

EVIDENTIARY HEARING
BEFORE THE
CALIFORNIA ENERGY RESOURCES CONSERVATION
AND DEVELOPMENT COMMISSION

In the Matter of:)
)
Application for)
Certification for the) Docket No. 02-AFC-1
BLYTHE ENERGY PROJECT II)
(Blythe Energy, LLC))
_____)

VOLUME I of II

BLYTHE CITY HALL
COUNCIL CHAMBERS
235 N. BROADWAY
BLYTHE, CALIFORNIA 92225

MONDAY, AUGUST 1, 2005

9:05 A.M.

Reported by:
Christopher Loverro
Contract No. 170-04-001

COMMITTEE MEMBERS PRESENT

John L. Geesman, Presiding Member

HEARING OFFICER, ADVISORS PRESENT

Garrett Shean

STAFF AND CONSULTANTS PRESENT

Lisa De Carlo, Staff Counsel

William Pfanner, Project Manager

Mark Hesters

Ajoy Guha

Elizabeth Hubert

John S. Kessler
Kessler and Associates, LLC

Richard A. Sapudar

Linda D. Bond
LDBond & Associates

Mark Lindley
Philip Williams & Associates, Ltd.

James Schoonmaker
Pacific Group Electric Power, LLC

PUBLIC ADVISER

J. Mike Monasmith

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Galati and Blek, LLP

Thomas L. Cameron, Project Manager
Robert Looper, P.E., Project Director
Caithness Blythe II, LLC

REPRESENTING THE APPLICANT

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Power Engineers Collaboration

Jeffrey G. Harvey
Harvey Consulting Group, LLC

Christopher Ellison, Attorney
Ellison, Harris and Schneider

Oliver S. Page
Stetson Engineers, Inc.

Phil G. Deen
Jerry Stretch
Siemens Westinghouse Power Corporation

Ed Smith
Palo Verde Irrigation District

Roger Hemming
Palo Verde Irrigation District

INTERVENORS

Pat Wolfe
Blythe Airport

Carmella Garnica

ALSO PRESENT

Charles Hull, Assistant City Manager
City of Blythe

Nick Schaffer
Western Area Power Administration

Quenton Hanson
Palo Verde College
Small Business Economic Center

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P R O C E E D I N G S

9:05 a.m.

HEARING OFFICER SHEAN: Good morning, ladies and gentlemen. I'm Garret Shean, the Hearing Officer on the Blythe II case. To my left is Commissioner John Geesman who is now the Presiding Member of the Committee hearing the Blythe II project AFC.

We are here for two days of evidentiary hearings. At this point we'd like to have the parties introduce themselves and some of the people who came with them. We'll begin with the applicant.

MR. GALATI: My name is Scott Galati, representing Caithness Blythe II, LLC, the applicant for the Blythe Energy Project Phase II, which we'll be calling BEP II throughout the proceedings.

MR. LOOPER: My name is Robert Looper; I'm the Project Director for Caithness Blythe II. And I'd like to introduce my project team that we have here today. Mr. Tom Cameron, who's sitting across from me, is our Project Manager. He'll be handling a lot of the questions today; he's pretty much been running the project.

1 We have with us here Bob Gavahan, an
2 engineer who's been working with us -- can you
3 just raise your hand or stand up -- particularly
4 on the water and the dry cooling aspects of the
5 project.

6 And we have Phil Deen here from Siemens
7 Westinghouse Power Corporation; one of their
8 experts on dry/wet cooling technology. We have
9 Jerry Stretch, also here from Siemens Westinghouse
10 Power Corp. Jerry was here when we did Blythe I
11 and we put the original equipment in.

12 We have, of course, Chris Ellison, our
13 other counsel who is helping out with
14 transmission. And we have Oliver Page. Oliver is
15 with Stetson and he's been helping us out on some
16 of the groundwater analysis; he will be testifying
17 on water today.

18 And we have Dr. Jeff Harvey, also been
19 involved since day one in Blythe I helping us out
20 on water. And I don't know if anybody's going to
21 introduce Barb, but I will, because Barb's in the
22 back. If you've got a problem and you can't find
23 Butch, she's the other person you can talk to.
24 She helps us with all the logistics here on
25 putting this together.

1 So that would be our team.

2 HEARING OFFICER SHEAN: All right, we'll
3 go to the Commission Staff, please.

4 MS. DeCARLO: Hi, Lisa DeCarlo, Staff
5 Counsel. To my right is Bill Pfanner, the Project
6 Manager for this project for the Energy
7 Commission. To my left is Mark Hesters; he's our
8 analyst in transmission system engineering, along
9 with Ajoy Guha, another transmission system
10 engineering analyst. And we'll introduce various
11 staff members as they come up for testimony.

12 HEARING OFFICER SHEAN: All right. Do
13 we have any intervenors or parties to the
14 proceeding --

15 MS. GARNICA: Carmella Garnica,
16 Intervenor.

17 HEARING OFFICER SHEAN: Ms. Garnica,
18 thank you.

19 MR. WOLFE: Pat Wolfe, Blythe Airport.

20 HEARING OFFICER SHEAN: Mr. Wolfe,
21 appreciate your being here.

22 Is there anyone who is here who might
23 truly qualify as being a member of the public,
24 isn't either a party or being paid to be here.

25 All right, since there essentially

1 isn't, but let me just introduce our Public
2 Adviser here. He is here to assist any member of
3 the public or party in their participation in the
4 hearings today.

5 Let me indicate that the way we run our
6 hearings is to have them reported by the court
7 reporter here. There are several microphones
8 which are placed around the room, one at each
9 counsel table, one at the dais and up here.

10 In order for anyone to speak and have
11 that matter part of our records so we can use it
12 to make a proposed decision and ultimately the
13 Commission, a decision, we need to hear what you
14 have to say. So, from now on, if you have, for
15 example, from the members of the audience who are
16 intervening parties, questions to ask or cross-
17 examination or something like that, we're going to
18 need you to come forward to the microphone.

19 Let me also indicate that there is, even
20 though we have the air conditioned comfort in this
21 room, some water available. The City has been
22 very gracious in providing lots of amenities for
23 us this morning. And as I indicated, over in
24 their multipurpose room there's water and coffee
25 and other things like that. So if you want to

1 avail yourself of that.

2 We also ask that either you put your
3 cellphones on silent or shake, and any calls that
4 need to be taken be taken outside the room so that
5 the proceeding is not interrupted.

6 Our plan this morning is to go through
7 the topics of project description, transmission
8 system engineering and biology. And depending
9 upon our progress in that we may continue on into
10 our water resources subject. And with that,
11 unless -- are there any preliminary comments from
12 the applicant or the staff or any other party
13 before we commence your project description
14 testimony?

15 MR. GALATI: No, we're ready to proceed.

16 HEARING OFFICER SHEAN: All right.

17 Staff? Everybody else? Okay.

18 MS. GARNICA: One question.

19 HEARING OFFICER SHEAN: Yes, ma'am.

20 MS. GARNICA: I just had one question.

21 I notice that on the agenda -- there's not even
22 agendas back there for --

23 HEARING OFFICER SHEAN: All right. But,
24 you have one in your hand. Go ahead.

25 MS. GARNICA: I have one, yeah. But so

1 that means that in any of the indications above
2 from 9:30 to 12:30, and then the water resources,
3 that means that no intervenor can ask questions?
4 Because I notice that you just have applicant and
5 then you have staff, and then not until 1:00 to
6 4:30 you have intervenors.

7 And I don't see any other intervenor
8 here. I thought that Mr. Wolfe was here as an
9 intervenor. And I don't see that here, too. Is
10 that --

11 HEARING OFFICER SHEAN: Well, I don't
12 think there's -- there's not an oversight here.
13 What we have is when, for example, it's described
14 under project description, applicant's written
15 direct testimony, that would mean that they're
16 going to have an opportunity to put on --

17 MS. GARNICA: Yes.

18 HEARING OFFICER SHEAN: -- their
19 description of the project. And under the term
20 cross-examination, that would be either from the
21 Commission Staff, or since you or Mr. Wolfe are
22 here as intervenors, you would have the ability to
23 ask questions on that topic at that time.

24 MS. GARNICA: Oh, okay, so --

25 HEARING OFFICER SHEAN: So this morning,

1 if you want to ask them questions about project
2 description, you could do that. If you want to
3 ask questions about the transmission line, you
4 could do that. And the same thing with regard to
5 the biology that will be brought up.

6 But, understand that the only limitation
7 on the question is you have to ask a question that
8 is limited by whatever they said initially. So if
9 they said x amount, you can ask any question
10 within x, but not jump over into some part of the
11 subject that's not been addressed.

12 MS. GARNICA: Yes. Well, that's what I
13 had interpreted with the agenda, since I was way
14 at the end, I interpreted it as I couldn't ask
15 questions in regards to the agenda up above.

16 HEARING OFFICER SHEAN: No, --

17 PRESIDING MEMBER GEESMAN: I think
18 you're scheduled --

19 MS. GARNICA: Okay.

20 PRESIDING MEMBER GEESMAN: -- you're
21 scheduled at the end to present your direct
22 testimony.

23 MS. GARNICA: Oh, okay.

24 HEARING OFFICER SHEAN: Right.

25 PRESIDING MEMBER GEESMAN: You have the

1 ability to cross-examine --

2 MS. GARNICA: Okay, I just needed
3 clarification.

4 HEARING OFFICER SHEAN: Okay. You may,
5 yes, the time we've reserved for you tomorrow --

6 MS. GARNICA: Yes.

7 HEARING OFFICER SHEAN: -- you can bring
8 forward the people or make the comments or do
9 whatever it is that you had planned on doing.

10 Now, you understand that other than the
11 information that you submitted, one of the issues
12 here is about the reason we have all this material
13 submitted in advance, and in writing, --

14 MS. GARNICA: Yes.

15 HEARING OFFICER SHEAN: -- is so that
16 everyone has an opportunity, whether it's the
17 applicant, the Commission Staff, or the Committee,
18 to see it and read it in advance.

19 MS. GARNICA: Yes.

20 HEARING OFFICER SHEAN: And so that's
21 why there's a requirement that that be filed in
22 advance.

23 MS. GARNICA: So, are you indicating
24 that if I have people that are going to testify
25 they cannot testify because their testimony was

1 not brought forward earlier?

2 HEARING OFFICER SHEAN: We'll have to
3 deal with that when it comes up.

4 MS. GARNICA: Oh, okay. Okay.

5 HEARING OFFICER SHEAN: All right?

6 But --

7 PRESIDING MEMBER GEESMAN: Let me add
8 there that even if such testimony is not
9 considered testimony, we would still allow a
10 public statement. It has a different evidentiary
11 weight, but we would still allow a public
12 statement from anybody whether they submitted
13 written materials in advance or not.

14 MS. GARNICA: Okay.

15 HEARING OFFICER SHEAN: Sure.

16 MR. MONASMITH: Thanks, Garret. I just
17 wanted to introduce myself, Mike Monasmith of the
18 Public Adviser's Office. And Ms. Elsa Vedoy
19 (phonetic) is going to provide Spanish translation
20 if and when the need arises. And we'll be in the
21 back if there's any questions. I just wanted to
22 put that on the record.

23 HEARING OFFICER SHEAN: With that we'll
24 go to the applicant and your testimony on project
25 description.

1 MR. GALATI: At this time I'd like to
2 call Tom Cameron, Bob Looper and Bob Gavahan to
3 the table to testify on project description. And
4 if they could be sworn, please.

5 Whereupon,

6 THOMAS CAMERON, ROBERT LOOPER and ROBERT GAVAHAN
7 were called as witnesses herein, and after first
8 having been duly sworn, were examined and
9 testified as follows:

10 MR. GALATI: Okay, start with Mr.
11 Looper.

12 DIRECT EXAMINATION

13 BY MR. GALATI:

14 Q Mr. Looper, could you please briefly
15 give us your qualifications?

16 MR. LOOPER: I am the --

17 HEARING OFFICER SHEAN: Can I interrupt
18 you, just so we can keep this going. What I'd
19 like you to do is just -- let's do it like this.
20 I assume you want -- well, let's see, are your
21 witnesses, are you attempting to qualify them as
22 experts, I guess?

23 MR. GALATI: I understand where you're
24 going, Mr. Shean. What I'll do is I'll skip the
25 qualifying of a witness unless that particular

1 qualification is important to their testimony.

2 I'll just ask them what his involvement is with
3 the project so you know who he is.

4 HEARING OFFICER SHEAN: Well, why don't
5 we just set a precedent here. At the point that
6 you've introduced them, I'll just ask if there's
7 any objection to the witnesses testifying as
8 expert, and a request to voir dire the witnesses
9 as to their qualifications to so testify.

10 All right, hearing none, they are
11 qualified. You can proceed with the substance of
12 your testimony.

13 BY MR. GALATI:

14 Q Mr. Looper and Mr. Cameron and Mr.
15 Gavahan, did you previously file written testimony
16 in this subject area?

17 MR. GAVAHAN: I did.

18 MR. LOOPER: We did.

19 MR. CAMERON: Yes.

20 MR. GALATI: Do you have any changes or
21 corrections to that testimony at this time?

22 MR. CAMERON: Do not.

23 MR. LOOPER: No.

24 MR. GAVAHAN: No.

25 MR. GALATI: Mr. Looper, what is your

1 role in the project?

2 MR. LOOPER: I'm the Project Director
3 for Caithness Blythe II.

4 MR. GALATI: And, Mr. Cameron, what is
5 your role?

6 MR. CAMERON: I'm the Project Manager
7 for Caithness Blythe II.

8 MR. GALATI: And, Mr. Gavahan, what is
9 your role?

10 MR. GAVAHAN: Project Engineer for the
11 owner's -- I'm the Project Engineer for the
12 owner's engineer.

13 MR. GALATI: Mr. Looper, could you
14 briefly explain to us why the project is here in
15 Blythe.

16 MR. LOOPER: I will. Today we're going
17 to hear from Tom and Bob about the project
18 description details, just an overview so we can
19 set the stage for testimony.

20 But I'd just like to take a quick step
21 back. The siting of Blythe I and Blythe II here
22 was not an accident. It was a collaborative
23 effort with the City of Blythe and Riverside
24 County. The very particular site was a
25 collaborative effort.

1 There was reasons that we sited the
2 project here. The reasons had to do with an
3 abundance of natural gas, competitive supplies of
4 natural gas, abundance of water, keeping the
5 project as unobtrusive as possible on population
6 far away from some folks. And it resulted in a
7 project, the Blythe I project, which we're
8 actually very proud of.

9 Blythe I, we think, has reaped some
10 tremendous benefits to the City of Blythe. The
11 City established an economic development zone
12 around Blythe I, and are now funding some
13 tremendous infrastructure for the City of Blythe
14 in addition to road improvements and water and
15 sewer extensions to the community of Fallsberg.
16 It's also going to be extending the building of
17 waterline to the community of Mesa Verde. All
18 things that were discussed in Blythe I and that
19 are now coming true on the platform of a power
20 plant.

21 It's the same platform that we're here
22 to do an extent of Blythe II. It's the same
23 finding of insignificant impact on Blythe I that
24 we're looking for in Blythe II. It's the same
25 pattern, with some improvements and modifications

1 as you'll hear today that we're here to talk to
2 you about.

