requirements for HECO.
10 This is not particularly unusual at DC terminals,
11 where -- since there is going to be an installation
12 of bars, which have to be coordinated to a degree
13 with the control of the DC terminal anyhow, to have
14 them supply requirements for the HECO system in this
15 case, or the AC system, as well as for the DC
16 converter.

17 I'll let Bill handle the next one...

18 Short circuit duty of Aniani 3.7.2.2. We
19 had a maximum short circuit current listed, and then,
20 in another point in the RFP we mentioned the
21 equivalent short circuit ratio as varying from six to
22 2.5. There isn't really any conflict -- a 12.3 KA
23 relates to the six -- the equivalent short circuit
24 ratio of six.

25 I didn't put in a minimum short circuit

1 current, and someone asked about that, too. Well,
2 you can back into it from the 2.5, but we will supply
3 a minimum short circuit number for it. It comes out
4 to between something between four and five KA, if you
5 back into it using this.

6 3.6.4.4, Steady State and Transient Voltage
7 Controls, is asked what the acceptable overvoltage
8 limit is for the AC network, which I'm sure refers to
9 a load rejection, and the subsequent rise in AC
10 voltage. We didn't put in a level.

11 We do have a requirement that the developer
12 supply results in system studies using the AC system
13 as is represented in the RFP, and tell us what kind
14 of numbers they get. But in order to supply one
15 number which everyone will sort of work toward, we
16 will come up with a number for you. It will be
17 typical of what has been used in other DC systems,
18 say, 1.4 for six cycles, and 1.3 for ten. We will
19 give you a specific number, and that's one thing that
20 wasn't in there.

21 The question was asked about earth
22 resistivity in the neighborhood of the line routes or
23 the electrode areas. We did have some information in
24 the section on the grounding of the neutral bus,
25 where we discussed either ground electrode or sea

1 electrode, and pointed out that the resistivity in
2 the area on Oahu is probably low enough so the ground
3 electrode would be workable.

4 The problem being that you have to get
5 three or four miles away from the converter terminal
6 in order to do it, and that gets to be a problem.

7 In the Puna area, it is somewhere between
8 three and four thousand centimeters, and that's not
9 going to work for a ground electrode. So there are
10 some numbers in there. HECO has not done any
11 investigation of resistivities along the route, so
12 that's something the developer is going to have to
13 do.

14 You can start any time... I think that's
15 the gist of the questions on the DC system.

16 MR. McQUAIN: That's --

17 MR. FLUGUM: There is one from -- on which
18 AC system conditions and reactive requirements apply
19 for the AC voltage control requirements of Section
20 3.6.4.4. I think I need a little bit more on that
21 question to answer it, because I assumed there was
22 enough in there to tell me which ones it would be.

23 The reactive requirements will be for both
24 minimum and maximum load, and the reactive supply
25 there will have to be tied to the DC control, so that

1 for all manners of switching and system conditions,
2 they maintain the system at the proper voltage that
3 we've listed. And we've given the voltage range in
4 there, so I'm not sure exactly what he is driving at
5 in there. We may have to get someone to elaborate a
6 little bit on that one.

7 MR. McQUAIN: Okay. We will switch it over
8 to Bill Bonnet. There were some questions relative
9 to the submarine cable routes; the submarine cable,
10 which is an area that Bill has worked at for a number
11 of years now.

12 MR. BONNET: We had two or three questions
13 related to the research which has been going on since
14 1982, on the submarine transmission, and to a certain
15 extent over-land transmission components of this
16 project.

17 Specifically, the question was raised as to
18 why the cable avoids the obvious land routes over the
19 islands of Molokai, Maui and Lanai, which should
20 offer much cheaper route links.

21 The answer is, in the context of your
22 proposal, with the exception of the required
23 off-shore option that you must provide to us around
24 the Big Island, you are free to go over land or
25 submarine as you see fit.

1 It was our assessment in the research
2 project that although computations would show it's
3 cheaper to go over land, this would very definitely
4 be a time/money tradeoff. And the length of time
5 that would be required to convince the people of
6 Molokai that what they really wanted was a 500
7 megawatt DC system the length of their island which
8 didn't serve them, would probably be sufficiently
9 disadvantageous that we would get to stay in the
10 water once we got in the water.

11 So that is the reason why we pursued that
12 routing of alignment in our research project.

13 The question was also raised regarding the
14 scheduled report on the at-sea component of the deep
15 water cable program scheduled for March of 1990, and
16 the lack of value that that date gives to you.

17 In March of 1990, we will see a completed
18 accepted report by the Department of Energy on the
19 program. If you are interested, which I hope you
20 are, in the approach which we have taken, and our
21 subcontractors have taken, as to what we consider the
22 critical variables, and how we intend to approach the
23 installation, and what we will consider constitutes
24 success or failure in the context, largely, of a
25 three dimensional model that has been developed for

1 this program, all of what you need to know about our
2 approach already exists, and is available in the form
3 of the at-sea test plan in the public document room.

4 We will actually go to sea in late October
5 of this year, and we will be at sea for 14 days. And
6 anybody who is interested in dragging himself back
7 and forth across the Alinuiaha Channel at a knot and
8 a half, 24 hours a day, for two weeks, make
9 yourselves known... no, I'm sorry, we can't
10 accommodate you. That's not going to be a fun trip,
11 but we are going to do it.

12 And you will know as we know, immediately
13 following that, early November, either yes, the
14 things that we hypothesized that we could do in great
15 detail in the at-sea test plan -- either yes, we
16 could do, or no, we could not do. It will take us
17 until March of 1990 to write a report in the format
18 acceptable to the U.S. Department of Energy,
19 attaching all of the right words, and dotting the I's
20 and crossing the T's.

21 But I think that for purposes of
22 confirmation, most of the cable manufacturers here
23 will tell you that, in their minds, as they told us
24 in November of 1987, they are satisfied that the
25 installation of cable through that channel, as well

1 as all the other channels, can, indeed, be
2 commercially accomplished.

3 So all you will be looking for in early
4 November, is the confirmation that we expect from
5 this program, that yes, we could do what we said that
6 we thought we could do.

7 Those are the only two questions related to
8 the submarine cable. Did you want me to deal with
9 the venting issue?

10 MR. McQUAIN: Go ahead.

11 MR. BONNET: All right.

12 Somebody gave us a very challenging
13 question:

14 Is venting steam directly to the atmosphere
15 for a short period, less than 24 hours, acceptable?
16 Well, it's acceptable to me, but there are some
17 people that live down there that don't think much of
18 that...

19 My answer would have to be two-fold to
20 that: From an engineering standpoint, if you are
21 looking at a technology, which on a routine basis
22 requires venting, as Mr. Ikeda told you earlier
23 today, you had better very specifically address how
24 you intend to deal with the hydrogen sulfide, and
25 with the noise associated with such a proposed plan

1 of operation.

2 But, on the other hand, if you are saying
3 that we categorically reject, from an engineering
4 standpoint, an approach that involved venting -- I
5 think the answer is, no, we would not out-of-hand
6 dismiss it. You would just be providing yourselves
7 with quite a challenging environmental effort in
8 order to cope with those emissions.

9 Final one: Is there any material testing
10 being carried out at the well field?

11 It was not entirely clear -- perhaps
12 somebody can clarify who posed that question --
13 materials testing in the sense of things being
14 analyzed out of the well? Not that I am particularly
15 aware of. Material being -- in the terms of being
16 significant? I think the slim hole program as
17 described to you, and the State's intent to move
18 forward with funding for additional exploratory
19 drilling were described as certainly as completely as
20 I can do that, because it's not a HECO element of
21 this effort.

22 That's about it from my side.

23 MR. McQUAIN: Okay. I let James off
24 earlier on that venting question. I asked him if he
25 wanted to answer it, and he says, "Not really."