3 There's obviously some major differences
4 that we have between what staff has proposed and
5 where we are -- why we're here again in the
6 community of Blythe. But we're at a key point in
7 the development of the project. We're moving
8 forward with Southern California Edison and our
9 power purchase negotiations. We're steering
10 towards a January 1st notice to proceed, at which
11 time they would hope that they would have a
12 contract in place with this project. We would
13 hope to have Commission approvals on licensing to
14 move forward and construct the second phase of
15 this project to meet the power needs of
16 California.

17 So, that is where we are, and you'll
18 hear some more details. But I'd like to turn it
19 over to Mr. Cameron and he can just quickly walk
20 you through just an overview of the setting of the
21 project.

22 MR. CAMERON: Is this microphone live?

23 MR. GALATI: Yes.

24 MR. CAMERON: Okay.

25 HEARING OFFICER SHEAN: Do you want a

1 pointer?

2 MR. CAMERON: My name is Tom Cameron and
3 I'm the Project Manager for Caithness Blythe II
4 for phase two. I've been involved in the project
5 since its inception, and was involved in the
6 licensing of Blythe I, as well. So I have a fair
7 amount of history with the project.

8 What I'm going to do right now is just
9 kind of give you a lay of the land, and expand on
10 some of the reasons why this project made so much
11 sense to build a phase two here.

12 This is Blythe Energy Phase I, and it is
13 a 520 megawatt combined cycle project. We are
14 proposing to build essentially a duplicate of this
15 project right over in this area here.

16 And if you imagine rotating this 90
17 degrees counter-clockwise, and place it right
18 here, that is essentially what it would look like.
19 The cooling tower would be in a north/south
20 direction, and the stacks of the two gas turbines
21 would be here and here.

22 Just a couple features about this that
23 are important. The whole site is 152 acres and is
24 completely fenced. It was fenced for Blythe I as
25 part of their licensing process. Initially Blythe

1 I started off with 76 acres, and then there was a
2 Blythe amendment 1A which added a ten-acre laydown
3 spot as part of the project. And then there was
4 Blythe amendment 1B which added another 66 acres
5 to the entire Blythe I project.

6 Caithness Blythe II owns the western
7 portion here of this land right now. And Blythe
8 Energy owns the eastern portion of this land. And
9 that's kind of how it's split, kind of down the
10 middle.

11 There is a ten-acre cultural avoidance
12 area here. That is part of Blythe amendment 1D.
13 Was completely fenced, and it was fenced with
14 tortoise -- I don't want to say tortoise-proof,
15 but it allows tortoises to come into the area if
16 there were any around. The rest of the site is
17 fenced with tortoise-proof fencing, so there's no
18 initial fencing that has to be constructed for
19 Blythe phase II.

20 You can't see it, but there is, right up
21 in this area here, it's important to note that
22 there's a pond up there. And SunWorld, which is a
23 grower of citrus on the mesa, uses that pond to
24 blend water. They cannot use the groundwater
25 because it just doesn't support the trees that

1 they grow in a productive manner. So they pump
2 water up from the mesa to make that water more
3 useful for agriculture.

4 These trees right here were there for --
5 this all used to be green in here, but they've
6 torn out a lot of the trees because they're not
7 productive anymore.

8 A couple other features. There is a --
9 I'll expand on it a little bit later, there is a
10 gas connection right there that was left by Blythe
11 Energy when they constructed the pipeline. It's
12 there for our tap-point. It is onsite within the
13 fenceline, so there's no new gas that has to be
14 constructed.

15 Buck Boulevard substation or switchyard
16 was constructed for Blythe I. And many of the
17 lines go into that substation. This is the old
18 Blythe substation which is still -- still exists.
19 That's a Southern Cal Edison substation.

20 This whole area right here is disturbed.
21 There's dirt that has been placed there that was
22 the excess material when they excavated the two
23 evaporation ponds and the retention basin.

24 Just a couple things about the plant
25 here so that you can understand how this all

1 works. We have in this 520 megawatt plant that
2 we're proposing to build, we also have a combined
3 gas turbine and steam turbine hall. Go inside the
4 building, you'll find two gas turbines and a steam
5 turbine and all the auxiliaries that support it.

6 We have two heat recovery steam
7 generators, one here and one here. Main stepup
8 transformers, there's three of them which take the
9 power from the plant and connect it over to the
10 Buck Boulevard switchyard.

11 There's the main cooling tower which
12 we'll have lots of discussion. There has already
13 been lots of discussion about it on Blythe Energy.
14 We'll have some discussion today, as well.

15 And this is part of the zero liquid
16 discharge facility that was constructed for Blythe
17 I. It processes water that's blowdown from the
18 cooling tower and sends about 400 gallons a minute
19 back to the cooling tower to make up. And we have
20 about 10 gallons a minute that goes to the
21 evaporation ponds.

22 The significant difference between this
23 facility and Blythe Phase II is that Blythe Phase
24 II will have a crystallizer added to it, as well,
25 so that it is truly zero liquid discharge. And

1 the ponds are only there for backup purposes.
2 We'll talk about that a little bit later, as well.

3 Just another view looking from the west
4 to the east, and I've explained all the features.
5 I guess the only other thing that's important
6 here, there's an inlet chilling system that was
7 installed for Blythe Phase I. It's ammonia-based.
8 It will be an inlet chilling system for Blythe
9 Phase II, as well. And that helps cool the inlet
10 air from 120 degrees down to 50 degrees. Gas
11 turbines like that a lot better, make more power
12 under those conditions.

13 Just another view. One of the things
14 that's, I think, an important feature of Blythe I
15 to point out, and also part of Blythe II is this
16 retention basin here. This retention basin was
17 designed to handle about 1000 acres of stormwater
18 from the northern side of Blythe Phase I. It was
19 also sized to handle the complete 152 acres of
20 both Blythe I and now Blythe II.

21 And the drainage swales that are
22 installed on the Blythe II site to handle
23 stormwater runoff, because it is a completely
24 disturbed and clear site, dump into this retention
25 basin right here. We would propose to do the same

1 thing. There's really no need to modify this
2 retention basin at all. It's sized to handle both
3 projects.

4 Landscaping. You would never believe
5 that this is in Blythe. But this is the view of
6 the Blythe I project looking to the northwest. So
7 it's right at the corner of Hobson Way and Buck
8 Boulevard. This landscaping was grown by a local
9 landscaper here at Blythe. He grew it for about a
10 year and a half to two years, and then planted it
11 along the fenceline to help screen the project.
12 And this is something that was designed by the
13 landscaper, approved by the City of Blythe,
14 installed under the direction of the CBO. And it
15 has really done quite nicely in the last couple of
16 years. It has grown well.

17 This is a view looking west along the
18 fenceline along Hobson Way. The last thing I'll
19 point out is transmission. We have a direct
20 connection. We have a 500 kV interconnect
21 collector yard right here on our site. And our
22 transmission kind of follows this exact path and
23 ties into the Buck Boulevard switchyard also
24 within the fenceline.

25 And that's it for my discussion on

1 project description.

2 MR. GALATI: I have a couple of follow-
3 up questions. Mr. Looper, will Blythe II use any
4 facilities in common with Blythe I?

5 MR. LOOPER: We will. We have a common
6 facilities agreement with the Blythe Energy
7 Project.

8 MR. GALATI: Mr. Looper, -- Mr. Cameron,
9 if you could put up that first slide, there it is,
10 that first slide -- if you could turn around and
11 look, that area that is cleared where there were
12 apparently the SunWorld trees. Do you see that
13 area?

14 MR. LOOPER: Yes.

15 MR. GALATI: Were those trees removed as
16 part of Blythe I?

17 MR. LOOPER: No, they were not.

18 MR. GALATI: Were they removed as a
19 result of Blythe I?

20 MR. LOOPER: No, they were not.

21 MR. GALATI: Were they removed as part
22 of Blythe II?

23 MR. LOOPER: No, they were not.

24 MR. GALATI: And were they removed as a
25 result of Blythe II?

1 MR. LOOPER: No, they were not.

2 MR. GALATI: Do you know of any plans to
3 remove trees to support Blythe II?

4 MR. LOOPER: No, I do not.

5 MR. GALATI: I don't have any more
6 direct examination for this overview, so my
7 witnesses are available for cross-examination.

8 HEARING OFFICER SHEAN: All right.
9 Commission Staff.

10 MS. DeCARLO: I just have a couple
11 questions with regard to your recent assertion
12 about purchasing the -- prepurchasing some of the
13 project components.

14 CROSS-EXAMINATION

15 BY MS. DeCARLO:

16 Q When did you purchase these?

17 MR. LOOPER: The project components was
18 purchased almost at the time that when we
19 represented the Blythe Energy project, both phase
20 I and phase II. The transaction with Siemens was
21 really involved two sets of power equipment. So
22 it's been a very long time.

23 MS. DeCARLO: And at that time were you
24 given any guarantees that Blythe II would be
25 certified by the Energy Commission?

1 MR. LOOPER: None.

2 MS. DeCARLO: So you basically made a
3 business decision to assume the risk that Blythe
4 II might not be certified?

5 MR. LOOPER: That's correct.

6 MS. DeCARLO: Did you have any backup
7 plan in case Blythe II didn't get certified about
8 selling these components somewhere else?

9 MR. LOOPER: We're hopeful that we can
10 use that equipment here at Blythe II. It's the
11 fact that we own the equipment that we're allowed
12 to really meet the timeframes with the current
13 Edison RFO. The Edison RFO requires the power to
14 be in service by June 1st of 2008. If you cannot
15 get your power in service by June 1st of 2008 they
16 would not expect your -- accept your proposal
17 response.

18 So about the only way that we could,
19 with the type of notice they were going to provide
20 to you, initiate a contract to meet that is to
21 really own the equipment.

22 We've kind of known all along that we
23 have to be opportunistic in the market to take
24 advantage of RFOs like the Edison RFO. So, it was
25 a business decision to purchase the equipment so

1 that we could be prepared to put the project in
2 service as soon as possible once we got a power
3 plant there.

4 MS. DeCARLO: But the Edison RFO wasn't
5 in place when you purchased these --

6 MR. LOOPER: No, there was other RFOs in
7 place at the time.

8 MS. DeCARLO: And so do you have any
9 ability to sell this project elsewhere if this
10 project doesn't get certified for Blythe II?

11 MR. LOOPER: There's always a market for
12 used equipment. It's just how good is the market.

13 MS. DeCARLO: And one question
14 regarding, there's not a lot of information about
15 how this plant is designed to operate. Is it a
16 baseload facility?

17 MR. LOOPER: You know, I'm going to let
18 Tom answer that one because that's a very good
19 question.

20 MR. CAMERON: The plant was designed to
21 be a intermittent duty, start up every day if it
22 has to. It could conceivably start, you know,
23 several -- a couple times a day if it has to.

24 Blythe Energy Phase I is operating on a
25 daily basis. Sometimes they're dispatched longer

1 than a day, but generally it's just been on a
2 daily basis. So it does cycle.

3 MS. DeCARLO: And so this project is
4 designed as pretty much a peaking facility then?

5 MR. CAMERON: It can operate in multiple
6 modes. It can be a baseload facility; but it also
7 has the capability to start every day if it has
8 to, if that's what the market dictates.

9 MS. DeCARLO: For the life of the
10 project? There's no concern with the wear of the
11 parts or --

12 MR. CAMERON: No. I mean, yes,
13 maintenance occurs more often as a result of
14 starting more frequently, but --

15 MR. LOOPER: I think we've permitted
16 this plant, Lisa, just to give you an idea of one
17 of the differences between Blythe I and Blythe II.
18 When we went in with Blythe I, I think we were all
19 debating, okay, let's put in 50 starts in the air
20 emissions profile when we went with MDAQMD because
21 we were all thinking baseload power plant.

22 When we got around to permitting the
23 Blythe II, we knew that we needed at least 200
24 starts in order for the emissions. And it was
25 clear the way that these plants were going to be

1 operated was in not a super-peak mode like a
2 typical peaker, but an intermediate peak load. It
3 would be 16 hours per day, which is the way Blythe
4 I is generally operated. So kind of a five-, six-
5 day profile, 16 hours a day for those six months
6 of the years where there's the peak. So it's a
7 very intermediate load type of a project.

8 And that's what we see in the Edison
9 RFO. We see them asking the types of questions
10 and analyzing your proposal as an intermediate
11 plant.

12 MS. DeCARLO: Okay, that's all my
13 questions.

14 PRESIDING MEMBER GEESMAN: I had one for
15 Mr. Looper regarding Ms. DeCarlo's question on
16 purchase of the components. Why didn't you seek
17 certification of Blythe II at the time you
18 obtained certification for Blythe I?

19 MR. LOOPER: We were going into a
20 merchant market at the time, and I think we
21 believed that we would proceed with Blythe II very
22 expeditiously in a merchant type of a mode. And
23 as the market, you know, basically fell out from
24 underneath our feet, we realized that it was going
25 to have to come on the basis of a full, committed

1 minimum ten-year power purchase agreement.

2 And so we've really been seeking that
3 ten-year power purchase agreement ever since, you
4 know, we got Blythe I permitted. It's been a very
5 difficult track.

6 HEARING OFFICER SHEAN: Questions from
7 either of the intervenors? All right, thank you
8 very much.

9 MR. GALATI: Mr. Shean.

10 HEARING OFFICER SHEAN: Yes.

11 MR. GALATI: I'd like to ask a
12 procedural question on exhibits. How would you
13 like us to handle exhibits?

14 HEARING OFFICER SHEAN: What I think
15 we'd like to do is if you have submitted material
16 to the docket already, okay, prior to today,
17 identifying that by either the date of filing and
18 a name is sufficient to put it into the record, so
19 that in the event of judicial review of this
20 proceeding it can be identified by a reviewing
21 court. And that's our objective here.

22 If it is something new that is here as
23 of today or tomorrow, then what we'd like to do is
24 have you identify it; we'll mark it as an exhibit
25 in numerical order; and go through it like that.

1 MR. GALATI: Okay, thank you. So at the
2 end of the day, or at the end of the close of
3 evidentiary hearings that's the appropriate time
4 for me to ask that these particular documents be
5 moved into the record as exhibits, both those that
6 are docketed and these new ones?

7 HEARING OFFICER SHEAN: No, I think we
8 should along subject matter by subject matter, so
9 that, for example, I understood you to say before
10 we went on the record this morning that you had
11 submitted the graphic files that we have just seen
12 here on the PowerPoint presentation to our docket
13 unit by the end of last week.

14 So in that event you do not need to do
15 anything with respect to those today. And as you
16 indicated, they're basically representative of the
17 features that are onsite, which we otherwise have
18 in the record of the AFC, as well.

19 MR. GALATI: Okay, and if I could
20 clarify, I didn't mean to misspeak. I did email
21 these, but they were not docketed.

22 HEARING OFFICER SHEAN: Oh, all right.

23 MR. GALATI: I didn't have time to make
24 a hard copy of them on Friday. So I have hard
25 copies today that I'd like to go ahead and

1 identify.