1 MR. BONNET: I'm not as smart as he is...

2 MR. McQUAIN: (Laughing)

3 On this last question, the question dealt
4 with material testing from a standpoint of some
5 various equipment being tested, and technologies
6 being tested at the HGPA site, there has been quite a
7 bit done in the way of grossivity work, in the way of
8 technologies for hydrogen sulfide abatement; quite a
9 bit of work done there. And the results of all that
10 work -- I believe, Jerry, wouldn't it be appropriate
11 to say are available in the document room?

12 MR. LESPERANCE: (Nodding up and down.)

13 MR. McQUAIN: A lot of that is pretty well
14 documented on what's been done there.

15 Okay, there are some other questions
16 relative to the geothermal source, itself, and one
17 area that I will definitely tell you I'm not, is a
18 geologist; so I'm going to let Bill D'Olier cover
19 some of those questions. Bill, do you want to step
20 up here and take those questions.

21 MR. D'OLIER: In these written questions, I
22 see three that I would speak to now. Question Number
23 15:

24 Will HECO clarify what seismic risk
25 assessment in Section 3.1.1 includes, other than that

1 the design conform to Zone 3 -- that's seismic
2 Subzone 3. Also, please clarify what volcanic risk
3 assessment in Section 3.1.2 is to include.

4 These, presumably, would be executed by
5 some subcontractor for any serious proposer -- will
6 have a spread of individual judgments of professional
7 geologists and volcanologists, seismologists as to
8 what the risk might be. But there is quite a bit of
9 technical information that is available on the
10 Kilauea East Rift Zone, and its -- both seismic and
11 volcanic hazards.

12 Speaking of what I think the emphasis would
13 be on the seismic side, I think, particularly,
14 studies of the 1975 so-called Kalapana earthquake
15 that occurred, the epicenter -- that's the surface
16 location over the break, on the south coast of the
17 Island of Hawaii, it had a magnitude of 7.2. I think
18 this would be particularly important to study. It
19 was registered in Hilo with a .22 gravity
20 acceleration. It's discussed in good detail in the
21 USGS Professional Paper 1276.

22 I think that the plant engineering and
23 surface facility aspects might be better addressed by
24 Vince Fesmire. I don't anticipate any significant
25 threat to geothermal wells, from the seismic side.

1 On the volcanic issue, as I indicated in
2 Appendix A, Discussion, the most significant thing to
3 contend with would be the lava flows, and these have
4 been reasonably well-studied by the U.S. Geological
5 Survey. They behave very much like water flows, in
6 both the response to topographic load channels, and
7 depressions. They can be reasonably well-predicted.

8 I think that will be the chief thing to
9 focus on in terms of the volcanic risk assessment,
10 both to your plant facilities, and well field surface
11 facilities. There will be minor ground defamiation
12 that would be associated with these events, but I
13 think that that's distinctly a secondary level of
14 concern.

15 Another question from Mitsui -- it's their
16 Question H: Is the maximum capacity requirement of
17 500 megawatts based on expected electricity demand
18 only? And what is the expected maximum capacity of
19 the wellfield?

20 It's been pointed out several times today
21 that the 500 megawatt number has a distinctive
22 origin. Rough estimates -- something that was also
23 needed to give a baseline to the study for the cable.
24 As far as this has been looked at in the public area,
25 there has not been an adequate amount of technical

1 evaluation, in good part because we are lacking well
2 data to supplement what is a pretty good geologic and
3 geophysical data base.

4 For my own part, I think that 500 megawatts
5 appears to be a very reasonable possibility. It's
6 not an unreasonable expectation for this 23 mile
7 length between Cape Kumakahi and the now-active vent
8 C-48. The three GRS's that exist and proved in the
9 East Rift Zone cover approximately this 23 mile area.

10 The reasons for this, there are strong
11 geological and geophysical data base to support a
12 very clear understanding of what the function of the
13 volcanic process is here, this magma conduit; we are
14 dealing with a 200 degree Fahrenheit heat source at
15 greater depth. We have abundant fresh water fluids,
16 sea water fluids, and a very significant tensional
17 stress all along the East Rift Zone and this 23 mile
18 prospective length of the geothermal resource
19 subzone.

20 So we know what the structure is. We know
21 what its function is. Aside from the HGPA well,
22 always fascinating to me that it was the first well
23 drilled into this structure, and it's now having
24 produced electricity for more than seven years. It's
25 in its eighth year of consistent life. I would like

1 to call it reliable, but I am perceiving that's not
2 yet the term to use, in terms of how the electrical
3 engineers look at this thing.

4 But I want to point out it is bracketed by
5 the Ashita 1, which went to 8,000 feet, and they
6 recorded a bottom-hole temperature of 619 degrees
7 Fahrenheit; and the Kapoho State 2, which went to
8 8,000 feet, and had a bottom-hole temperature of 648
9 degrees.

10 So for a 2.5 mile linear length along the
11 East Rift Zone, two deep wells have indicated a very
12 substantial and significant temperature. They are
13 equivalent to the high temperature section at the
14 northwest edge of the geysers and the conventional
15 temperatures known down in the Imperial Valley
16 Geothermal Fields.

17 So there is a very strong conjunction of
18 heat and fluids, and tensional forces, to sustain a
19 substantial resource here. 500 megawatts, I think,
20 is a reasonable working number at this time. What
21 the maximum would be? I think it will only depend --
22 it must depend on drilling. And I think beyond what
23 has been achieved is improved drilling, and
24 completion technologies, which I think are at hand,
25 and can be applied in the East Rift Zone.

1 There was one other question: How far and
2 how much is the nearest water supply for cooling?

3 I think, as a general representation,
4 anywhere along the north edge of the East Rift Zone
5 can be considered prospective for cool, adequate
6 fresh water supplies. It would imply drilling for
7 these sources; wells, probably, that would be the
8 site of 1,000 feet deep, and I think should afford an
9 adequate supply if that is -- well, let me say that
10 is one option available.

11 I think at the moment, those are the chief
12 questions and uncertainties that I have seen at the
13 moment. You may have more questions as the
14 discussion goes on.

15 Thank you.

16 MR. McQUAIN: The written technical
17 questions that we got covered quite a variety. There
18 were some questions about acceptable turbogenerator
19 unit size range, how much deviation is permitted. I
20 think to some extent I answered that earlier when I
21 said we are basically looking for you to tell us
22 what's reasonable, what's feasible out there, what
23 can we get?

24 From the standpoint of match with our
25 system, a lot is going to depend upon the sizing of

1 the geothermal units, and the marriage with the
2 cable. What kind of a cable system are you proposing
3 that's put together? You know, how many cables, how
4 many megawatts involved if we lose one increment
5 here?

6 I think to a great extent, the direct
7 written questions that we've gotten -- John, unless I
8 missed something, I think we've covered them, and are
9 really ready to open this up to questions from the
10 floor. I think, to avoid a lot of -- just, jack-in-
11 the-box up here, I'm going to move this mike over to
12 the table, and let the gents just slide it back and
13 forth between them as necessary.

14 Let me look at the panel here and see if
15 there is something I missed... Vince, have you got a
16 couple of things?

17 MR. FESMIRE: There are a couple of
18 questions that were related to availability and
19 capacity. Specifically, with regard to the curves,
20 5.1(a) and 5.1(b), or 5.2(a) which are in the RFP.

21 The purpose of the curves was simply to
22 give you some idea of what HECO's requirements were,
23 and how a hypothetical project development would fit
24 into them. On Figure 5.1(a), the stepped line is the
25 projected HECO capacity requirements. It's not the

1 peak load, it's not the minimum load, it's not the
2 geothermal capability. It is the projected -- at
3 this point in time -- HECO capacity requirements that
4 they would have to add anyway, whether this
5 geothermal project went ahead or not, between 1995
6 and the year 2005.