2 HEARING OFFICER SHEAN: Okay.

3 MR. GALATI: But, in addition, at this
4 time I'd like to ask that the application for
5 certification and all revisions and supplements be
6 admitted into the evidentiary record.

7 HEARING OFFICER SHEAN: Is there
8 objection to the AFC and the supplements and data
9 responses being admitted into evidence?

10 Hearing none, they're admitted.

11 MR. GALATI: Thank you. Three more, the
12 response to data request sets 1, 2 and 3. I would
13 like those to be admitted into the evidentiary
14 record.

15 HEARING OFFICER SHEAN: Is there
16 objection? Hearing none, they're admitted.

17 MR. GALATI: There are two documents,
18 CBIIIs, comments on the preliminary staff
19 assessment docketed on April 21, 2004, that I'd
20 like admitted into the record, as well.

21 HEARING OFFICER SHEAN: Any objection?
22 Hearing none, they're admitted.

23 MR. GALATI: And the last, under project
24 description, would be CBII's additional comments
25 on the preliminary staff assessment docketed on

1 June 29, 2004.

2 HEARING OFFICER SHEAN: Hearing no
3 objection, they're admitted.

4 MR. GALATI: If you give me leeway to
5 mark these exhibits, maybe in a break, for these
6 particular slides. And I can move that in at that
7 time. I don't have hard copies in front of me at
8 this time.

9 HEARING OFFICER SHEAN: All right.
10 Based upon the exhibit list that you proposed
11 here, they are --

12 MR. GALATI: There are some here that we
13 haven't used.

14 HEARING OFFICER SHEAN: Right. Like 3
15 through 8 appears to be what you've used.

16 MR. GALATI: Correct. There was also a
17 few slides in visual that I'll ask to put up
18 again.

19 HEARING OFFICER SHEAN: All right.
20 Let's just do this then. Is there objection to
21 admitting slides 3 through 8 into the record?
22 Hearing none, they're admitted.

23 MR. GALATI: Thank you. I have nothing
24 further on project description.

25 HEARING OFFICER SHEAN: All right. Next

1 on our schedule is transmission system
2 engineering.

3 MR. ELLISON: Good morning, Commissioner
4 Geesman, Mr. Shean. Chris Ellison, Ellison,
5 Schneider and Harris, counsel to Caithness Blythe
6 II on transmission issues.

7 In the interests of efficiency I
8 understand that Mr. Galati and Ms. DeCarlo have
9 agreed that we will do this quickly and without
10 cross-examination. You can correct me, Ms.
11 DeCarlo, if I'm mistaken on that point.

12 So, also in the interest of efficiency,
13 I would skip the qualifications and voir dire
14 issues and just ask that the applicant's
15 previously filed testimony on transmission system
16 engineering be admitted into the evidentiary
17 record.

18 HEARING OFFICER SHEAN: Let me just do
19 this. Do you have witnesses other than Mr. Looper
20 on this, who are here today that --

21 MR. ELLISON: We do not.

22 HEARING OFFICER SHEAN: Okay, --

23 MR. ELLISON: The testimony identifies
24 four witnesses, including Mr. Looper. Based upon
25 the conversations with staff, Mr. Looper is here

1 to represent that panel.

2 HEARING OFFICER SHEAN: Okay. Is there
3 objection to the admission of the written
4 testimony entitled, transmission system
5 engineering, with Mr. Looper as the supporting
6 witness?

7 Hearing none, it's admitted.

8 MR. ELLISON: Okay, let me just pause
9 for a moment and ask Mr. Galati, you had
10 identified other exhibits related to transmission
11 system engineering?

12 Let me move the following exhibits:
13 Caithness Blythe II's response to staff's motion
14 to compel applicant to submit certain information
15 on proposed transmission interconnection
16 configuration docketed on May 13, 2005.

17 Blythe area regional transmission
18 analysis, dated September 2002.

19 Blythe area regional transmission
20 analysis study plan, dated September 17, 2002.

21 And the Blythe area regional
22 transmission powerflow analysis study, dated
23 October 22, 2002.

24 Let me move the admission of those
25 documents.

1 HEARING OFFICER SHEAN: Is there
2 objection? Hearing none, they're admitted.

3 Can you clarify for the record, any of
4 those four documents, what we commonly know as the
5 BART study?

6 MR. ELLISON: Collectively they are,
7 yes.

8 HEARING OFFICER SHEAN: All of them are?

9 MR. ELLISON: Well, with the exception
10 of the response to the staff motion to compel,
11 yes.

12 HEARING OFFICER SHEAN: Okay, so --

13 MR. ELLISON: And then lastly, on May
14 28th of this year, Western completed the system
15 impact study. I don't know whether that's been
16 docketed or not.

17 MR. LOOPER: We asked staff to docket
18 that for us. I don't know what happened with
19 that, Bill.

20 MS. DeCARLO: We don't have an extra
21 copy. We only have the one copy that staff had to
22 use to prepare its testimony. We were only given
23 two weeks, so we haven't -- if you guys, at some
24 point, could make us an extra copy we'd be happy
25 to docket that.

1 MR. ELLISON: Okay, well, pursuant to
2 the agreement that staff would docket that. And
3 knowing that staff has seen it, I would move the
4 admission of the Western System impact study, as
5 well.

6 HEARING OFFICER SHEAN: And do you have
7 a date on that, again?

8 MR. ELLISON: I believe it's May 28,
9 2005.

10 HEARING OFFICER SHEAN: Is there
11 objection to the admission of the Western System
12 impact study of May 2005? Hearing none, it's
13 admitted.

14 MR. ELLISON: If the Committee would
15 like an overview of the transmission issues we
16 could do that. But let me simply say that
17 although there certainly have been disagreements
18 with staff, dealt with in two prior hearings on
19 motions to compel and that sort of thing, at this
20 point we have looked at the staff's proposed
21 condition of certification, and we have submitted
22 a modification to that as part of this testimony.

23 Our modifications are based, virtually
24 without exception, on the legal issue, not a
25 factual issue. The issue is simply the

1 Commission's jurisdiction stops at the first point
2 of interconnect. So we went through the condition
3 of certification and struck any reference to the
4 assertion of Commission licensing authority beyond
5 the first point of interconnection.

6 I would propose that we deal with that
7 in briefs, although we can certainly answer any
8 questions that the Committee may have about that.
9 That is essentially the only disagreement we have
10 with the staff's proposed condition of
11 certification.

12 HEARING OFFICER SHEAN: Stand by just a
13 second. Well, the applicant's side is up here.
14 Well, let's do it this way. We'll take your
15 comments on their attachment C when they're up.
16 Let's do it like that, then.

17 All right, I don't think the Committee
18 needs any further discussion of the general
19 transmission issues. We've had the hearing on the
20 motion to compel. We've read the testimony. We
21 understand the scope of it, of the proposed
22 modifications to the conditions that you've
23 described we understand. We understand the nature
24 of them and the supporting belief that they are
25 based upon aspects of the law. So I don't think

1 there's anything in addition which the Committee
2 needs from the applicant at this particular point.

3 MR. ELLISON: That's fine; in that case,
4 we're finished.

5 HEARING OFFICER SHEAN: All right.
6 We'll go to the Commission Staff now.

7 MS. DeCARLO: In our filing on July
8 27th, the list of exhibits and conditions, we
9 included a revised version of a condition that you
10 had submitted. And we were just wondering if we
11 could get your response to that version.

12 MR. GALATI: I apologize, Lisa. This is
13 my fault. We're not prepared to respond to that
14 now. What we'd like to do is respond possibly in
15 our briefs. I did receive this while I was
16 preparing testimony. I did not get a chance to
17 get it to Mr. Ellison to review.

18 So I think we're comfortable responding
19 in briefs. We have other conditions that we're
20 disputing, so if we can agree to TSE-9 and propose
21 a change, we'll do so in our brief.

22 MR. LOOPER: I don't know what the
23 procedure is, but I mean it'll take me, you know,
24 a half an hour to take a look at this and then we
25 come back or if there's a sidebar, however you

1 want to do that. It just takes me a little bit to
2 read it.

3 HEARING OFFICER SHEAN: We may be able
4 to do that.

5 MR. LOOPER: Okay, let me know.

6 HEARING OFFICER SHEAN: Just be a little
7 bit flexible here.

8 We do need to get your underlying
9 testimony into the record, though.

10 MS. DeCARLO: Right. I have another
11 question for the applicant, though.

12 HEARING OFFICER SHEAN: All right.

13 MS. DeCARLO: So, should we do our
14 underlying testimony in our direct?

15 HEARING OFFICER SHEAN: Okay.

16 MS. DeCARLO: Okay. I just have some
17 clarifying questions just so I kind of understand
18 what your idea of what's being licensed here is.

19 Am I correct that there are certain
20 aspects to the substation that will need to be
21 added in order to interconnect the proposed
22 project? I'm specifically referring to the Buck
23 Boulevard substation.

24 MR. ELLISON: My understanding is that
25 there are some minor changes within the fenceline

1 of the Buck Boulevard substation that Western
2 would perform, that are changes to the existing
3 grid, changes to the Buck Boulevard substation,
4 that are not part of this project.

5 MS. DeCARLO: But are they needed to
6 interconnect this project?

7 MR. ELLISON: Well, they are changes
8 downstream of the -- what we are proposing to
9 license is the lines up to the Buck Boulevard
10 substation. Then Western will interconnect that
11 with the Buck Boulevard substation, which is an
12 existing part of the grid.

13 There may be some minor changes within
14 the fenceline within the Buck Boulevard substation
15 to do that. The environmental impacts of those
16 changes are within the Commission's CEQA
17 jurisdiction, but it's all within the fenceline
18 and they're are no environmental impacts.

19 But in terms of the Commission's
20 licensing jurisdiction, the Buck Boulevard
21 substation exists, it's part of the existing grid.
22 And we believe that that's beyond the scope of the
23 Commission's licensing jurisdiction.

24 MS. DeCARLO: Okay. I'm just a little
25 confused because there's actually apparently some

1 contradictory testimony in your testimony. And I
2 don't know if it's Mr. Looper's or in the
3 testimony of applicant.

4 And I can specifically refer you to
5 that. It's on page 9. And I can paraphrase. It
6 basically says transmission facilities that the
7 Commission is being asked to license in this
8 proceeding are. And then it identifies several.
9 And then it states, certain changes within the
10 substation needed to accommodate the
11 interconnection.

12 So it seems to me that that testimony
13 basically states that these changes to the
14 substation are specifically within the licensee
15 jurisdiction of the Energy Commission.

16 MR. ELLISON: Well, I don't know that
17 the testimony says that. And there's the
18 possibility of confusion here between our view of
19 the Commission's CEQA jurisdiction and our view of
20 its licensing jurisdiction.

21 But let me just clarify. We view the
22 changes within the existing Buck Boulevard
23 substation that Western will do as being changes
24 to the existing grid downstream of the
25 Commission's licensing jurisdiction, but within

1 the Commission's CEQA jurisdiction.

2 MR. LOOPER: I know my counsel hates it
3 when I grab the microphone and talk, but I'll just
4 explain, just between on a practical standpoint.
5 And I see Nick is here.

6 We really have, were put in a bind in
7 Blythe I, because there was a CEC license
8 condition we basically could not comply with. And
9 that was the license condition asked us to do
10 things in Buck Boulevard that we could not do from
11 Western.

12 And we do not want to be there again.
13 We know how Western is configured now. We know
14 that inside the fenceline they will physically
15 take our line to terminate that line on their buss
16 inside Buck Boulevard substation. We won't have
17 our contractors in there. We will coordinate
18 then. When we're there we will be with Western
19 people. There will be some communications that
20 will be interfaced in through there in terms of
21 interfacing with the plant.

22 But our jurisdiction, our ability to say
23 what can be done as a person building this
24 project, ends at the fenceline practically. We
25 just don't want to go there again.

1 That's really the practical issue.
2 You'll have information like you had before.
3 You'll see the facility studies. You will see the
4 drawings that come out, but basically they're
5 Western drawings, they're Western jurisdiction,
6 and they have the control of everything inside the
7 fenceline.

8 We will fund it.

9 (Laughter.)

10 MR. LOOPER: We will write the checks,
11 but it won't be under our control.

12 MS. DeCARLO: Okay, that's all the
13 questions that I have.

14 HEARING OFFICER SHEAN: Anything from
15 any other party? All right, we'll go to the
16 Commission Staff then on -- yes, ma'am?

17 MS. GARNICA: I'd like to submit a
18 testimony from Michael Boyd. And I have copies
19 here.

20 HEARING OFFICER SHEAN: Ms. Garnica,
21 this would be --

22 MS. GARNICA: And I know tomorrow --

23 HEARING OFFICER SHEAN: -- in the nature
24 of --

25 MS. GARNICA: -- it'll be the --

1 HEARING OFFICER SHEAN: -- your direct
2 case, as opposed to something that would be --
3 it's more appropriate for tomorrow.

4 MS. GARNICA: Yes.

5 HEARING OFFICER SHEAN: Or do you want
6 to pass it out --

7 MS. GARNICA: I'm submitting it today,
8 though, at this time so that they have ample time
9 to view it.

10 HEARING OFFICER SHEAN: All right.

11 MR. GALATI: I would have to, at this
12 point, as much as I hate to, lodge an objection
13 that --

14 HEARING OFFICER SHEAN: Well, she has
15 not asked to introduce it. So, at this point, for
16 today, why don't you hold your objection until
17 tomorrow.

18 MS. GARNICA: Yeah, I would just like to
19 submit it so that you have ample time to review.

20 HEARING OFFICER SHEAN: Well, the
21 question of what's ample is really what may be at
22 issue. Anyway, this is not the appropriate time.
23 She's merely handing it out.

24 MS. GARNICA: Yes.

25 HEARING OFFICER SHEAN: Thank you.

1 MS. GARNICA: Thank you.

2 HEARING OFFICER SHEAN: All right.

3 Commission Staff, direct.

4 MS. DeCARLO: Yes, I would like our
5 witness for this issue is Mark Hesters, and he
6 needs to be sworn in.

7 HEARING OFFICER SHEAN: All right.

8 Whereupon,

9 MARK HESTERS

10 was called as a witness herein, and after first
11 having been duly sworn, was examined and testified
12 as follows:

13 DIRECT EXAMINATION

14 BY MS. DeCARLO:

15 Q Can you please state your name for the
16 record.

17 A My name is Mark Hesters.

18 Q And was a statement of your
19 qualifications previously provided?

20 A It was.

21 Q I'll skip the recitation of your
22 experience and education regarding --

23 HEARING OFFICER SHEAN: Any objection to
24 qualifying to testify as an expert?

25 MR. GALATI: No objection.

1 HEARING OFFICER SHEAN: All right. He's
2 so qualified.

3 BY MS. DeCARLO:

4 Q Did you co-author the testimony
5 entitled, transmission system engineering, that
6 was attached to staff's prehearing conference
7 statement?

8 A Yes.

9 MS. DeCARLO: Would this be a good time
10 to move staff's documents --

11 HEARING OFFICER SHEAN: Yes, all of it.

12 MS. DeCARLO: Okay. The July 27th list
13 of exhibits and conditions.

14 HEARING OFFICER SHEAN: I beg your
15 pardon?

16 MS. DeCARLO: The July 27th Energy
17 Commission Staff's list of exhibits and additional
18 conditions of certification.

19 HEARING OFFICER SHEAN: That would be
20 fine.

21 MS. DeCARLO: The final staff assessment
22 filed on April 29, 2005.

23 HEARING OFFICER SHEAN: Yes.

24 MS. DeCARLO: The soil and water
25 supplement filed June 2, 2005.

1 HEARING OFFICER SHEAN: I'm sorry, let's
2 just stay with transmission.

3 MS. DeCARLO: Do you want -- okay. And
4 then staff's prehearing conference statement, and
5 I don't have the date that that was filed.

6 HEARING OFFICER SHEAN: In terms of the
7 substantive --

8 MS. DeCARLO: We had attached actually
9 our modification to the TSE testimony.

10 MR. GALATI: June 24th.

11 MS. DeCARLO: June 24th, thank you,
12 Scott.

13 HEARING OFFICER SHEAN: Is there
14 objection?

15 MR. GALATI: No objection.

16 BY MS. DeCARLO:

17 Q And back to you, Mark. Do the opinions
18 contained in the testimony you are sponsoring
19 represent your best professional judgment?

20 A Yes.

21 Q The applicant has proposed several
22 changes to staff's proposed conditions of
23 certification. One significant change would
24 prevent the conditions from applying to changes to
25 the Buck Boulevard substation needed to connect

1 Blythe II.

2 What is your opinion of these proposed
3 changes?

4 A Actually we agree with the applicant's
5 earlier testimony on this in that it really is a
6 legal issue as to what the Commission is
7 licensing. If we are licensing the changes at the
8 Buck Boulevard substation, then we don't agree
9 with the changes to the conditions. They still
10 should apply to the Buck Boulevard substation
11 changes.

12 Q Is it your opinion that the changes to
13 the Buck Boulevard substation constitute the first
14 point of interconnection of this project?

15 A Yes. The Blythe II facility plans to
16 interconnect to the Buck Boulevard substation
17 through a 500 kV transmission line. Currently at
18 the Buck Boulevard substation no 500 kV facilities
19 exist. It's those facilities that we feel are
20 under the Commission's licensing jurisdiction.

21 Q And the applicant has raised concerns
22 about getting cooperation from Western to supply
23 the documents and the authorization identified in
24 the conditions. Is there anything that can be
25 done, or has been done in the past to satisfy any

1 potential cooperation issue?

2 A It actually happens often where a
3 project owner builds a facility and the
4 transmission facilities are a part of the
5 transmission interconnection facilities are
6 constructed by, and owned and operated by a
7 utility. In fact, we're working through some of
8 these right now with another power plant.

9 We'd be happy to work with Western and
10 the applicant after licensing to work out changes
11 to conditions that would then apply to the Buck
12 Boulevard substation.

13 Q Now, the applicant's also proposed other
14 changes to the conditions. Can you please walk us
15 through these proposed changes and state whether
16 you agree to the change or not.

17 A Yeah, I have a sort of list of proposed
18 changes. Most of them have to do with the sort of
19 removing the Buck Boulevard changes from the
20 conditions. I won't go through those. Usually
21 that's done through something like through a
22 statement that's added in the condition.

23 It says for the Buck Boulevard -- or the
24 Blythe Energy transmission facilities to the first
25 point of interconnection at the Buck Boulevard

1 substation, that's sort of added in different
2 places to the conditions by the applicant.

3 And we don't agree with those. But,
4 again, we agree that it is a legal issue as to
5 what the Commission has licensing authority over.

6 So, in TSE-1, there's a statement that
7 removes the Buck Boulevard substation. The other
8 is a detailed list, the applicant includes a
9 detailed equipment list. We'd actually prefer, at
10 this point, to keep the list general and let a
11 detailed list to come in later.

12 It seems that part of the reason for the
13 detailed list was to not include Buck Boulevard
14 facilities. And, again, if we're licensing the
15 Buck Boulevard facilities, those would need to be
16 included either from Western or the applicant at
17 some point.

18 And TSE-2, again, it's that same changes
19 that remove the Buck Boulevard substation from the
20 conditions.

21 They had no changes to TSE-3, and no
22 changes to TSE-4. TSE-5 is a long and complicated
23 condition. There again we don't agree with the
24 Buck Boulevard removal. Under section FI-1 the
25 applicant removed the section that requires a

1 system impact study from Western. Since we have
2 the system impact study from Western we agree that
3 should be removed, and we only need to include a
4 detailed facility study.

5 Then there's the FI-2 there's another
6 Buck Boulevard issue in FII -- these get really --
7 it requires the facility submittal of a facility
8 interconnection agreement with Western and system
9 impact studies from Southern California Edison.
10 We agree with the applicant that the studies from
11 Southern California Edison aren't needed.

12 And the next bullet we also require
13 interconnection approval and agreements for the
14 Blythe II and Desert Southwest transmission
15 project. Those are actually included as part of
16 staff's proposed new condition that the applicant
17 discussed earlier and they haven't had time to
18 review. And I guess they'll provide comments at
19 another time on that.

20 Those are the biggies. In TSE-7 we
21 agree with their change that they need to notify
22 that they're synchronizing with the California
23 grid, actually changes from the California grid to
24 the Western grid. And TSE-8, again, is the Buck
25 Boulevard substation issue.

1 Mostly it's the Buck Boulevard
2 substation issue, and we tend to agree on just
3 about everything else but the equipment list.

4 Q And does that conclude your testimony?

5 A That concludes my testimony.

6 MS. DeCARLO: The witness is available
7 for cross-examination.

8 HEARING OFFICER SHEAN: Mr. Ellison.

9 MR. ELLISON: Just a couple questions.

10 CROSS-EXAMINATION

11 BY MR. ELLISON:

12 Q Does staff disagree with the changes
13 within the fenceline of the Buck Boulevard
14 substation will be performed by Western?

15 A We don't disagree that they would be
16 performed by Western. We agree that -- I guess
17 where we disagree is on whose jurisdiction, who
18 has licensing authority over them.

19 Q Okay, well, that's a legal issue that I
20 proposed we address in briefs, but assuming that
21 the Committee were to agree on a legal issue that
22 the Commission's licensing jurisdiction does not
23 include changes within the fenceline at Buck
24 Boulevard -- I just want to focus on the practical
25 question -- Western is going to perform those

1 changes.

2 My understanding is that in Blythe I the
3 same situation arose in which there was a
4 transmission condition involving changes to the
5 Buck Boulevard substation requiring submission of
6 information from Western. Is that your
7 understanding, as well?

8 A I don't have the Blythe I conditions in
9 front of me. The substation modifications or the
10 construction of the substation would have been
11 under CEC licensing authority. And it may not
12 have directly applied to Western, but it would
13 have applied to the project owner.

14 Q In essence though, it requires the
15 project owner to comply with the condition that
16 Western was not subject to the Commission's
17 jurisdiction, will carry out. So if Western fails
18 to comply with the condition, staff's position is
19 that the applicant is in violation of a condition
20 of certification, correct?

21 A It's my understanding that it's the
22 applicant or the project owner's responsibility to
23 meet those conditions whether or not they
24 construct the facility. But I guess that's a
25 legal issue that I'm not certain on, on how that's

1 applied.

2 Q But just as a practical matter, I mean,
3 Western is not a subsidiary of Caithness Blythe
4 II, correct?

5 A Correct.

6 Q Okay, and Caithness Blythe II doesn't
7 have any legal authority over Western, correct?

8 MS. DeCARLO: Objection, calls for a
9 legal conclusion.

10 HEARING OFFICER SHEAN: I'm going to
11 sustain that. We understand the nature of the
12 disagreement. Some of this clearly has to do with
13 Blythe I. You now have an existing transmission
14 substation and arguably the circumstances are
15 different, and therefore I'm not -- I think we
16 have captured the essence of this issue and
17 understand it, I think.

18 MR. ELLISON: You know, in that vein,
19 Mr. Shean, let me just make a statement and forego
20 any cross-examination on this.

21 My understanding is that in Blythe I
22 this exact circumstance came up, that Western was
23 required, or I'm sorry, the project owner was
24 required, as a condition of certification, to have
25 Western submit information to the Energy

1 Commission, which Western refused to do.

2 And that put the project owner in the
3 position of being in violation of a condition of
4 certification for reasons that they could not
5 control, because they did not control Western.

6 We're trying to avoid having that same
7 circumstance occur again.

8 HEARING OFFICER SHEAN: Okay, and we
9 understand.

10 PRESIDING MEMBER GEESMAN: So, did the
11 project owner seek an amendment to the condition
12 from the Commission?

13 MR. CAMERON: What happened on Blythe I
14 is there was a condition in the license that
15 required all of the documentation be submitted to
16 a plan check through the CBO process. And that
17 couldn't possibly work with Western.

18 And the compliance project manager
19 worked out an arrangement so that that did not
20 have to occur. So none of the Western drawings
21 went through plan checking. I think that's kind
22 of what we're --

23 MR. GALATI: It's also the inspection
24 and the --

25 MR. CAMERON: Right.

1 MR. GALATI: -- CBO access and the CEC
2 access to the site.

3 PRESIDING MEMBER GEESMAN: So the
4 condition in Blythe I remains as it was when the
5 Commission adopted the decision?

6 MR. CAMERON: I don't think that there
7 was a change in the condition, but there was a
8 procedure, if you will, that was worked out with
9 Steve Munro.

10 PRESIDING MEMBER GEESMAN: Mr. Hesters,
11 do you or anyone else on the staff have any
12 experience with improvements within a Western
13 substation or other substation operated by the
14 federal government?

15 MR. HESTERS: When you mean experience?

16 PRESIDING MEMBER GEESMAN: In past
17 cases. You spoke about jurisdiction over utility
18 substations.

19 MR. HESTERS: I haven't worked with
20 Western in particular; we're actually working with
21 Edison on one right now.

22 PRESIDING MEMBER GEESMAN: Any other
23 substations owned or operated by the federal
24 government?

25 MS. DeCARLO: I believe in East Altamont

1 we had a similar situation, and I don't recall
2 there any request from the applicant that Western
3 be eliminated from the conditions of
4 certification. Western is here; they might be
5 able to provide some further insight into that
6 matter. But I do believe it was interconnection
7 to a Western substation. And the conditions there
8 were similar, if not exactly the same as the ones
9 we're proposing here.

10 PRESIDING MEMBER GEESMAN: Is there
11 someone from Western here?

12 MR. SCHAFFER: Yeah, I'm Nick Schaffer.
13 I --

14 PRESIDING MEMBER GEESMAN: Could you
15 come up to a microphone, sir?

16 MR. SCHAFFER: I'm Nick Schaffer; I'm
17 the Planning Engineer for the Blythe II project.
18 I complete the assessment impact study on behalf
19 of Western for this project.

20 PRESIDING MEMBER GEESMAN: And have you
21 been involved with Blythe I's interaction with
22 Western at the Buck Boulevard substation?

23 MR. SCHAFFER: I was also the Planning
24 Engineer for Blythe I. I need to distinguish
25 myself from being the engineer responsible for the

1 facility study for Blythe I. I was not
2 responsible for Blythe I facility study.

3 And I am not aware of any problems that
4 may have occurred between the Commission and
5 Western regarding Blythe I. I'm not familiar with
6 -- but I can say one thing, generally speaking,
7 Western's designs are according to industry
8 standards. And I am not familiar if Western has
9 allowed any outside entity the responsibility to
10 review. Reviewing designs would not be within
11 Western's practice.

12 However, cooperating and sharing any of
13 the design work and any of the drawings that we
14 have with the Commission, Western would be most
15 acceptable to do so. We would not have any
16 problem with sharing what we do.

17 PRESIDING MEMBER GEESMAN: Thank you
18 very much.

19 HEARING OFFICER SHEAN: Do you have any
20 additional questions? Okay. I have one.

21 On attachment C, TSE condition 9. In
22 the condition language which is above
23 verification, staff apparently proposes to strike
24 all the provision of the condition that would
25 allow delivery of the project's generation at

1 something -- prior to the availability of the
2 Desert Southwest transmission project -- at
3 something less than full capacity, is that right?

4 Are you seeking to prohibit them from
5 putting any capacity on the existing transmission?
6 What's the purpose of the modification?

7 MR. HESTERS: We actually struck that
8 because we believe the Western and the Cal-ISO,
9 California Independent System Operator, will --
10 it's their charge to maintain reliability; and
11 they will effectively limit the output from the
12 power plants to protect the system.

13 HEARING OFFICER SHEAN: So there is no
14 purpose here to prevent generation going into the
15 California grid prior to the full availability of
16 the Desert Southwest transmission project?

17 MR. HESTERS: It will be prevented by
18 Western and Cal-ISO. That's why we struck it from
19 the applicant's proposed condition.

20 HEARING OFFICER SHEAN: Okay. With
21 respect to the verification here, leaving aside
22 the question of whether or not you've got
23 substantive elements of a condition in the
24 verification, insofar as items B through F, why
25 are those necessary?

1 MR. HESTERS: Those will be required
2 before the project can operate, before it can
3 interconnect. They will need an interconnection
4 approval from the ISO and from Edison and others.
5 The project won't be allowed to connect to the
6 existing grid without those studies and approvals.

7 HEARING OFFICER SHEAN: All right. And
8 why are they necessary 60 days prior to the start
9 of rough grading, at that point, when you would
10 anticipate it may take 18 to 24 months for them to
11 actually construct the facility and have it
12 prepared to run?

13 MR. HESTERS: We could negotiate on the
14 60 days. This was actually -- we were actually
15 modifying the applicant's condition that they
16 would not start construction until the project had
17 approvals, or had its -- the Desert Southwest
18 transmission project or an equivalent project had
19 its permits. And 60 days was what we decided.

20 HEARING OFFICER SHEAN: So does the
21 verification mix the interconnection element with
22 the "you shall not" commence to construct the
23 project until the Desert Southwest transmission
24 project is permitted?

25 MR. HESTERS: When you say

1 interconnection are you referring to the power
2 plant or the --

3 HEARING OFFICER SHEAN: I'm referring to
4 items B through F.

5 MR. HESTERS: Those all have to do with
6 the Desert Southwest transmission project, or the
7 equivalent project. And they would all be
8 required before the project could interconnect.
9 I'm having trouble understanding the question, I'm
10 sorry.

11 HEARING OFFICER SHEAN: All right, I'll
12 let it go. I have nothing further. Do you have
13 any redirect?

14 MS. DeCARLO: No.

15 HEARING OFFICER SHEAN: All right.
16 Thank you, Mr. Hesters. All right, that concludes
17 transmission system engineering.

18 And we'll now go to biology.

19 MR. GALATI: Mr. Shean.

20 HEARING OFFICER SHEAN: Yes.

21 MR. GALATI: We did have a chance to
22 review the bio-12, which was sent on the 27th as
23 an attachment to the staff's list of exhibits. We
24 have some very minor questions that we'd like an
25 opportunity of a few minutes to resolve with

1 staff. Because I think this is our only remaining
2 dispute in the biology.