7 Shown merely as a hypothetical project
8 development is a solid line which is 50 megawatts per
9 year. Again, on Figure 5.2(a), what we tried to show
10 there is what the projected HECO peak load was, what
11 the projected HECO minimum load was, what portion of
12 the HECO minimum load is reserved for generation on
13 Oahu for two reasons. Rick mentioned one this
14 morning on the spinning reserve requirement, and the
15 other is the projected minimum load that they can
16 accept from some of the contracted power sources
17 which are presently under discussion.

18 That represents the 230 megawatts. The
19 lower limit from there is the instantaneous
20 maximum/minimum load that this project could satisfy.

21 What we again attempted to show on that
22 figure is a line which is a hypothetical geothermal
23 project capability at 50 megawatts a year, showing
24 that if it started out -- initially there would be
25 times when, at all times the HECO could absorb all of

1 the power, but by about the year 2001, or
2 thereabouts, at 50 megawatts a year, the amount of
3 power that could be developed and could be delivered
4 was greater than the HECO minimum load.

5 These are the instantaneous peaks of the
6 minimum loads. We gave you some information on daily
7 and yearly -- or seasonally variations that you can
8 calculate what the actual load profile is at any
9 moment in time.

10 But what I really want to emphasize are the
11 words that we put into the text at the top of
12 Page 5.5, where we say several times throughout the
13 RFP, reference is made to a first phase of project
14 power of about 125 megawatts. This is only an
15 assumption for purposes of describing the first
16 phase.

17 The proposer is free to select a different
18 value -- any value: 10 megawatts or 500 megawatts.
19 The proposer should complete the exhibits for
20 whatever power delivery schedule you use in your
21 proposal. And the first phases should then be
22 consistent with that. The amount of power that can
23 be delivered is going to be dependent on a lot of
24 things.

25 If you as a developer can find some way to

1 more closely track the HECO power requirements either
2 through pump storage, or cycling of wells -- I know
3 I'm not the geothermal consultant here, but any
4 mechanism that you can come up with that would allow
5 you to either level the load that you are producing
6 or you are delivering into, or cycle the resource,
7 would allow you to deliver more energy to HECO.

8 The form, or the contract for the power
9 purchase agreement will have two portions, like most
10 contracts. It will have a capacity portion and an
11 energy portion. The capacity portion reflects the
12 minimum capacity that HECO will need, and if you can
13 guarantee a capacity that's in the peak load period,
14 that's a capacity portion that they would be willing
15 to buy and pay for, also. That depends on capacity
16 as to what you are capable of doing with the
17 resource, and with the electricity that you would
18 develop.

19 The energy requirement, on Figure 5.2, is
20 the energy that HECO can use. Now, if you have a
21 project which is -- you have developed 300 megawatts
22 of capacity, but there are certain times of the year
23 for one reason or other you can deliver more energy
24 than that, HECO is willing to buy the energy. So you
25 have to look at both portions of it.

1 It's not as simple as many of the power
2 purchase, or power sales contracts that you may have
3 looked at for other utilities in the country. We've
4 mentioned several times the unique characteristics of
5 this one. It's going to represent a large portion of
6 HECO's capacity. It could represent a large portion
7 of HECO's energy. And how you can relate those to
8 best meet HECO's needs is the challenge that you have
9 before you.

10 Obviously, the better able, or the more
11 capable proposal is the one which can deliver the
12 most capacity and the most energy. Your fixed costs
13 are going to be relatively high. So the war of the
14 product that you are selling, that can be delivered,
15 will be to everybody's benefit. That relates back to
16 the question of minimum size of the units. Whatever
17 can fit into the scheme that you are willing to
18 develop.

19 There were several other questions that
20 related to reliability. That's the other side of the
21 same coin, because the project will represent such a
22 large portion of HECO's capability and energy
23 requirements, it has to be reliable.

24 What size, geothermal generating units do
25 you want to put in? That depends on the size that

1 you can lose. You are going to have to have some
2 spinning reserve, or something on your part -- if you
3 have contracted to deliver 300 megawatts you are
4 contracted to deliver 300 megawatts. If you have a
5 single 300 megawatt geothermal power plant it's going
6 to be kind of hard to get the availability numbers
7 that you need with that single unit.

8 Going to the other extreme, it would be
9 ridiculously easy if they were all three megawatt
10 units. But you could use quite a few of 'em and you
11 wouldn't have to put in much reserve on your own
12 part. Now this relates to the question that Bill
13 partially answered on what do we expect on the
14 seismic risk assessment and the volcanic risk
15 assessment.

16 In Chapter Four we have asked for some very
17 specific reliability information on all of the major
18 pieces of the system. The cable, the converters, the
19 DC over-land transmission, the geothermal power
20 production facilities, the energy gathering system,
21 etc. We debated a long time as to whether we should
22 give you a target reliability number for the project
23 as a whole, and we ended up deciding that we would
24 not do that; we would like you to put your best
25 pencil to paper and see what you can come up with for

1 reliability numbers.

2 But in any case, we need the information
3 that goes behind that. If you come up with a number,
4 say 95 percent, or an unavailability of five percent,
5 you are going to have to parcel that out to the
6 various portions of the system.

7 When you get to the geothermal power
8 production facilities, the energy gathering system in
9 the wells, then you will have to have had assigned a
10 number to that. All we want in the seismic risk
11 assessment, and in the volcanic assessment, is the
12 information which you have used to validate, or to
13 justify that portion of the unavailability that you
14 have for the -- say, the geothermal power production
15 facilities, that's affected by either volcanic or the
16 seismic consideration.

17 Just designing the Seismic Zone 3 may be
18 sufficient. I seriously doubt it. I think if you
19 went through and you did that, you would find that
20 the unreliability, or the unavailability of the
21 geothermal power production facilities would be such
22 that it would dwarf some of your other
23 unavailabilities, and you could not meet your target
24 reliability for the project as a whole.

25 So there are two things that you have to

1 relate, balancing one off against the other; one is
2 the reliability, and one is the power and energy that
3 your capacity to energy that you are willing to
4 contract to deliver.

5 All the way through we have stressed that
6 the reliability required for the first portion --
7 whatever that first portion is, as long as it is less
8 than HECO's spinning reserve, which right now is
9 about 140 or so megawatts, and so we use the number
10 125 in the RFP. That's a number that can be
11 accommodated without -- uh, the reliability
12 associated with that phase of power can be less than
13 for the full project, because HECO is capable of
14 maintaining a spinning reserve for that amount of
15 power. They have to do that anyway for the reserve
16 requirement they have for the present generation on
17 the island.

18 Now, if you get the 500 megawatts,
19 obviously, to maintain the same reliability of
20 delivery is going to require a higher reliability on
21 the part of the project, because HECO will not be
22 able to maintain spinning reserve to support that.

23 We've asked in Chapter Four, though, for a
24 couple other options. One is, we simply don't know;
25 if we knew it we wouldn't have asked -- what would be

1 your expectation of the cost of systems which meet a
2 lesser reliability figure for the 500 megawatt
3 full-buildout of the project, than the base proposal,
4 which we are asking for in the RFP.

5 If it turns out that there is enough
6 variation in those numbers it could allow HECO and
7 yourselves to sit down and work out something else to
8 do with the difference between the dollars. It may
9 be that it would be cheaper for HECO to install
10 additional spinning reserves on Oahu, which would
11 have other benefits to HECO and some benefits to you,
12 than for you to put the capital dollars into the
13 project that would allow you to guarantee 500
14 megawatts, or 300 megawatts, or whatever, at a very
15 high degree of reliability.