3 HEARING OFFICER SHEAN: Is on the
4 language of Bio-12?

5 MR. GALATI: I believe so.

6 MS. DeCARLO: I'm sorry, our bio witness
7 seems to have disappeared for a minute. I believe
8 someone's trying to go get her.

9 HEARING OFFICER SHEAN: Well, do you
10 want to put your people on; we'll get through you
11 and then --

12 MR. GALATI: Sure.

13 HEARING OFFICER SHEAN: -- we'll come
14 back to that.

15 MR. GALATI: Okay, Mr. Cameron has
16 already been sworn.

17 Whereupon,

18 THOMAS CAMERON
19 was recalled as a witness herein, and having been
20 previously duly sworn, was examined and testified
21 further as follows:

22 MR. GALATI: Mr. Cameron was the Project
23 Manager and directed the work of the biologist, so
24 we'd like him to sponsor his previously written
25 testimony on biology.

1 HEARING OFFICER SHEAN: All right, he's
2 been previously qualified to testify as an expert.
3 Is there objection to the admission of the
4 testimony of Mr. Cameron on biological resources?

5 While we're doing it, do you have -- so
6 there are no listed exhibits in association with
7 that?

8 MR. GALATI: There is one additional
9 exhibit on our exhibit list, which is a letter
10 from John Holt from Western dated April 15, 2005,
11 regarding concurrence with the U.S. Fish and
12 Wildlife Service's biological opinion. And a copy
13 of the opinion is attached to that letter. We'd
14 like that complete set of documents to be moved
15 into the record.

16 HEARING OFFICER SHEAN: Have they been
17 previously docketed?

18 MR. GALATI: They have been previously
19 docketed.

20 HEARING OFFICER SHEAN: All right, then
21 we'll use that as sufficient identification of
22 them. Is there objection to admission of those
23 documents?

24 MS. DeCARLO: No.

25 HEARING OFFICER SHEAN: All right, thank

1 Also could be used during a time of
2 maintenance of these facilities. A few days a
3 year they have to be shut down and cleaned.
4 Having temporary retention ponds allows us to keep
5 the plant in operation and available to serve
6 load.

7 MR. GALATI: Mr. Hearing Officer, would
8 you like me to describe specifically why we have a
9 problem with the condition? Or is that something
10 we could take a break and talk to staff about?

11 HEARING OFFICER SHEAN: Let's let the
12 witness describe what the issue is.

13 MR. CAMERON: Since we've never had a
14 chance to have dialogue with staff I think a 15-
15 minute discussion probably would go far to resolve
16 the language. It's really language on how things
17 get reported, making sure that staff is clear on
18 understanding how we intend to use the ponds. As
19 I said, they're just used for temporary purposes.

20 And we'd like to have a dialogue with
21 staff about the cleaning of the ponds. They've
22 suggested if the facility is closed for more than
23 two months, that the retention ponds would be
24 cleaned. Just not sure about some of that
25 language. So we can do this in a sidebar.

1 HEARING OFFICER SHEAN: Yeah. And
2 that's probably more appropriate. So.

3 MR. GALATI: With that, we'll close my
4 direct testimony.

5 HEARING OFFICER SHEAN: All right. Any
6 cross?

7 MS. DeCARLO: No.

8 HEARING OFFICER SHEAN: All right.
9 Thank you very much, Mr. Cameron. Let's go to the
10 staff witness.

11 MS. DeCARLO: Okay, just so I can have
12 some -- at what point will we be doing the
13 sidebar?

14 HEARING OFFICER SHEAN: Well, probably
15 during a lunch break or --

16 MR. GALATI: That would be fine.

17 HEARING OFFICER SHEAN: -- some time in
18 there.

19 MS. DeCARLO: So we'll just give our
20 initial testimony and we can --

21 HEARING OFFICER SHEAN: Yeah, go ahead
22 and --

23 MR. SHAW: -- come back after that to
24 discuss it?

25 HEARING OFFICER SHEAN: -- put it out

1 there and we'll patch it up later.

2 MS. DeCARLO: Okay, great. Elizabeth
3 Hubert is our witness for biological resources.
4 And she needs to be sworn in.

5 Whereupon,

6 ELIZABETH HUBERT
7 was called as a witness herein, and after first
8 having been duly sworn, was examined and testified
9 as follows:

10 DIRECT EXAMINATION

11 BY MS. DeCARLO:

12 Q Can you please state your name for the
13 record?

14 A Elizabeth Hubert.

15 Q And was a statement of your
16 qualifications previously provided?

17 A Yes, it was.

18 HEARING OFFICER SHEAN: Any objection to
19 her qualification to testify as an expert?

20 MR. GALATI: No objection.

21 HEARING OFFICER SHEAN: Hearing none,
22 she's so qualified.

23 BY MS. DeCARLO:

24 Q Have you read, do you agree with, and
25 are you hereby sponsoring the testimony entitled,

1 biological resources, contained in the final staff
2 assessment?

3 A Yes.

4 Q Did you author that biological resources
5 supplement filed with the staff's exhibit list as
6 attachment D on July 27, 2005?

7 A Yes, I did.

8 Q And do the opinions contained in this
9 testimony represent your best professional
10 judgment?

11 A Yes, they do.

12 Q Can you please discuss any new
13 developments that have occurred in this area since
14 the prehearing conference?

15 A Yes. The project description has
16 changed to include a cooling system which is zero
17 liquid discharge to solids, and will have an
18 evaporation ponds used only in the case of backup
19 or emergency.

20 Q Now that the applicant has agreed to use
21 zero liquid discharge to solids, what is your
22 conclusion concerning Blythe II compliance with
23 LORS and potential for significant adverse impacts
24 to biological resources?

25 A With these new conditions the project

1 would comply with LORS and the impacts, any
2 potential impacts would be less than significant.

3 Q Can you please explain why condition of
4 certification Bio-13 is needed and what its basic
5 provisions are?

6 A Yes. Bio-13 will provide conditions for
7 the life of the facility --

8 Q I'm sorry, I misidentified as Bio-12.

9 A Twelve. Will provide conditions for the
10 life of the facility and in case of facility
11 closure. Anytime there's a discharge of water to
12 the ponds there is potential for birds and
13 wildlife to be exposed to water in the ponds.

14 The conditions in Bio-12 are intended to
15 insure that when water is discharged to the ponds,
16 measures are taken to prevent the birds' exposure
17 to contaminated water.

18 And in addition we have information we
19 found new federally listed species in the area.
20 So there's an additional concern for exposure to
21 listed species.

22 Q Now, just for clarification for the
23 record, the applicant has identified proposed
24 changes to Bio-2 and -7. Do you agree with these
25 changes as reflected in the applicant's testimony?

1 A Yes, I do.

2 Q And does that conclude your testimony?

3 A Yes, it does.

4 MS. DeCARLO: The witness is available
5 for cross-examination.

6 HEARING OFFICER SHEAN: Any --

7 MR. GALATI: No cross-examination.

8 HEARING OFFICER SHEAN: I just have a
9 couple questions. And I had noted these down
10 earlier.

11 The second-to-the-last sentence of Bio-
12 you indicate: after any facility closure of
13 more than two months the ponds should be cleaned
14 to minimize risk of contamination of wildlife."

15 And my question is, does the cleaning
16 relate to the closure or does it relate -- or is
17 it just a matter of not leaving any residual
18 standing in the pond for a long period of time?
19 Is it the latter?

20 MS. HUBERT: Yes, the latter, the
21 residual, if it rained, would be contaminated;
22 would provide contaminated water.

23 HEARING OFFICER SHEAN: So, in fact,
24 it's not linked to closure, it's linked to whether
25 or not it's just there for any duration, is that

1 right?

2 MS. HUBERT: It's linked to a period of
3 nonuse.

4 HEARING OFFICER SHEAN: And the nonuse
5 would be more water coming into this evaporation
6 or retention pond, is that correct?

7 MS. HUBERT: The nonuse would provide,
8 there would be contaminated sediments in the pond
9 area if it rained or other water were exposed to
10 that sediment, then the water would be
11 contaminated and would provide a means for
12 wildlife species to have access to contaminated
13 water.

14 HEARING OFFICER SHEAN: All right, so
15 let's get this right. Is it that you have dry
16 material at the bottom of the evaporation pond, or
17 that you have dry material that's re-wetted and
18 becomes water that has some attractive value to
19 wildlife that is the issue?

20 MS. HUBERT: Primarily the second.

21 HEARING OFFICER SHEAN: Okay. So it's
22 the re-wetting of something that has previously
23 evaporated.

24 MS. HUBERT: Yes.

25 HEARING OFFICER SHEAN: Okay. With

1 respect to the mitigation and monitoring plan, you
2 state for number two, you want the plan to contain
3 a detailed description of all biological resource
4 mitigation and monitoring and compliance measures
5 included in the Commission's final decision. So
6 they're supposed to repeat what we put in the
7 decision.

8 And then you add: and federal and state
9 Endangered Species Act, the California
10 Environmental Quality Act and the Migratory Bird
11 Treaty Act. Are those last items intended to be
12 separate and distinct from what's covered in the
13 Energy Commission final decision?

14 MS. HUBERT: They're separate, but the
15 conditions should be similar.

16 HEARING OFFICER SHEAN: So, there are --

17 MS. HUBERT: They're separate legal
18 laws, but the conditions would be --

19 HEARING OFFICER SHEAN: So you're
20 proposing that there are mitigation, monitoring
21 and compliance measures that are not included in
22 the Commission's decision?

23 MS. DeCARLO: It's our intent that the
24 Commission's decision include all conditions
25 required to comply with all laws, federal, state,

1 local. So, --

2 HEARING OFFICER SHEAN: So this is not
3 for a plan that contains something that's beyond
4 what is covered in the Commission decision?

5 MS. DeCARLO: Right.

6 HEARING OFFICER SHEAN: Okay. Now, with
7 respect to this, this pond would not be used until
8 once the proposed project is fully operational.
9 Can you indicate why then you want this mitigation
10 plan 30 days prior to start of any site
11 mobilization, which is essentially the
12 commencement of construction when this pond could
13 not possibly be used for another 18 to 24 months
14 from that period?

15 MS. HUBERT: Because it gives us an
16 opportunity to review the plan before construction
17 starts.

18 HEARING OFFICER SHEAN: And that's
19 necessary why?

20 MS. HUBERT: Because it allows us to
21 review the plan and make any needed changes before
22 the ponds are actually used.

23 HEARING OFFICER SHEAN: You need a year
24 and a half to two years of lead time for that?

25 MS. HUBERT: No. Typically it takes 45

1 days.

2 HEARING OFFICER SHEAN: Okay. I have no
3 further questions.

4 All right, we think we are now through
5 with biology. We probably want to take a deep
6 breath before we head into our water resources
7 issues. And also give the parties an opportunity
8 to discuss the matters that we have just talked
9 about. And while they're fresh and in your minds,
10 perhaps we can do that.

11 So, let's take approximately a 15-minute
12 break and we will come back and resume here. Is
13 there any problem with commencing -- do we have
14 witnesses available now for our water?

15 MR. GALATI: We do.

16 MS. DeCARLO: Yes.

17 MR. GALATI: Yeah, we're all ready.

18 HEARING OFFICER SHEAN: Good. We'll do
19 that. We're taking a break then.

20 (Brief recess.)

21 HEARING OFFICER SHEAN: Back on the
22 record, please. I was informed during the break
23 that the applicant and the staff have consulted
24 and worked out an agreement on the transmission
25 system engineering condition 9, is that correct?

1 MR. LOOPER: That is correct.

2 HEARING OFFICER SHEAN: All right, can
3 you inform us generally of what your agreements
4 are?

5 MR. ELLISON: The agreement is that the
6 substance of the condition would remain as
7 proposed by staff.

8 The verification would consist of three
9 elements. The final EIR/EIS, which is A. Then we
10 would strike everything else down to G, and leave
11 the schedule. And then we would add in lieu of
12 the things that we struck, and I'm paraphrasing
13 here, staff has the exact language, but a list of
14 all required permits for the DSWTP or equivalent.
15 And copies of those permits to be provided to
16 staff when available.

17 HEARING OFFICER SHEAN: Is that
18 generally correct?

19 MR. HESTERS: Yes, it is.

20 HEARING OFFICER SHEAN: Oh, I'm sorry?

21 MR. HESTERS: There wasn't any space at
22 the table.

23 (Laughter.)

24 HEARING OFFICER SHEAN: And you have
25 language that you can provide us at some

1 reasonable convenience, that will incorporate
2 these?

3 MR. HESTERS: I'll write it up when I'm
4 back in the office tomorrow.

5 HEARING OFFICER SHEAN: Well, it doesn't
6 have to be that quick because we're not going to
7 be home tomorrow, so -- a reasonable time.
8 That'll be great.

9 MR. HESTERS: Thank you.

10 HEARING OFFICER SHEAN: Now, with
11 respect to biology, I guess if I'm understanding
12 correctly, we're coming in around a concept, but
13 the specific language isn't there yet.

14 And let me also, at this point,
15 acknowledge and thank the members of the staff of
16 the California Department of Fish and Game who
17 were present and involved in those discussions.
18 We appreciate your coming here and being part of
19 our proceeding and helping us out.

20 So, do you want to describe where we are
21 on that, if someone can?

22 MR. GALATI: I'll let staff describe
23 that.

24 MS. DeCARLO: Sure. We've agreed to the
25 basics. We've changed, revised the timeline to be

1 approximately 90 days before start of construction
2 of the ponds, themselves, to give the applicant
3 more time to finalize their plan.

4 And then we've agreed to some minor
5 alterations to what will be required in the plan,
6 itself. And the applicant is proposing to provide
7 the exact language, I believe, in their brief.

8 HEARING OFFICER SHEAN: All right,
9 that's satisfactory to the Committee, then.
10 Anything further from you on that?

11 MR. GALATI: No. Thank you.

12 HEARING OFFICER SHEAN: All right, thank
13 you.

14 All right, we're moving to probably our
15 A-1 topic, at least for the day, which is water
16 resources. And we'll begin with the applicant.

17 MR. GALATI: Mr. Shean, Commissioner, we
18 have quite a panel of experts. And if I could
19 just very briefly tell you why we have a panel and
20 who they are and what they'll do, maybe that'll
21 save some time. We can have them all sworn at one
22 time.

23 Basically the panel is going to describe
24 making six main points. That LORS that are
25 applicable to -- we're going to describe the LORS

1 that are applicable to Colorado River water, and
2 that are not applicable to groundwater. The
3 primary witness for that is going to be Dr. Jeff
4 Harvey.

5 The second main point is that the
6 project's use of this groundwater complies with
7 the Commission's policy identified in the 2003
8 IEPR. That's going to be a panel of experts, as
9 there are components to that policy that we have
10 different witnesses for.

11 The third is that the use of the
12 groundwater does not result in significant
13 environmental impacts to the downstream users of
14 the Colorado River water. And our primary witness
15 for that is Dr. Harvey and Oliver Page, a
16 hydrogeologist.

17 Our fourth point is that the use of the
18 groundwater does not result in significant
19 environmental impacts to the groundwater aquifer
20 or to any well user. And our primary witness for
21 that will be Oliver Page.

22 Our fifth point is that the use of dry
23 cooling for BEP-II is not economically feasible.
24 And for that we have three witnesses. And that is
25 Tom Cameron, Bob Gavahan and Phil Deen from

1 Siemens.

2 And six, the use of Rannels Drain water
3 will result in use of water that is of higher
4 quality than groundwater, which will require
5 accounting of Colorado River water. That will
6 also be addressed by Dr. Jeff Harvey and supported
7 by Ed Smith, the General Manager of PVID.

8 So, if I could ask all of these
9 gentlemen that I just mentioned to stand up so
10 they can be sworn, except Mr. Cameron. I'd also
11 like the opportunity, I have the Project Director
12 here at the table, to the extent that there's any
13 questions that deal with the Project Director, Mr.
14 Looper can answer.

15 Whereupon,

16 THOMAS L. CAMERON, ROBERT LOOPER and

17 ROBERT GAVAHAN

18 were recalled as witnesses herein, and having been
19 previously duly sworn, were examined and testified
20 further as follows:

21 Whereupon,

22 JEFFREY G. HARVEY, OLIVER S. PAGE, PHIL G. DEEN

23 and ED SMITH

24 were called as witnesses herein, and after first
25 having been duly sworn, were examined and

1 testified as follows:

2 HEARING OFFICER SHEAN: Gentlemen,
3 before you begin let me indicate one of the
4 practices that we've had while we're dealing with
5 a panel.

6 Ordinarily if you were appearing
7 separately as witnesses you would be somewhere on
8 a chair located far enough away from your attorney
9 that the opportunity for discussion of questions,
10 answers or what needs to be provided would not be
11 able to occur.

12 So, we're going to ask you to not do
13 that, as we're going to ask this panel not to do
14 that, during the testimony. Essentially
15 conferring on something, if there is an issue with
16 regard to whether or not you've not been asked
17 that critical question or some element of the
18 substance of your answer.

19 What we don't want to have is an
20 exchange. We just need to get the best of what
21 you have at the time you're asked the question.
22 If at some other time, either on redirect or
23 rebuttal, you get back to that, that can be done
24 in that way. But this will, I think, assure that
25 we have the record that gives your best answer

1 initially, and that's what we're seeking.

2 And let me just ask the question. Is
3 there an objection to qualifying the members of
4 the panel as experts?

5 MS. DeCARLO: No objection.

6 HEARING OFFICER SHEAN: All right, they
7 are so qualified.

8 DIRECT EXAMINATION

9 BY MR. GALATI:

10 Q Dr. Harvey, did you file previously
11 written testimony in this matter?

12 DR. HARVEY: Yes, I did.

13 MR. GALATI: And do you have any changes
14 and corrections to that testimony?

15 DR. HARVEY: No, I do not.

16 MR. GALATI: And does it represent your
17 best professional judgment and opinion?

18 DR. HARVEY: Yes, it does.

19 MR. GALATI: Would you briefly summarize
20 your testimony for the Committee at this time.

21 DR. HARVEY: Thank you. It's a pleasure
22 to have the opportunity to address you on this
23 question. I know it is a big issue.

24 We have reviewed the staff's final staff
25 assessment on the water issues and we have very

1 fundamental disagreements throughout their
2 assessment. I will start with the policy question
3 and the question of what are applicable laws,
4 ordinances, regulations and standards.

5 Our review of those, we believe that
6 there are only three that apply. And those are
7 CEQA and the question of whether or not we have a
8 significant adverse impact that cannot be
9 mitigated; California water law and whether or not
10 we need a surface water right, or whether we are
11 using groundwater. We are proposing to use
12 California groundwater. And then application of
13 the California Energy Commission's IEPR policy,
14 which specifies that we should avoid the use of
15 fresh water.

16 Finally, we looked in depth at
17 applicable surface water law in this region, as it
18 has become a point of debate with staff. And I
19 will review some of that; a complicated situation,
20 as I'm sure you're both aware, because it's not
21 simple state law. We do have a very complicated
22 federal law here pertaining to the Colorado River.

23 So, how do we comply with LORS in this
24 case. Our proposed use of groundwater is water
25 from beneath the property, being used directly on

1 the property for a recognized reasonable
2 beneficial use in law, industrial use. And the
3 water quality is brine water quality. It's
4 brackish water, lower end of brackish under the
5 definition, at about 1000 parts TDS or greater.

6 So, in that case, California groundwater
7 law allows us to pump groundwater for use on
8 overlying property. And according to the
9 Commission's policy, we are encouraged to avoid
10 use of fresh water. And others will address the
11 question of whether or not dry cooling is
12 feasible.

13 But relative to the use, the priorities
14 of use of water, those are that wastewater is
15 being discharged to the ocean; this policy being
16 informed by the State Water Resources Control
17 Board policy 7558. Wastewater being released to
18 the ocean is the first priority.

19 Ocean water was at one time a second
20 priority. I understand that's changed over time.
21 The third priority is naturally brackish water and
22 irrigation return flows, categorized together, and
23 I'll talk about why that's a bit problematic.

24 Number four is inland waters of low TDS.
25 And then fifth, other inland waters, implying

1 fresh waters.

2 MR. GALATI: Dr. Harvey, excuse me.
3 Number four, could you read number four again. Is
4 that inland wastewaters of low TDS?

5 DR. HARVEY: Of low TDS, yes.

6 MR. GALATI: Thank you.

7 DR. HARVEY: And obviously wastewater
8 discharged to the ocean is not available to us
9 here in Blythe. Ocean water is not available to
10 us here in Blythe.

11 The lowest quality water that is
12 available to us is naturally occurring brackish
13 water. There is irrigation return flow, and as
14 staff has pointed out, there is a Rannels Drain
15 some 6000 feet from the project site that does
16 contain irrigation return flows. The reason I
17 said it's a bit confusing is because it also
18 contains operational spillage, which is other
19 inland waters, fresh water from the Colorado
20 River. It also contains some drainage water from
21 soil and some tail water, surface water runoff
22 from agricultural lands.

23 So, it's not a single source of water.
24 It is a mix of water that is highly variable over
25 seasonal use and throughout the year, both in its

1 volume and in the quality of that water.

2 The groundwater they're proposing to use
3 is very consistent in terms of its quality, and
4 the depth that we are drawing it from, roughly
5 550, 600 feet deep beneath the site.

6 We've also determined that there are no
7 significant impacts to water supply or to water
8 quality. We are using California groundwater. We
9 will be removing groundwater from storage. The
10 potential impact to other local wells is a
11 mitigable impact, and we accepted the mitigation
12 requirement for that potential effect.

13 There is no potential effect to surface
14 waters or to other downstream water users, so
15 there are no impacts on water supply.

16 I want to turn to surface water law in
17 this unique situation with the Colorado River
18 because it is such a point of dispute with staff's
19 assessment. And we believe the fundamental error
20 in staff's assessment is that they have assumed
21 that the groundwater is surface water, and should
22 be accounted for and treated in law and treated in
23 impact assessment as if it were surface water.

24 This is a unique situation in
25 California. There are some situations that are

1 similar, but nothing quite this unique. State law
2 is superseded by federal law relative to
3 jurisdiction over surface waters, the Colorado
4 River surface water.

5 And we have a federal body of law that
6 covers seven states and the international treaties
7 with Mexico, an international agreement.

8 There are historic claims to water
9 rights under prevailing state laws that date back
10 to the late 1800s that are all part of what has
11 now been incorporated into this federal body of
12 law. And there have been conflicts over river
13 development, river management and river
14 allocations for a century. That has led to
15 resolution of some of those conflicts, which all
16 have led to an incremental development of a body
17 of law governing surface water of the Colorado
18 River that is known collectively as the law of the
19 river.

20 The law of the river is not a single
21 thing. It is numerous pieces of legislation. It
22 is numerous judicial decisions. It is treaties
23 with Mexico and amendments to those treaties. It
24 is formally adopted administrative procedures,
25 principally of the Federal Water Master, the

1 Bureau of Reclamation. And it is numerous
2 agreements between upper basin parties, lower
3 basin parties, upper and lower basin parties,
4 California parties.

5 So those complex number of arrangements
6 are what are collectively known as law of the
7 river.

8 The result is that there is full
9 allocation of the Colorado River's annual flows.
10 There's a designated set of upper basin states
11 that have rights to half of what the river's flow
12 is, the assumed flow.

13 Lower basin states, California, Arizona
14 and Nevada, that are entitled to the other half of
15 the river flow, 7.5 million acrefeet.

16 The lower basin states are the -- the
17 lower basin is regulated by the U.S. Bureau of
18 Reclamation; and they are the ones that oversee
19 conflicts and disputes and are responsible for
20 allocation -- delivery of water, allocation of
21 water, and accounting for that surface water in
22 the lower basin.

23 One of the elements of the law of the
24 river is the 1964 Supreme Court decision and
25 subsequent decree in the case of Arizona v.

1 California. Some 30 or 40 years of litigation;
2 it's an amazing piece of law to read about in
3 water history.

4 At the end of the day, and for our
5 purposes today, what that decree determined was
6 that California has an allocation of 4.4 million
7 acrefeet of the total 7.5 million acrefeet
8 available to the lower basin states. And that the
9 Bureau, who is the formal water master for the
10 allocation of that water between the states, and
11 that the Bureau can regulate surface waters
12 including underflow of the river as the Bureau
13 determines that that underflow is part of surface
14 flows of the river.

15 And that is where we come to the major
16 point of debate with staff regarding the source of
17 water that the Blythe Energy Project proposes to
18 use. And whether or not it has potential impacts
19 on other surface water entitlements.

20 There has been, first of all, in 40
21 years of administration of that guidance, the
22 Supreme Court's guidance that the Bureau may
23 regulate underflow of water as part of the surface
24 water accounting, the Bureau has identified, and
25 now regulates, I believe only three wells.

1 Only one that I know of in California
2 that's at Needles, north of here and --
3 essentially north of here, not in the Palo Verde
4 Valley; and two wells that I know of in Arizona.
5 It's possible there are more in Arizona now, but
6 those are the only two that I know of that the
7 Bureau told us about as recently as a year and a
8 half, two years ago.

9 As part of its long-term investigation
10 about whether or not it should regulate a wider
11 body of subsurface waters and groundwaters, the
12 Bureau has worked with the United States
13 Geological Service to model groundwater, surface
14 water and relationships in the whole of the lower
15 Colorado River Basin, including the Palo Verde
16 Valley.

17 And developed what staff has referred to
18 as an accounting surface model. It is simply
19 that, a model that shows where water is; where the
20 Colorado River aquifer is; where the river is;
21 where the river's been; and what the recharge of
22 the river is to the aquifer; and what the
23 relationships of the river to the aquifer are.

24 The point of developing the model was to
25 help the Bureau to determine whether or not it

1 should assert jurisdiction over a wider
2 groundwater body than the three or so wells that
3 it has decided to regulate. Those wells, by the
4 way, located a few hundred yards, at the most,
5 from the river. Not miles away, as the Blythe
6 Energy Project proposes, nine or ten miles away
7 from the river.

8 So in 20 years of developing that model
9 and debating this policy, the policy has become
10 very contentious with all of the groundwater users
11 in the entire lower basin understanding that such
12 an accounting could jeopardize their use of water,
13 or at least could affect their use of water. And
14 resisting that the Bureau would have jurisdiction
15 over what is each state's individual groundwater,
16 in this case California groundwater.

17 And California groundwater is governed
18 for overlying use and that's all. You don't
19 require a diversion permit except in very few
20 cases where there's been adjudication of
21 groundwaters, and an actual determination about
22 what each well user may use, individuals are
23 allowed to pump from groundwater.

24 Part of the controversy has also been
25 that there's been no coordination with the state

1 and the Bureau is not -- in fact, the Bureau is no
2 further along in the development of this policy
3 than they were five years ago when we had this
4 exact same debate in the Blythe I proceeding about
5 what was the source of water.

6 The Bureau at that time indicated they
7 had a policy that they may implement in the
8 future, and that they were anticipating they would
9 implement sometime in the future. At that time
10 they indicated they thought it was near future, a
11 matter of two to five years. We're five years
12 out, they are no closer today than they were then.
13 In fact, they may be further away from it now than
14 they were then.

15 And there is no policy. There is a
16 model that dates back from the USGS, but there is
17 no policy that rises to the level of LORS, as
18 recognized in your proceedings.

19 And there is no basis for making a LORS
20 determination relative to California groundwater,
21 relative to the power plant's proposed use.

22 Briefly, the Palo Verde Irrigation
23 District, its surface water use is diversion of
24 Colorado River water at the Palo Verde Dam to the
25 north of us on the Colorado River, some -- up to

1 about 1 million acrefeet per year diverted.

2 That water is routed through a complex
3 system of canals and delivered to farm fields
4 through turnouts and checks throughout. And the
5 lands are irrigated, and then water is returned to
6 drains by either application -- the applied
7 irrigation is in excess of the plants' needs and a
8 leaching requirement for the soil. That water
9 flows back through the soil, recharges
10 groundwater, and then ultimately flows back to the
11 drains.

12 Some water is just too much water put on
13 in a single irrigation of either flood irrigation
14 or sprinkler irrigation. That water runs off the
15 end of the field and flows into the drains as
16 surface water runoff. And sometimes there's more
17 water put into the system than is actually needed
18 by the farmers. And that water simply flows from
19 the river, through the canals, through
20 interceptors into the drains. It's Colorado River
21 water going through. That water is known as
22 operational spill. So those three sources of
23 water are what occur in the drains.

24 The Palo Verde Irrigation District, I
25 didn't go into the full details, and I'll be happy

1 to answer any questions if you want to go there in
2 terms of water rights and priorities in
3 California, but the Palo Verde Irrigation District
4 has the number one priority water right for water
5 use in California of the Colorado River.

6 And they are unique in that they are not
7 quantified. There's no amount of water what
8 they're told they're capped at, or allowed to
9 take. They allowed to take all of the water that
10 they need to legitimately serve all of their
11 needs, 104,500 acres on the Valley floor; up to
12 16,000 acres on the Mesa for priority three water,
13 and then M&I uses, municipal and industrial uses,
14 within their service territory, as well.

15 So they aren't quantified. What they
16 are instead is measured as the amount of water
17 they divert, approximately a million acrefeet or
18 up to a million acrefeet a year, and then the
19 amount of water that is returned by the drains is
20 return flow to the river, is subtracted from the
21 amount of diversion to give the total amount of
22 water use. The amount of water returned is on the
23 order of 50 percent of the water diverted, so it's
24 roughly up to a million acrefeet diverted, up to
25 500,000 acrefeet returned to the river as return

1 flow, approximately 500,000 acrefeet of annual
2 water use.

3 That number is subject to some debate.
4 The Bureau claims it's a little bit lower number.
5 Metropolitan Water District, at one time, claimed
6 it was lower. I think they're back and forth now
7 because of their own transfer because of the
8 quantification settlement agreement. But, at any
9 rate, those are the numbers that the Palo Verde
10 Irrigation District reports as its upper levels of
11 numbers, a million acres diverted, 500 (sic) acres
12 returned.