16 So it is not as simple as simply designing
17 to a single reliability number, with the different
18 ranges of power development that the project would be
19 capable of doing. It's going to require some thought
20 on your part, providing us with some information we
21 can evaluate, and then a discussion that will occur
22 between HECO and the proposers, as to how best to
23 achieve the reliability requirement that's required
24 to support the electric power system of Oahu, and
25 best meets your needs.

1 MR. McQUAIN: Okay, there are seven of them
2 trying to keep track of these questions, and one of
3 me; believe it or not, I found one you guys didn't
4 find (laughing)...

5 We skipped over one earlier, it was more of
6 a general question, and that is:

7 Will HECO please clarify the reference to
8 relative, environmental and social impact, in Section
9 1.6.3, for the commercial proposal.

10 To answer that question, it's best to state
11 that, if you look at Hawaiian Electric and HEI's
12 corporate goals and objectives, and what we consider
13 important to us as a utility in Hawaii, we have got a
14 very specific goal that says in whatever we do, we
15 will be good corporate and community citizens. And
16 we would not go out into the community and try to
17 support a project that we didn't feel had reasonably
18 taken into account the impact of the projects on the
19 natural resources of the state, and upon the social
20 considerations that should be a part of the project.

21 We think that the statement that's there in
22 the RFP is sufficient reminder that most of the
23 entities we would anticipate dealing with are
24 responsible entities anyway, and it doesn't need a
25 lot of clarification that, we basically want to say

1 give us a project that has a responsible approach to
2 it in the first place, and then we won't worry too
3 much about permitting as we go further down.

4 There are some things that, as was pointed
5 out this morning, we've got some very vocal activist
6 groups; a couple of 'em that have fought geothermal
7 for a number of years. One of them that I think goes
8 with -- most everybody in here at one point or
9 another has heard of the Pele Defense Fund. That's a
10 group that, in and of itself, doesn't necessarily
11 present an unsurmountable obstacle of getting the
12 project done. But they believe that one of the
13 things that they do accomplish for the citizens of
14 the state is to point out the downside, if you will,
15 of the geothermal development, and the various
16 pitfalls that are there from an environmental impact
17 standpoint, as well as their cultural considerations.
18 Those must be respected.

19 One of the things that concerns us is,
20 you're looking at a project where we are talking
21 about developing some 500 megawatts of geothermal on
22 the Big Island for export to Oahu. Well, one of the
23 questions that you have to think about as a potential
24 developer, that I'm sure you are going to get the
25 same as we are going to get, and that is the question

1 coming back from the people of the Big Island,
2 "What's in it for me?"

3 You're over here developing this resource
4 for Oahu, you know, what are you going to give the
5 Big Island for it?

6 We ask you to, given the magnitude of the
7 project, you think a little bit about it; how do you
8 sell this project to the people on the Big Island?
9 There are jobs in it; that's one thing that -- we can
10 always point to that. But what else are you going to
11 do to try to help sell the project there? We ask
12 you, again, to be creative.

13 Different developers that we have dealt
14 with on some other projects, have gotten very
15 creative in some of the things that they have done to
16 try to convince the community that they are working
17 in, that what they are doing is good for that
18 community, also.

19 I'll look at the panel and see -- did I
20 miss any other questions?

21 (No response.)

22 MR. McQUAIN: Okay, I'm going to open it up
23 to the floor. Questions that you may have, this is
24 my turn to duck 'em and pass 'em on to these folks,
25 so... it's wide open. What's on your mind?

1 (No response.)

2 MR. McQUAIN: They are not going to let you
3 off that easy, are they? I can't believe nobody's
4 got a question...

5 Hopefully, at this point, the lack of
6 questions are somewhat indicative of the fact that --
7 you know, we didn't answer just questions that we got
8 from you. Quite frankly, some of these, we generated
9 a page of questions that we thought people might be
10 interested in, that hasn't been asked in the setting.
11 You know, HECO cut out a few questions. We said we
12 would like to hear the State answer these, too,
13 (laughing)... and vice versa. There were a few of
14 'em that they would like to hear our response to.

15 (A hand was raised.)

16 MR. McQUAIN: Yes, sir?

17 A SPEAKER: Section 4.5, which deals with
18 project system reliability requirements, the second
19 paragraph, Based on HECO's geothermal system
20 reliability requirements, the maximum allowable loss
21 of project power is about 125 megawatts. This is
22 independent of whether the loss is in the geothermal
23 wellfield, the electric power production facilities,
24 DC converter, terminal components, etc.

25 What is really meant by that? Are we

1 taking the total energy from the fluid and working
2 out the loss from that point? Where is the start
3 point of that loss calculation?

4 MR. McQUAIN: Okay, I can tell you
5 basically where that statement, in general, comes
6 from.

7 Hawaiian Electric is a system, and if you
8 look at our system right now, installed capacity of
9 1,277 megawatts. Our two largest units are 146
10 megawatts each. We operate on a spinning reserve
11 criteria, that says that we must have enough spinning
12 reserve on line to handle the loss of the largest
13 unit, and still not lose a customer at any point in
14 time.

15 Well, from a straight reserve margin
16 standpoint, you know, that's 146; but from a quick
17 load pickup standpoint it's about 125 megawatts.

18 But what we are basically trying to say is
19 that in your total design, the instantaneous loss of
20 megawatts from this project, as we have coming off
21 the bus at Aniani Substation, should not exceed 125
22 megawatts, because that's the limit of my normal
23 capability on Oahu to cover the loss problems.

24 That's why we are saying look at the sizing
25 of your cables, the number of cables involved; look

1 at the sizing of your units, as well as total system.
2 There should not be a single element in there that
3 could cause you to lose more than 125 megawatts.

4 Now, granted, Murphy being what he is, you
5 may lose more than one element... we face that all
6 the time. But I look to John, who is our senior
7 system planner, and say, Is there anything I left
8 out, John?

9 MR. RICHARDSON: No.

10 MR. McQUAIN: But that's basically where
11 that paragraph came from: Our normal mode of
12 operation here on Oahu.

13 A SPEAKER: The secondary question
14 associated with that is, are you going to take any
15 notice of the total exogy efficiency of the whole
16 system? That is, the total energy efficiency from
17 the fluid, and working it all the way through? In
18 other words, if, in fact, a particular turbine
19 generated system is more efficient than another, will
20 you be taking that into account?

21 MR. McQUAIN: The question was whether or
22 not we would take into account the total system
23 efficiency.

24 I would hope that the total system
25 efficiency gets translated into the price somebody's

1 asking me to pay. That's where I would look for
2 that, really, to be considered.

3 A SPEAKER: All right. Thank you.

4 (A hand was raised.)

5 MR. McQUAIN: Yes, sir?

6 A SPEAKER: There is a statement that HECO
7 would buy the power at competitive rates. Can you
8 elaborate a little bit on that? Just what you mean
9 by "competitive rates." For example, what that means
10 today?

11 MR. McQUAIN: What would it mean today?
12 What would we pay today?

13 THE SPEAKER: Yeah.

14 MR. McQUAIN: This one, again, gets to be
15 kind of complex. HECO's current costs, the most
16 recent file avoided cost, is more like five to six
17 cents a kilowatt hour. I'm not exactly sure of the
18 number. We file it on a quarterly basis. And with
19 the price of oil swinging, it's changed quite a bit
20 recently. Our price of oil changed three dollars a
21 barrell from January to May.

22 We would look at this project, given the
23 longterm nature of the contract, from a number of
24 different perspectives. You wouldn't necessarily say
25 you are going to just pay the current file avoided

1 energy costs. We could structure the costs in many
2 different ways, and this is one of the things that we
3 need to explore with the Public Utility Commission,
4 as I said this morning. But unfortunately, due to
5 two open dockets, I'm kind of constrained in
6 exploring that right now.