13 That's how surface water is accounted
14 for. There are hundreds of wells on the valley
15 floor and on the mesa that draw groundwater from
16 below the surface of the ground. None of those
17 wells are regulated by either the Bureau of
18 Reclamation or by the Palo Verde Irrigation
19 District. They are treated as groundwater
20 withdrawals, and not subject to the surface water
21 entitlement. They are not treated as surface
22 water, and they are not accounted for as surface
23 water.

24 That would bring us to the reasons why
25 we have a water conservation offset program. If

1 we really are only drawing California groundwater
2 we should have no need for a water conservation
3 offset program.

4 The only reason that Blythe I -- let me
5 start by saying the water conservation offset
6 program has been developed over a period of five
7 years, six years in very close consultation with
8 the Bureau of Reclamation and with the Palo Verde
9 Irrigation District.

10 And we developed the program for the
11 first Blythe project with the Bureau's consent.
12 There was some tension over the actual selection
13 of lands at the end of the day. We worked with
14 the City of Blythe, I might add, in the execution
15 of that water conservation offset program. There
16 was some contention about the execution of lands
17 for that program, and whether they were sufficient
18 to meet all the criteria.

19 The Bureau has sent one letter to the
20 Blythe Energy Project questioning that program.
21 Blythe Energy Project responded they were using
22 groundwater and they had adequately mitigated.
23 There's been no further correspondence between
24 them on that point.

25 In response, though, to that tension we

1 have developed a more refined criteria for the
2 water conservation offset program for this phase
3 II project that specifies that lands have to have
4 been irrigated within the last five years, and can
5 either be rotationally fallowed or retired. And
6 has some other restrictions on the selection of
7 lands and what that means in terms of mitigation
8 both for potential wind erosion and for potential
9 long-term farmland impacts if lands are to be
10 permanently retired.

11 The main point is relative to the water
12 conservation offset program is that it is proposed
13 only in recognition of a potential future policy
14 that would account for groundwater -- that might
15 account for groundwater use as part of surface
16 water entitlements in the Palo Verde Irrigation
17 District.

18 There is no applicable LORS right now.
19 There is no finding of impact right now that
20 drives the need for the water conservation offset
21 program. And it is unique, totally unique, in the
22 Valley and in the region for any groundwater user
23 to voluntarily offer to develop a water
24 conservation offset program for its water. Unique
25 for the Bureau, as well. No one else has a

1 program like this for accounting for their
2 groundwater use. And particularly only in
3 anticipation of a potential future policy.

4 MR. GALATI: Dr. Harvey, doesn't
5 Metropolitan Water District and PVID have a water
6 conservation offset program taking place?

7 DR. HARVEY: Absolutely, they do.
8 Again, complicating the whole of water in this
9 region, the Metropolitan Water District entered
10 into a water transfer agreement with the Palo
11 Verde Irrigation District to allow it to obtain a
12 little more than 100,000 acrefeet per year of
13 surface water entitlement to the Colorado River
14 that is presently diverted to Palo Verde
15 Irrigation District under water transfer law that
16 allows the Metropolitan Water District to enjoy
17 the priority one benefits while PVID retains its
18 actual water rights. So it is a purchase
19 agreement.

20 That agreement is for --

21 (Interrupting teleconference noise.)

22 DR. HARVEY: Shall we stop for a moment?

23 HEARING OFFICER SHEAN: Sure.

24 PRESIDING MEMBER GEESMAN: I think we're
25 going to have to.

1 (Pause.)

2 DR. HARVEY: We resume with the
3 Metropolitan/PVID water transfer. And that
4 transfer is for surface water from the Colorado
5 River that will be diverted at Parker Dam upstream
6 into Metropolitan's Colorado River aqueduct and
7 taken to Metropolitan for its use, M&I use
8 principally.

9 And the way that that water is made
10 available is by Metropolitan paying local farmers
11 to fallow their farmlands. Initially they had a
12 rate of 4.2 acrefeet per acre. The manager for
13 the Palo Verde Irrigation District has advised me
14 they've now changed that to 4.6 acrefeet per acre;
15 the higher number being in recognition of the
16 Irrigation District's understanding of its own
17 water use and of result of the quantification
18 settlement agreement.

19 At any rate, it is a totally different
20 arrangement than what we're talking about here.
21 The water transfer is an interbasin transfer of
22 water from the Colorado River Basin to the South
23 Coastal Basin. Agricultural use to municipal and
24 industrial use in the Los Angeles region. And
25 surface water entitlement that is part of the

1 accounting in the lower Colorado River by the U.S.
2 Bureau of Reclamation.

3 BY MR. GALATI:

4 Q Does that program involve the transfer
5 of groundwater from PVID to MWD?

6 DR. HARVEY: No, it does not. It's a
7 surface water entitlement only. Our program is as
8 offset for completely intradistrict and intrabasin
9 extraction of California groundwater that may at
10 some speculative point in the future be accounted
11 for as part of the whole surface water system.

12 MR. GALATI: Does PVID require the water
13 conservation offset program in order to pump
14 groundwater?

15 DR. HARVEY: They do not. In fact, they
16 have -- we asked -- brings up another point. We
17 have met with the Bureau over many years and we
18 did get a letter from them that I know you've seen
19 as part of our testimony, as part of the packet,
20 June 14, 2002, with our proposed water
21 conservation offset program attached verifying
22 that the water conservation offset program, as we
23 laid it out, addressed all their concerns and met
24 all of their needs if they had a future policy to
25 account for groundwater.

1 The Palo Verde Irrigation District, we
2 asked for that same letter from them. Would this
3 meet all your needs and would you accept this as a
4 water conservation offset program. And they said,
5 the answer is yes, we like your program and it's
6 fine with us, but we're not writing you a letter
7 because we don't regulate groundwater. And we
8 will not write a letter that gives any impression
9 that we regulate groundwater or that sets any
10 precedent that implies that any other groundwater
11 user in the region has to come to us with a water
12 conservation offset program, because they do not.

13 So that is the reason that you don't
14 have a letter similar to the Bureau's letter from
15 Palo Verde Irrigation District in your records.

16 MR. GALATI: Mr. Smith, you've been
17 sworn, as well. Could you step to the microphone
18 for a moment. Did you just hear Dr. Harvey's
19 testimony about PVID's position?

20 MR. SMITH: Yes.

21 MR. GALATI: And do you agree with that?

22 MR. SMITH: Yes, I do.

23 MR. GALATI: Thanks. Go ahead, Dr.

24 Harvey.

25 DR. HARVEY: Well, the key point here is

1 that the water conservation offset program is not
2 required for compliance with any LORS. And it's
3 not required as mitigation for any impact except
4 if there is that future policy for accounting.
5 Then there would be, in effect, relative to the
6 accounting and that's what we would be offsetting.

7 I might add, Palo Verde Irrigation
8 District would consider that if that groundwater
9 was going to be counted as part of the surface
10 water, it should not be mitigated, it should be
11 considered part of their legitimate entitlement
12 and their legitimate ability to supply water to
13 any legitimate user within their district.

14 So they don't even look at it as
15 necessary for mitigation of impacts within their
16 district if it were accounted for, which it isn't.

17 Turning to the questions about
18 groundwater and surface water and what their
19 linkages are.

20 MR. GALATI: Could I stop you for a
21 minute and follow up on the water conservation
22 offset plan, can you discuss whether or not you
23 believe there are erosion impacts associated with
24 that plan?

25 DR. HARVEY: The erosion question is one

1 that has been considered in both of the major
2 analyses, environmental impact reports, prepared
3 for the IID, San Diego water transfer, which is
4 300,000 acrefeet in the Imperial Valley, and the
5 EIR that was prepared for the MWD/Palo Verde
6 Irrigation District transfer here.

7 In both cases those analyses determined
8 that there would not be wind erosion impacts from
9 fallowed lands because the amount of potential
10 erosion from those lands was less than the erosion
11 that occurred on those lands, and the dust that
12 came off of those lands as a result of normal
13 tillage practices for those lands. Preparation of
14 the lands in ploughing and seeding and in
15 harvesting those lands. And all the emissions of
16 the farm vehicles that go in and out to manage
17 those lands throughout. Those emissions were
18 greater than the potential wind erosion effects.

19 In both cases, however, to be very
20 conservative, ultra conservative, I would say, in
21 their approach to impact assessment and
22 sensitivity to impact assessment and mitigation,
23 perceptions about impact, they both decided they
24 would implement mitigation measures.

25 In this case for Metropolitan Water

1 District with PVID, tillage practices including
2 clod tillage when the soil is wetted to till the
3 soil that bit chunks of soil are left, and that
4 those chunks stay pretty well intact for up to two
5 to three years, sometimes longer. But reliably
6 that long on most soils that are found in the
7 valley.

8 And then stubble tillage for certain
9 kinds of crops where you have a remaining stubble
10 after harvest; that you would leave that stubble
11 in place and that helps hold the soil and prevent
12 the wind erosion losses.

13 But you can look, however, at the aerial
14 photo on either side of us here and you can see
15 what the major source of dust and PM10 is right on
16 the satellite image. The greenery in the valley
17 becomes a very small part of the region relative
18 to the desert surrounding here.

19 The wind erosion, or wind blowing from
20 fallowed farmlands is a very minor part of
21 regional dust, and no, they are not an impact.
22 But, yes, we have included mitigation for those
23 potential effects in the water conservation offset
24 program.

25 MR. GALATI: Dr. Harvey, does the farmer

1 who participates in a fallowing program have any
2 incentive to engage in this clod tilling, to
3 preserve his soil?

4 DR. HARVEY: Well, absolutely, it is a
5 soil conservation tillage practice. But their
6 major incentive is that that's part of the
7 requirement that gets imposed on them in exchange
8 for participating in the program, which, of
9 course, they are well compensated for.

10 MR. GALATI: And did you propose the
11 clod tillage and stubble maintenance as part of
12 the water conservation offset plan?

13 DR. HARVEY: It is proposed. We
14 initially did not think it was necessary to have
15 it. CEC Staff was adamant that they wanted the
16 program to comply with natural sources, basically
17 Soil Conservation Service requirements. And those
18 were the requirements that the Soil Conservation
19 Service prescribed.

20 They were included in consultation with
21 PVID and the Bureau, as a result.

22 MR. GALATI: Has MWD objected to the
23 Blythe II's voluntary water conservation offset
24 plan?

25 DR. HARVEY: No, they have indicated

1 that they like it very much.

2 MR. GALATI: Did they originally object
3 to Blythe I's water conservation offset plan?

4 DR. HARVEY: They did. And I forgot to
5 mention, they were included in the negotiations
6 and in the development of the Blythe I plan and
7 the Blythe II plan. And the completion of the
8 Blythe II changes from the Blythe I plan were
9 partly to address their concerns.

10 Some of those concerns I think have
11 either gone away, or their perspective has
12 changed. I don't know how far you want me to go
13 with that, but, yes, they have looked at this
14 plan; yes, they were part of our development of
15 this plan; and yes, they told us that they liked
16 this plan the way that it was finally presented.

17 MR. GALATI: Is it true that they
18 specifically objected to making sure that there
19 was a history of irrigation within the last five
20 years instead of --

21 DR. HARVEY: That was one of their major
22 criteria and one of the issues that they took most
23 with the first water conservation offset program,
24 that lands that had been selected for the first
25 phase of the energy project, and for the first

1 water conservation offset program, were lands that
2 had been irrigated within ten years. And they
3 felt that those lands should be irrigated within
4 five years.

5 I believe that now they are looking at
6 things a little differently with the expansion of
7 agriculture on the mesa, and the potential for
8 greater expansion of agriculture on the mesa, some
9 4000 acres on the mesa that MWD would love to see
10 bought up and taken out of potential use forever.

11 MR. GALATI: And what does the Blythe II
12 water conservation offset plan have as an
13 irrigation timeline?

14 DR. HARVEY: The lands have to have been
15 irrigated within the previous five years.

16 MR. GALATI: Did MWD also object to the
17 acre number in the first water conservation offset
18 plan?

19 DR. HARVEY: Ironically they did. They
20 were developing their own program. They had used
21 4.2 because they wanted to claim there was less
22 water used in the Palo Verde Valley than actually
23 was. So they used 4.2.

24 Our original number was 4.6 which Palo
25 Verde Irrigation District told us, and the Bureau,

1 thought was a good number to use because it was
2 considerably low. Palo Verde Irrigation District,
3 as recorded in our footnotes and in the program,
4 thought the 4.6 was too low. They believe that
5 they used considerably more water than that
6 because they have year-round cropping, because
7 they have such very dry conditions here, less than
8 three inches of rainfall per year. And because of
9 some of the water-intensive crops they grow and
10 the leaching requirements they have, they believe
11 that they are using closer on the order of 5
12 acrefeet per year.

13 So we used the 4.6 originally. MWD,
14 because they were using 4.2 in their transfer
15 program, argued with us that we should use 4.2, as
16 well, a very conservatively low number. And we
17 did use 4.2. But the irony is that they have now
18 gone back to using the 4.6 in the execution of
19 their program.

20 MR. GALATI: And what does the voluntary
21 water conservation offset plan have in it now?

22 DR. HARVEY: 4.2, we've kept it at 4.2
23 acrefeet per acre.

24 MR. GALATI: The difference between 4.2
25 and 4.6 means 4.2 you have to fallow more acreage,

1 correct?

2 DR. HARVEY: That's correct; there would
3 be fewer, obviously more water per acre would be
4 fewer acres.

5 MR. GALATI: And how does that benefit
6 MWD?

7 DR. HARVEY: That's a little
8 complicated. In the quantification settlement
9 agreement because the Palo Verde Irrigation
10 District's water right is unquantified, as I
11 explained earlier, they declined to participate in
12 the quantification settlement agreement, which is
13 the agreement between the California water
14 entitlement users from the Colorado River, about
15 how they will quantify their water rights, insure
16 their water in recognition of the fact that
17 California had been drawing up to 5.2 million
18 acrefeet per year. It's entitlement, under the
19 Supreme Court decree, was only 4.4 million
20 acrefeet per year. They had reduced their water
21 use by up to 800,000 acrefeet per year.

22 That 800,000 acrefeet had been water
23 that was previously available as unused water of
24 other entitlement holders, Arizona and Nevada. As
25 those states took their full entitlement, surplus

1 water was not available, California has to cut
2 back.

3 The quantification settlement agreement
4 was all about how to manage cutting back that
5 water use by water transfers, by water
6 conservation, by other means.

7 And Metropolitan, who's the fifth
8 priority water user, in answer to your question,
9 Mr. Galati, about how does it affect Metropolitan,
10 they agreed that they would simply stipulate that
11 Palo Verde Irrigation District's unquantified
12 water use would be quantified at 420,000 acrefeet.
13 And that any use of 420,000 over -- or, excuse me,
14 any use of water over that 420,000 would be
15 accounted against Metropolitan Water District's
16 fifth priority.

17 MR. GALATI: So, under the water
18 conservation offset plan, the lands that are
19 selected, PVID can no longer deliver surface water
20 to those lands, correct?