7 THE SPEAKER: Well, let me find out about
8 that. Would you go against world oil prices? Or
9 would you go against standards on the mainland, where
10 it goes from a penny to a dime?

11 MR. McQUAIN: You are competing with a
12 system that is 100 percent oil-fired.

13 THE SPEAKER: And oil has been your --

14 MR. McQUAIN: That's the standard you are
15 looking at, that's right.

16 We are basically half a percent low sulfur
17 fuel oil-fired. And that's really the measuring
18 stick that you have to worry about.

19 Any other questions?

20 (A hand was raised.)

21 A SPEAKER: You spoke about eminent domain
22 this morning, and that HECO wasn't really able to
23 assist the proposer with transmission routes on
24 Hawaii.

25 Is HELCO -- would they be available to

1 supply that sort of assistance? I don't know if
2 anybody is here from HELCO today...

3 MR. McQUAIN: HELCO is a wholly-owned
4 subsidiary of HECO; however, the problem that you
5 have there is, you're talking a corridor that is not
6 for use by HELCO, because we are talking power
7 developed on the Big Island exported to Oahu. So
8 there is no direct benefit there for the residents of
9 the Big Island, and HELCO could not use its rights of
10 eminent domain to help in that regard.

11 But one thing that we have looked at is, in
12 the development -- not only of geothermal, but other
13 generation sources on the Big Island, for the sake of
14 the Big Island, to the extent that we can establish
15 corridors for transmission that are complimentary,
16 okay, and to some extent, you know, HELCO -- I hope
17 not, but HELCO could be forced into utilizing its
18 rights of eminent domain for purposes on the Big
19 Island. And to the extent that that were to happen,
20 we would obviously look for opportunities to piggy
21 back whatever could be done in order to facilitate
22 this.

23 I think that, in the long run -- and I
24 would look at some other folks to help me out with
25 this one, but I think in the long run, probably the

1 best route currently, that we have available, is the
2 Department of Transportation's rights relative to
3 energy corridors.

4 Now, that one's a little bit fuzzy. The
5 state statute that gives the Department of
6 Transportation responsibilities for energy corridors
7 really was developed for varied, fuel pipelines-kind
8 of thing. It has been more broadly used a couple of
9 times.

10 We did attempt this most immediate
11 legislative session to establish a new bill that
12 would give DBED the responsibility for establishing
13 this transmission corridor, including rights of
14 eminent domain to do so. We weren't able to get that
15 through the legislature, partly because some people
16 tended to point to the abilities of the Department of
17 Transportation, and say, You should focus on what
18 you've already got at the state there.

19 We just -- you know, as Mr. Uling said,
20 they would use all of the influence they have to help
21 with it. We can say the same thing, but as far as
22 exercising our rights of eminent domain, they just
23 don't apply, particularly on the Big Island.

24 THE SPEAKER: Are these different options
25 going to be surveyed in the master plan?

1 MR. McQUAIN: As I understand it -- now, I
2 would ask Jerry, who has been working on the master
3 plan, if there is anything that needs to be added
4 there.

5 Jerry, your office put together the RFP for
6 the master plan; it might be well, at this point, if
7 you gave the folks a little bit more complete brief
8 on what is in that master plan.

9 MR. LESPERANCE: We don't have a master
10 plan yet. We haven't awarded a contract, so... The
11 RFP for the master plan is in the RFP that you all
12 received. And we will get into corridor selection
13 process in that planning RFP. That will obviously
14 look at ways of acquiring that corridor.

15 I would like to expand a little bit on what
16 Rick said. The existing statute that gives DOT
17 powers concerning energy corridors at large, you're
18 right, it was kind of designed for pipelines, but I
19 understand that the Attorney General has ruled that
20 also applies to electric transmission lines. And the
21 Department of Transportation does, within that
22 statute, can acquire the rights by eminent domain.

23 So we do have a statute that we could make
24 work for the over-land portion of the inter-island
25 cable system.

1 While I've got the floor, there were a few
2 questions that were answered earlier that I would
3 like to just expand on a little bit. One is, is
4 venting steam directly to the atmosphere for a short
5 period, less than 24 hours, acceptable?

6 The question assumes unabated -- totally
7 unabated steam, I assume. I'm told the history has
8 been that the Department of Health has only
9 authorized unabated venting for shorter periods of
10 time, like four or eight hours; not 24 hours. That
11 doesn't mean that couldn't change, but that's the way
12 it has been in the past.

13 Are there any material testings being
14 carried out at the wellfield?

15 Much to my surprise, Bill, today I found
16 out that there has been some corrosion testing there.
17 I can tell you this: The results are not in the
18 document room and I'm going to have to go and hustle
19 'em up, because I just found out this afternoon that
20 we do have some corrosion testing.

21 And to amplify a little further on that,
22 the first overhaul of the power plant -- there was a
23 very good study on that overhaul after it had been
24 operating two years, including the terminal.

25 Another question that was answered earlier,

1 that I would like to expand on: How far and how much
2 is the nearest water supply for cooling?

3 This tends to be very site-specific in the
4 Kilauea East Rift Zone. As indicated on the
5 northwest side of the rift zone, you can drill wells
6 and get water suitable for cooling. Other places you
7 might not be able to. You might have to look at
8 condensing.

9 There is one spot, I was told this
10 afternoon, not too far from HGPA, where there is a
11 watering station. So, again, it's a little site-
12 specific on the water.

13 A SPEAKER: Is there any value that any of
14 the islands could assign to the cable, aside from the
15 geothermal production on the mainland -- on the Big
16 Island?

17 MR. McQUAIN: The question is whether or
18 not there is any value that any of the islands could
19 assign to the cable, aside from geothermal production
20 on the Big Island.

21 If you are not aware of it, you should be
22 now, that a Hawaiian Electric subsidiary, Maui
23 Electric, has another project underway, that involves
24 the development of undersea cable linking the islands
25 of Maui, Molokai and Lanai -- a trialing cable

1 system, that basically puts all of Maui Electric
2 finally tied together. That was only recently
3 possible due to the completion of our acquisition of
4 Molokai Electric.

5 Given that separate project for the cable
6 system here, the only benefit, other than the
7 geothermal, comes from a very long-range objective of
8 ultimately tying the state together.

9 Without the geothermal, I don't think in
10 the anywhere-near-term horizon, you'll ever justify a
11 cable. That's pretty much been our opinion for a
12 while; that the cost of that cable is such that,
13 without the geothermal resource, and the need for it
14 on Oahu far exceeding the need for the total
15 geothermal resource on the Island of Hawaii, you
16 would never justify a cable.

17 A SPEAKER: Well, I appreciate that.
18 However, once a cable is installed, would there be a
19 value, for example, to the Big Island, to have such a
20 cross-tie? And have they been in any way -- has this
21 been seriously discussed with them?

22 MR. McQUAIN: Again, they are a
23 wholly-owned subsidiary of ours. We do their
24 engineering; and yes, we are looking at it.

25 There is some value, again, that once it's

1 there -- you use the geothermal to justify it, and
2 once it's there there is some potential value.

3 It's a pretty complex question, and it's
4 part of the analysis that we'll look at, giving
5 credit as appropriate. But I am not going to get
6 into Mr. Flugum's area in trying to answer some of
7 the details of what's involved in trying to hook it
8 all up.

9 Right now, we are trying to keep the scope,
10 and what we are looking at in this case, as tying
11 only the geothermal resource on the Big Island to
12 Oahu, and potentially a tap on Maui. But the HELCO
13 system would not be tied into the system at this
14 point. Possibly at some point in the future we would
15 do so, but that's not within the scope right now.

16 (A hand was raised.)

17 MR. McQUAIN: Yes?

18 A SPEAKER: This morning a gentleman from
19 Business Development mentioned that there is a
20 drilling program valued at \$24 million, to be
21 commencing shortly. I think the date was the 24th of
22 July of this year. And it was mentioned that
23 \$6 million is available, and \$3 million is being
24 found, and then the federal people would be
25 underwriting a further \$15 million.

1 The question is, is there any uncertainty
2 about that \$15 million? Because this drilling
3 program is really critical for all of us. And
4 secondly, have the contracts been let?

5 MR. McQUAIN: Okay, I'm going to get to
6 somebody else here on the panel who knows what's
7 going on in this level of the program.

8 MR. LESPERANCE: Do you want to try it,
9 Maurice?

10 MR. KAYA: I couldn't hear the question...
11 (laughter).

12 MR. LESPERANCE: We are talking about the
13 \$3 million we have in hand, and the \$3 million that
14 was appropriated by the last legislative session; the
15 \$3 million we are going to ask for from the next
16 legislative session, and the \$15 million that we have
17 hopes to get from the federal government.

18 And let me address the \$15 million.
19 That's -- (crossing fingers) we are trying... there
20 is no guarantee on the \$15 million. We have some
21 active efforts going on in Washington through the
22 Congress -- not through the U.S. Department of
23 Energy -- for that \$15 million. And if we got it, it
24 would probably be -- not in one shot. It would be,
25 like \$5 million a year for three years.

1 Do you want to expand any more on the state
2 money?

3 MR. KAYA: (Approaching podium.)

4 MR. LESPERANCE: My boss, Maurice Kaya...

5 MR. KAYA: We are all in this together.

6 Jerry's quite accurate on the description of our
7 desire to obtain the federal assistance.

8 We are as confident as we can be at this
9 point. If most of you follow what the congressional
10 funding scenario looks like, you'll know that the
11 various budget bills are being worked on by the
12 respective committees on both sides of the Congress,
13 and we are certain as we could be, knowing that this
14 is a very tight budget year, but then, it is a very
15 important project to the State; and to the extent
16 that we can gather up our horsepower, or muscle, or
17 whathaveyou, to get the money... we got twenty
18 some-odd million dollars to R&D the cable; perhaps we
19 can get a few more million.

20 With respect to the state appropriations,
21 there is, in hand, \$5.6 million to date; three of
22 which have been earmarked for the initial phase of
23 this slim hole drilling program. The remaining \$2.67
24 having been appropriated by the last session of the
25 legislature. So in effect, we can do what we want to

1 do with the \$5.6 million, but we have elected to use
2 the initial \$3 million appropriation, for a number of
3 reasons, to go with the slim hole technology.

4 The intent of this program is to spread
5 these initial holes out over the resource, over the
6 three subzones there in the Kilauea middle and lower
7 east rift zones. And also, it is our desire to put
8 in a couple of holes on the Island of Maui, as well,
9 in the existing geothermal resource subzone in that
10 area.

11 That will take us up to the point where
12 five or six of these holes, depending on the final
13 cost, would be drilled to provide us with the kind of
14 resource base that can be obtained from the slim hole
15 drilling. Again, these are not producing holes.

16 We have yet to determine at this point what
17 will be done with the additional appropriation of
18 \$2.6 million; or, presuming that we are successful,
19 the additional \$3 million that might be forthcoming
20 from the next session of the Hawaii Legislature.

21 We have a number of thoughts. The initial
22 thought would be to try and use this money to
23 reconfirm, or to drill additional holes in those
24 sectors of the resource area where we have not been
25 able to get a good enough determination. In other

1 words, either expand the program, or use the money to
2 reconfirm holes which may not have been as successful
3 as we originally thought, or to get better data on
4 wells that, in effect, do show the resource.

5 However, it's also come to our attention
6 that perhaps the money might better be spent on
7 drilling activities that might directly assist in --
8 not so much on research effort or data gathering
9 effort, but an effort that would go to, in effect,
10 pay for full-sized geothermal exploration holes.

11 That decision has not been made, but is
12 being deliberated right now. So there is a
13 possibility that some or all of the remaining money
14 might go to that effort, i.e., the cost, if you will,
15 of the state actually drilling full-size exploration
16 holes, or deferring the cost -- if that is, indeed, a
17 workable alternative, of private sector developers,
18 in their own geothermal drilling program, perhaps
19 helping to defray some of the risks that might be
20 involved in that program should not producing wells
21 be a result of those private sector efforts.

22 In that regard the dilemma that the state
23 faces is the use of public moneys. Again, this has
24 been brought out a number of times this morning for
25 direct assistance to private sector ventures. It's

1 up to our policy makers and the state's attorneys to
2 rule on that question. But let me just leave you
3 with the thought that we are considering it, and hope
4 to be able to come to some decisions within a couple
5 three months.

6 Our initial goal is to get the first part
7 of this program under way as quickly as possible.
8 Again, we have some of those permits, but we are
9 waiting for a major land use permit for the County of
10 Hawaii, which is undergoing mediation process right
11 now, and we would expect that we would get a
12 determination by the end of this month, so that at
13 least we can give the drilling contractor notice to
14 proceed in July.

15 All right.

16 MR. McQUAIN: I assume that means you've
17 got a contractor already; he is just waiting on
18 permits?

19 MR. KAYA: (Nodding head up and down.)

20 MR. McQUAIN: Okay, that helps answer the
21 question a little bit, too; one part of it.

22 Okay, any other questions?

23 (A hand was raised.)

24 MR. McQUAIN: Yes?

25 A SPEAKER: Could we have Mr. Kaya come

1 back up there?

2 MR. McQUAIN: I'll be happy to bring
3 Maurice back...

4 THE SPEAKER: Has the State undertaken any
5 studies to estimate the cost of this project insofar
6 as their estimate of what the delivered power would
7 be from it?

8 MR. KAYA: I think that you are referring
9 to what might be estimates with respect to the -- if
10 you will, in simple terms, the dollar cost per -- or
11 cents cost per kilowatt hour.

12 There were two attempts to do that, and
13 I'll ask for help on this question from Jerry, and
14 some of the others in the audience who are more
15 familiar with some of the details. The State has had
16 a couple of attempts to look at the project
17 economics, both of which were published as state
18 documents. The one attempt was done by a firm called
19 Decision Analysts, Hawaii, Incorporated.

20 And the most recent attempt to synopsise,
21 if you will, the status of this program, was recently
22 published -- within the last year or so. This was
23 done by Cogeneration Capitol & Associates. And both
24 efforts attempted to look at the entire program and
25 scenario.

1 And taking into consideration the sequence
2 of the manner in which power could be delivered to
3 the bus park here in Oahu, the estimated cost,
4 primarily from the Hawaii Deep Water Program, Cable
5 Program of the cable, the geothermal exploration, and
6 some of the other ancillary facilities -- all of that
7 was thrown into a number of scenarios.

8 And some assumptions were made on the
9 delivered ball cost of electricity based on the
10 projected oil costs -- and this is where I'm going to
11 run into a little bit of difficulty in recalling the
12 exact dollar amounts. And I'm going to ask for some
13 assistance from the project team that was involved in
14 some of that earlier work, rather than trying to make
15 an erroneous guess at this point.

16 Jerry, Allan's in the back, Bill Bonnet --
17 would you care to provide some sort of an update on
18 that?

19 MR. BONNET: I think we can lay that one to
20 rest pretty easily. What you ought to look at is the
21 latest version of the Plasch Report, which is over in
22 the Public Document Room. Not only a few assumptions
23 had to be made, a tremendous number of assumptions
24 had to be made that you and I and Maurice would
25 never, in all of our debates, ever possibly reach a

1 consensus on.

2 I think it's important that you look at
3 that study, because it gave us sufficient confidence
4 that we were close enough to economic reality with
5 this concept to warrant our expenditure of time and
6 effort, and your expenditure of time and effort, on
7 the process that we are now involved in right now.

8 So that was the major benefit in my mind of
9 having gone through the exercise -- not that it's
10 conclusive, because it cannot be conclusive. Only
11 the negotiation process between the parties at
12 interest can ever conclude, yes or no, the
13 feasibility of this concept.

14 The other documents that would be of
15 interest to you were produced by Jerry Sumita and
16 Allan Hills, which provide a broad context in
17 financial terms, in regulatory terms, and with a
18 general economic look. And I think that's as recent
19 as a couple of years old.

20 There are, as I recall, Allan, Jerry --
21 three versions of that, all on file with the Public
22 Documents Room. So the combination of those two sets
23 of documents is as far as anybody down here took the
24 economics into account before initiating the process
25 we are now in with you.

1 MR. LESPERANCE: One number I do remember
2 from the Decision Analysts of Hawaii, Inc., or the
3 proposed Plasch Report, is the capital cost, as I
4 recall them, adding 'em all up, was about \$1.6
5 billion, in eighty-six.

6 MR. KAYA: If it appears that we are
7 attempting to be evasive about answering the
8 question, the answer is yes. And the reason is
9 because -- I don't want to leave the audience with
10 the impression that we are focused on this number,
11 and -- as Bill had indicated, there are a number of
12 assumptions that were made.

13 All of these documents can be made
14 available to you through the Public Document Room,
15 and I would encourage you to review that report and
16 come to your own conclusions and answers about that.

17 Any other questions?

18 (No response.)

19 MR. McQUAIN: As I was telling Maurice as
20 we leaned back there, there were a couple of
21 assumptions that are in that study that make it very
22 difficult to quote you a "cents per kilowatt hour."
23 Particularly, in one scenario, it treats the
24 transmission system, if you will, somewhat like a
25 turnpike. And then treats the energy from a

1 standpoint of rates and rate charges separate.

2 To give you a number that fits with our
3 normal way of thinking, it's very tough to pluck one
4 out of there. The only number that I can
5 specifically remember is the one that Jerry gave
6 you -- it's somewhere between \$1.6 and \$1.7
7 billion -- is one of the estimates that was put on
8 this total project.

9 We have looked at it pretty hard to try to
10 decide in our minds, was this a reasonable venture to
11 launch off into, or are we too early?

12 One of the things that I will say is, we
13 did expect this slim hole program to be further
14 along. When we started the process, to put together
15 the RFP and release it, we did not anticipate some of
16 the delays in the permitting for the slim hole
17 program. We thought there would be more data
18 available from that, in a more timely manner.

19 That's one of the things that -- you know,
20 you're always up against. You start when you think
21 you've got everything together, but...

22 Any other questions?

23 (A hand was raised.)

24 A SPEAKER: Has any investigation been
25 carried out regarding reinjection in this field?

1 MR. McQUAIN: The question is regarding
2 whether there has been any investigation regarding
3 reinjection in this field.

4 I think the most realistic answer to that
5 is in the process of being answered -- I think it's
6 tomorrow or this afternoon. Maurice Rashard, who was
7 here this morning, is not here now -- with ORMAT.
8 They are in the process of permitting a unit for a
9 power purchase agreement with HELCO. They have got a
10 contract to sell HELCO 25 megawatts of geothermal
11 power, and the design concept that they have
12 submitted to the State and the County is for
13 reinjection.

14 Give it another couple of days and see how
15 their permitting goes along, and that, then, will be
16 public document, and you can see more directly what
17 has been explicitly done regarding reinjection.
18 That's the only effort I know of specifically,
19 unless -- Bill, you know of anything different?

20 MR. D'OLIER: Well, with respect to the
21 Puna area, the Lanipuna six well encountered a loss
22 circulation zone at about 4,200 feet, that took every
23 bit of fluid that they could possibly put to it --
24 pump-assisted driving of water. This was a zone that
25 had a relatively low temperature. Interestingly, it

1 was near the top of the geothermal producing zone in
2 the Kapoho State Wells.

3 This isn't to be regarded as any research,
4 but I think that it is encouraging about the outlook
5 for disposal of liquid masses in the subsurface out
6 here.

7 The other thing that needs to be watched is
8 what reports California Energy will choose to release
9 about their apparently successful achievements in the
10 Coso Field in California. I think you are also aware
11 that the condensate from the geyser is disposed in
12 the geothermal reservoir, too. This is one of the
13 areas that I think is going to get very hard
14 evaluation by people expecting to proceed -- let's
15 say not only successfully, environmentally and
16 economically in the development of east rift
17 geothermal fields.

18 MR. McQUAIN: If format meets their
19 schedule, we'll know a lot more fairly soon.

20 Any further questions?

21 MR. LESPERANCE: Let me ask Dr. Don Thomas
22 if he wants to add to that last question. Dr. Don
23 Thomas probably knows as much about our geothermal
24 resource in the Kilauea East Rift Zone as anybody
25 here in Hawaii, and he is with the Hawaiian Institute

1 of Geophysics.

2 Could you expand on that last question.

3 DR. THOMAS: The answer to that question is
4 obviously not simple.

5 The experience in the rift zone so far, as
6 far as HGPA is concerned, is that the fluid phase
7 that comes out, liquid phase coming out of the wells
8 is super-saturated with silica. We have had a number
9 of problems at the HGPA well with silica
10 precipitation at the surface.

11 The HGPA produces about 57 percent brine,
12 43 percent liquid. The wells that are being produced
13 by ORMAT are producing a much higher fraction of
14 steam; much smaller amounts of liquid.

15 I don't think I'm telling any tales out of
16 school -- the ORMAT design basically is to recombine
17 the condensate from the steam phase with the brine,
18 and reinject that along with the noncondensable
19 gases. That particular design allows them to bring
20 the -- using the characteristics of the wells that
21 have already been drilled, allows them to bring the
22 silica down to below saturation at the temperature
23 that they are reinjecting. So their particular
24 design stands a very good chance of being successful.

25 The design that is going to be used for

1 that may be used in the future on the East Rift; that
2 will depend a lot on the characteristics of the other
3 wells. As I say, HGPA has a much higher
4 concentration or proportion of liquid, and that does
5 have a potential for posing some serious reinjection
6 problems.

7 MR. McQUAIN: Any other questions? This is
8 one of the few times that we've got -- at least one
9 representative from all of the technical areas
10 available at one time. We are not all going to
11 scatter when this is over with. During the course of
12 the week you'll be able to catch up with people if
13 you've got more details or specific questions. But,
14 again, anything else?

15 (No response.)

16 MR. McQUAIN: John, I'm about ready to turn
17 it over to you, in case you've got any comments that
18 you would like to make, from an administrative
19 standpoint.

20 John is the individual trying to keep up
21 with everybody -- who is coming and who's not coming,
22 and who is sending what paper in what direction.

23 If there are no other questions, what I
24 would invite you to do, we've got some sodas cooled
25 back there in the back, and a little bit more

1 refreshment. We'll go ahead and break. We'll be
2 available for a while for informal discussion. The
3 room will still be available for another hour.

4 If you want to specifically set time to see
5 the Document Room, you know, Jerry said this morning,
6 call him. I'll encourage you to corner him this
7 afternoon and try to work out a schedule with him, or
8 if you need to get together with any of our people,
9 the course of the next hour is a good time to try to
10 catch them and schedule some time.

11 We do want to thank all of you for coming
12 out today in the expression of interest. Anything
13 that we can do to further the process, that's what
14 this is all about. We intend to stay in touch with
15 you throughout the process. As we get more
16 information and can make it available to you, we will
17 as promptly as possible.

18 The questions that were discussed today,
19 we'll get in writing back to you -- to all of the
20 participants, what questions were asked, the
21 responses, and after we have a chance to read 'em
22 again, if there is something that we think that we
23 can help to clarify by a little more amplification of
24 the answer, we'll do that, likewise, in getting this
25 material to you.

1 A SPEAKER: You'll also include an updated
2 list of the participants, along with the written
3 questions and answers?

4 MR. McQUAIN: We'll include in that a list
5 of all of the parties who are present here today.
6 Now, there are a couple of parties that we know of
7 that did not make it today. We are not real sure at
8 this point how long they are going to stick with us;
9 we probably would not name them. But at least you'll
10 know everybody who was here today.

11 Anything else I've missed, or comments?

12 (A hand was raised.)

13 MR. McQUAIN: Yes, sir?

14 A SPEAKER: Are copies of the HECO Annual
15 Report available?

16 MR. McQUAIN: I am getting a nod from the
17 back -- yes, they are. Doug, can we get enough over
18 here this afternoon that -- someone can pick 'em up
19 here this afternoon if you would like a copy. They
20 happen to be right across the hall, so they can fetch
21 'em for us.

22 Anything else we can do for you right now?
23 Bill?

24 MR. BONNET: I would like to announce that,
25 hopefully tomorrow, a document which has not been

1 available to you until now will be: Hawaiian
2 Electric spent \$2.6 million worth of federal moneys
3 conducting a year-long program of laboratory testing
4 on the submarine cable that was selected for our
5 research purposes.

6 The results of that year-long testing
7 program have now, indeed, been published and accepted
8 by the U.S. Department of Energy. And within a
9 matter of, hopefully, hours, days at the longest, we
10 will have copies of that lab test result available to
11 you.

12 MR. McQUAIN: That's basically the kind of
13 program we want to follow. As information becomes
14 available, we'll let you know about it. Some cases
15 we'll simply send you a short note that says it's too
16 voluminous to send to everybody, but it's now in the
17 Document Room if you want to look at it, or call and
18 discuss the contents of it. Otherwise, you know, if
19 it's not too voluminous, we'll send it to you.

20 A SPEAKER: For those of us who are unable
21 to come review these documents here in the Document
22 Room, are you prepared to copy and dispatch selected
23 documents for us?

24 MR. McQUAIN: Jerry? Maurice?

25 (Laughter.)

1 MR. KAYA: The State is handling that
2 document room, so I will look to the State and ask
3 them, Well, what do you guys want to do?

4 MR. LESPERANCE: I think -- just try us on
5 that one. We have gone quite a way so far, when
6 people have asked us. For instance, I couldn't get
7 enough copies of the RFP that y'all received, so we
8 had to go in and have 'em xeroxed...

9 So, we'll try, but, you know, if you are
10 talking about a two-inch thick document, and if
11 somebody wants 20 copies, somebody from our staff is
12 going to have to do that.

13 MR. KAYA: I think Jerry's right. I think
14 our philosophy has been that, we are asking a whole
15 lot of all of you, and in turn, we want to do what we
16 can to make your job as easy as possible. And if
17 that means providing you with copies, I think so long
18 as they are not unreasonable requests, and so long as
19 my money holds out, I will do whatever I can to see
20 that you get copies.

21 By "reasonable," I think, if you've got 20
22 people over here in one day, I don't know that I
23 could give you 20 copies right away. But certainly,
24 a copy of a critical report, that might be made
25 available to the team within a short period of time.

1 I think those types of requests we can accommodate,
2 as long as you bear with us, because we do have to
3 have our people scurry around and make copies.

4 Jerry, just from a volume standpoint, the
5 documents, themselves, all of what we have, are how
6 many feet long?

7 MR. LESPERANCE: (Gesturing.)

8 MR. KAYA: There is quite a bit. It's
9 measured in feet, and not in a stack six inches high.
10 So so long as you bear with us, and so long as your
11 requests are reasonable, we will try to do whatever
12 we can to accommodate your requests.

13 MR. LESPERANCE: I think all of the reports
14 that come out of the Hawaii Gate Water Cable Program,
15 stacked on their side, would probably be four feet
16 high. Some of 'em are early editions, and three
17 years later somebody else amplified the study -- so
18 the first reports aren't really needed, because the
19 second report could do it.

20 So you really have to come and look at the
21 Document Room, decide what you want, and then try and
22 ask. But for me to sit down and say I'll duplicate
23 everything in the Document Room, that's an
24 unreasonable request.

25 The geothermal documents that we have,

1 probably stack up to be a little less than the Deep
2 Water Cable. They are probably six feet high,
3 instead of nine feet high.

4 A SPEAKER: Can you make an index available
5 of --

6 MR. LESPERANCE: We do have indices. We
7 have them on D-Base 3-Plus, as well as hard copy; so
8 I can give you disks.

9 MR. McQUAIN: In case you didn't hear what
10 the chuckle was when Jerry first stood up here to
11 answer your question, Maurice said "I'll tell you if
12 you're wrong."

13 (Laughter.)

14 MR. McQUAIN: Okay, I don't want to belabor
15 it any longer. If there are no other questions...

16 (No response.)

17 MR. McQUAIN: It would be helpful to us if,
18 when you came in today you did not leave a copy of
19 one of your business cards with the guard, or somehow
20 that we could have a means of making sure we get back
21 in touch with you, if you would, catch John over here
22 and slip him a copy of your business card so we know
23 we've got track of, for sure, who all was here.

24 If you gave a copy to the guard when you
25 came in this morning, he has already turned the stack

1 over to us, and that gives us a record.

2 I would like to remind you that in the RFP
3 there is a June 15th date wherein we ask you to
4 notify us if you do intend to participate as a bidder
5 in the project. That date being just around the
6 corner, again, I would encourage you... this week.

7 You are already here in our great State of
8 Hawaii. Enjoy a little bit of the sunshine, but come
9 on around and get ahold of the people that might have
10 the answers to any questions you have. The bottom
11 line, we want to do what we can to encourage you to
12 be amongst those who send a response to us by the
13 15th that says you are part of the bid group. That's
14 what this whole thing is about. We want to make it
15 happen.

16 Thanks again for your attendance, and I'm
17 going to formally adjourn us, and make my folks
18 available during the next hour, and make this room
19 available, for opportunity to discuss any things that
20 may be on your mind.

21 Thank you.

22 (The conference was adjourned at 2:35 p.m.)

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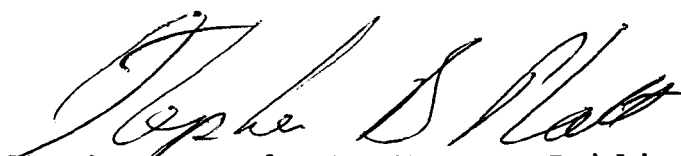
C E R T I F I C A T E

1
2 STATE OF HAWAII)
COUNTY OF HONOLULU)

3 I, Stephen B. Platt, Notary Public in and for
4 the State of Hawaii at large, do hereby certify that
5 the Hawaii Geothermal/Interisland Transmission
6 Project Hearing was recorded stenographically by me,
7 and thereafter reduced to microtranscription by me;
8 and that said transcript constitutes a true and
9 correct copy of my shorthand notes of the said
10 hearing.

11 I further certify that I have directed the
12 original of said deposition to Richard K. McQuain.

13 WITNESS my hand and official seal in the City
14 and County of Honolulu, Hawaii, this 13th day of
15 June, A.D. 1989.

16
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19
20 
Stephen B. Platt, Notary Public
21 State of Hawaii at Large
My Commission expires March 4, 1991
22
23
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25