21 DR. HARVEY: That is correct. They
22 would be prevented, under the program, from any
23 water use requiring Colorado River water over the
24 life of the project -- over the life of their use
25 in the water conservation offset program. It's

1 rotational following that would obviously be only
2 for the period that they're rotation followed. If
3 they're retired, then that's for the life of the
4 project.

5 MR. GALATI: Okay, continue, please.

6 DR. HARVEY: On to the point in the
7 staff assessment about groundwater versus surface
8 water and the confusion throughout, right from the
9 opening paragraph about what is being used, they
10 used the terms almost interchangeably that the
11 project's going to use groundwater, and that is
12 Colorado River surface water and on.

13 So we want to clearly distinguish, and
14 Mr. Page with Stetson Engineering is here to
15 address these issues, as well. But I'll take a
16 start at it and see where he wants to either add
17 or supplement that testimony.

18 That there is a difference between
19 groundwater and surface water is recognized as a
20 physical reality, as water management practice,
21 and in law for over a century in California. And
22 for a very long time throughout most of the world.

23 There is a universal linkage. You're
24 going to see some diagrams from staff. We don't
25 dispute those diagrams. There's a universal

1 linkage between groundwater and surface water.
2 There is, except in very unique geological
3 circumstances, there is no groundwater that didn't
4 start out as surface water. Surface water
5 percolating through soil, through underlying
6 geologic layers, and eventually hitting a layer
7 that is confined and it doesn't percolate as
8 rapidly or that it can't percolate at all through,
9 impermeable layers, or less permeable layers, and
10 water back up; and fills up a saturated zone of
11 water that is known as an aquifer.

12 The top of that is known as the water
13 table. It's a distinct body of water from surface
14 water, which is water that is flowing at the
15 surface in a number of ways, principally
16 recognized for our purposes as the Colorado River,
17 lakes, reservoirs are the principal of surface
18 waters, as free-flowing waters.

19 Aquifers can be either confined or
20 unconfined. That is there could be simply a body
21 of permeable geologic structure that water from
22 the surface can go right through and fill up.
23 That's an unconfined aquifer. A confined aquifer
24 would be one that has an intervening restrictive
25 layer, one that water can't flow through. But

1 that has some connection to the surface somewhere
2 or else water couldn't get into it. So that has a
3 very specific recharge zone, and it's confined
4 within those impermeable layers.

5 In this case, on the mesa groundwater
6 body we are looking at an unconfined aquifer. One
7 that is open to the surface and recharged from the
8 surface.

9 All aquifers are characterized by, as I
10 mentioned, the saturated zone water table. They
11 have water in storage; that water is considered to
12 be in storage. And that water is recharged by the
13 surface water at greater and lesser degrees
14 throughout the year. During some high-flow stages
15 there can be greater recharge, during obviously
16 rainy season. During dry season, less recharge.
17 Pretty obvious those relationships and what they
18 are and the seasonal and annual variations in
19 those.

20 As water is extracted from a groundwater
21 body through a well, as opposed to simple surface
22 water diversion, a dam and diversion for surface
23 water, a well is drilled. In this case 550 feet
24 deep. Water is pumped from storage out of the
25 aquifer. And that causes some drawdown of the

1 aquifer. I'll leave it to Mr. Page to describe
2 the hole of the well and cone depression, but just
3 generally water is taken out of storage.

4 The water level of the saturated zone,
5 the water table, is drawn down to greater or
6 lesser degrees, depending on the size of the
7 groundwater body and the amount of water pumped.

8 To offset that drawdown of water there
9 is constantly recharge of water from sources that
10 originally charged it, or whatever is in operation
11 today. Remember, these groundwater bodies have
12 been recharged in some cases over thousands and
13 tens of thousands of years in geologic time. In
14 some cases actually being recharged now. They're
15 definitely being actively recharged now by
16 irrigation water that's applied in excess of
17 needs, either as leaching fraction that percolates
18 to subsurface groundwater, or as inefficient use.
19 There's never going to be 100 percent efficiency
20 in irrigation application. The inefficiency that
21 seeps through the soil and percolates as
22 subsurface flow to groundwater.

23 There's also water coming from the River
24 that does the same thing, percolates to the
25 groundwater body and recharges that groundwater.

1 Surface water and groundwater
2 distinguished in space, obviously. We've talked
3 about those relationships. And in time. Surface
4 water flows quickly. It's measured in feet per
5 second in terms of its flow. Groundwater is
6 measured in feet per day, can be even slower than
7 that. But let's say feet per day for our purposes
8 here. And Mr. Page will talk about what that is
9 here.

10 And different geologic structures have
11 different rates in which water can move through
12 them, referred to as transmissivity. I'll leave
13 that for a minute.

14 But, at any rate, it is important that
15 groundwater moves very differently and at a very
16 different rate than surface water does. And it is
17 one of the ways that you distinguish between the
18 two. The fact that they are ultimately linked and
19 that one recharges the other is not the way that
20 we define what is groundwater and what is surface
21 water.

22 MR. GALATI: Dr. Harvey, is there a way
23 in which groundwater moves much quicker than the
24 way you're discussing?

25 DR. HARVEY: Moves much quicker than

1 feet per day?

2 MR. GALATI: Yeah, let me rephrase the
3 question. Are there cases where there is an
4 underground flowing stream, so to speak?

5 DR. HARVEY: There are. In sandy and
6 gravelly situations, and particularly very close
7 to the river, there are cases where what is
8 referred to as the underflow of the river is
9 measurable as responding directly to what's
10 happening in the surface flow of the river.

11 And in California, cases that have
12 looked at what is the relationship between
13 groundwater and surface water and actually
14 determined underflow to be part of the surface
15 waters. They defined that the waters have to be
16 obviously in close proximity to the well, no more
17 than half a mile, any case that's been tested in
18 California. And there has to be a well-defined
19 subsurface bed and channel, bed and banks, a
20 geologic structure that can be identified with the
21 water in that subsurface system responding
22 directly to changes in the surface water system.

23 You release water from a dam and put a
24 lot more water into the surface water system, and
25 the groundwater, that underflow condition rises,

1 fills up in volume rapidly, in the course of a few
2 hours or a day. The same thing, as water is
3 depleted from the river, the flows are reduced in
4 response in the surrounding waters.

5 MR. GALATI: So that's not what we have
6 here?

7 DR. HARVEY: No, no, we're here talking
8 about a groundwater system removed by more than
9 nine miles. A well that is pumping from some 600
10 feet below the surface. And that is pumping
11 groundwater that does not respond on a daily
12 basis, or even on a monthly basis, to the
13 overlying surface water system.

14 The last thing I want to say about, and
15 it pertains to staff's claim that there is a level
16 of significance that they can attribute to the
17 fact that surface water recharges groundwater.
18 We're using groundwater. Somehow that's going to
19 reduce waters available to downstream entitlement
20 users. There is no way to measure that water, as
21 we are drawing it from groundwater, and what its
22 effect on surface water is.

23 And they're very different in the way
24 that surface water and groundwater are measured.
25 Groundwater can be measured pretty precisely.

1 It's being pumped out of a tube. And that tube
2 can be constantly recorded and measured, and you
3 can have pretty accurate measure of what you've
4 drawn out of a well.

5 Surface water is measured with varying
6 levels of accuracy. In a river situation and
7 diversion from a dam and return flows, not with a
8 high level of accuracy.

9 For example, and again Mr. Page can
10 clarify some of this, there's about 6 million
11 acrefeet that flows in the lower part of the
12 Colorado River between Parker Dam and into Mexico.

13 The Bureau's description of the level of
14 accuracy of measurement of that water is about 15
15 percent. Well, 15 percent of roughly 6 million,
16 is about 900,000 acrefeet of plus or minus error
17 in their measurement of how much water goes down
18 the river in any given year.

19 Within Palo Verde Irrigation District
20 the District diverts up to a million acrefeet a
21 year. They think that their weir that they
22 measure, they have a dimensional weir that gives
23 them a standard flow rate, they can tell within 5
24 percent they think what the accuracy of the water
25 diverted into their system is. Five percent of up

1 to a million acrefeet is 50,000 acrefeet of plus
2 or minus error in their ability to measure that
3 surface water system.

4 On their drain return flow system they
5 believe that their margin of error is about 10
6 percent. On up to about 500,000 acrefeet that I
7 described before as return flow, that's again,
8 50,000 acrefeet of plus or minus measurement
9 error.

10 The idea that within 900,000 acrefeet of
11 measurement error on the river and 50,000 acrefeet
12 at any point within the Palo Verde Irrigation
13 District that you could detect 3300 acrefeet of
14 difference that's pumped out of groundwater
15 storage and recharged only over a long period of
16 time, decades, potentially decades, it's
17 ridiculous. It can't be done. It cannot be
18 measured, and it cannot be determined in any way
19 to be depleting any downstream user or affecting
20 any downstream user or having any effect on any
21 downstream water rights holder.

22 MR. GALATI: Mr. Page, you're a
23 hydrogeologist?

24 MR. PAGE: Yes.

25 MR. GALATI: And did you review the

1 final staff assessment?

2 MR. PAGE: Yes, I did.

3 MR. GALATI: And do you agree with the
4 conclusions regarding the movement of groundwater
5 as identified in the final staff assessment?

6 MR. PAGE: No.

7 MR. GALATI: Could you briefly describe
8 what you think, how the groundwater moves.

9 MR. PAGE: Basically the groundwater is
10 moving through the permeable materials, the
11 alluvial deposits that Dr. harvey mentioned. It's
12 flowing sort of to the southwest. It is at a very
13 slow rate of movement. I made an estimate of that
14 rate.

15 From our pumping well, the proposed
16 pumping well, and the closest point to Rannels
17 Drain, had a rate of about .2 foot per day. Which
18 would basically mean that, all other factors being
19 equal, if it was just this well pumping, that
20 water from the drain, whether it's groundwater in
21 the drain, irrigation return flows, wastage, that
22 would not reach the well would not be pumped out
23 of the well during the 30- to 40-year life of the
24 project.

25 MR. GALATI: Staff has also made some

1 assertions in the final staff assessment about
2 increasing salinity of the aquifer due to
3 groundwater pumping. Do you recall that analysis?

4 MR. PAGE: Yes. I've looked at that.

5 MR. GALATI: And do you have any
6 opinions about that?

7 MR. PAGE: Well, first of all, I think
8 the concern was the Bouse formation that will
9 underlie, at some depth, the proposed project
10 well. I don't expect that the well would
11 penetrate the formation, but the bottom of the
12 well may be near the top of the Bouse formation.

13 What happens is when you have a well, or
14 an undisturbed, a nonpumping well, you have
15 essentially horizontal flow in the aquifer,
16 parallel to the aquifer, keeping in mind there's
17 differences in -- lithologic differences in the
18 aquifer, and it doesn't keep it perfectly
19 parallel.

20 Once you start pumping the well, as you
21 form a cone of depression -- I'm using my hands, I
22 don't have a drawing -- you have your cone of
23 depression. The upper flow lines, that's these
24 horizontal, bend in towards the well, down towards
25 the well.

1 And from the bottom if you're not
2 totally penetrated the water-bearing materials,
3 keep in mind that the Bouse formation is a water-
4 bearing material, so this would be considered a
5 partially penetrating well, at least the upper
6 part of the Bouse, is unconfined.

7 So, water that would be flowing parallel
8 under nonpumping conditions beneath the well in
9 the Bouse or in any other part of the alluvial
10 aquifer, the overlying alluvial aquifer, right in
11 the vicinity of the well that water will be --
12 could, I should say, could be drawn up.

13 And in the case of the Bouse you're
14 looking at a brackish water, even more brackish
15 than the water in the alluvial aquifer, the
16 overlying alluvial aquifer. So it is possible
17 that those flow lines right in the vicinity of the
18 pumping well, would move up and some of that water
19 could be captured during pumping, and pumped by
20 the project.

21 MR. GALATI: Do you believe that this
22 upwelling, if it occurred, would contaminate the
23 aquifer?

24 MR. PAGE: No, I don't, because of the
25 staff's own calculation -- oh, let me backtrack

1 here. The reason that water comes up is because
2 you have a reduction of head, the maximum
3 reduction of head in a pumping situation is within
4 the well, itself. And then as the cone goes out,
5 this reduction in head, what I mean is decline in
6 the water table. You have your undisturbed water
7 table, and then the cone is -- all throughout the
8 cone there's various degrees of drop in water
9 levels. It's very minor out at a distance, but at
10 the well you're at your maximum decline. And that
11 is a reduction of pressure and allows the
12 upwelling to occur, or could occur.

13 As with the staff who did the
14 calculation, very little drawdown at the life of
15 the project out on the fringe of the cone. You
16 wouldn't expect that we're talking, you know, five
17 feet, as I recall, something along those lines, a
18 very small amount at distance from the well.

19 So you would expect any of this
20 upwelling poor quality water would be in the
21 immediate vicinity of the well.

22 MR. GALATI: And actually drawn into the
23 well?

24 MR. PAGE: Drawn into the well.

25 MR. GALATI: And used by the project?

1 MR. PAGE: Used by the project.

2 MR. GALATI: Staff has also said that
3 they identified the potential degradation; they
4 said that it would be irreversible. Do you agree
5 with that?

6 MR. PAGE: No, I don't.

7 MR. GALATI: And why not?

8 MR. PAGE: Because I think any water
9 there that hasn't been pulled out, once the
10 pumping ceases and the water levels recover --
11 with the time it requires to recover, but it'll be
12 a slow process, but it will recover, that there
13 would be no -- the head differential will be
14 reduced, probably reduced significantly early.
15 And the final recovery is what takes the time.
16 The head differential be reduced, there will be no
17 more drawing of the water upward.

18 Now, if that well had -- if the project
19 well or any well say penetrated through a
20 nonwater-bearing material into an artesian aquifer
21 and in the confined aquifer, in the case of maybe
22 the lower Bouse, which I've read that may be
23 confined, and then went down into that, and that
24 well ceased to be pumping, you could have the
25 higher pressure confined water that could move up

1 into the well, and then out into the shallower
2 aquifer.

3 But in cases like that those wells
4 should be plugged. And the state, I would
5 believe, would require that to be plugged and
6 sealed once the well was abandoned. And that's
7 where you get the problem of a poor quality deeper
8 aquifer contaminating a shallower aquifer.

9 MR. GALATI: Do you recall your
10 testimony on page 4, the table?

11 MR. PAGE: Yes, I do.

12 MR. GALATI: Do you have any changes or
13 corrections to make?

14 MR. PAGE: Yeah, I have one. There was
15 a typo occurred under the BEP-I monitoring well
16 number two. The number is bold and shaded. It
17 should not be bold. If it was 1001 part
18 milligrams per liter for dissolved solids, it
19 could be bold. But that should just be shaded.

20 HEARING OFFICER SHEAN: Where are we
21 again, on that?

22 MR. PAGE: That is under total dissolved
23 solids, the second column from the right. First
24 row.

25 PRESIDING MEMBER GEESMAN: You said page

1 4 of your testimony?

2 MR. GALATI: Page 4 of the testimony of
3 Oliver Page.

4 (Pause.)

5 MR. GALATI: It's after the last
6 declaration of Phil Deen.

7 PRESIDING MEMBER GEESMAN: Okay, we're
8 on the table.

9 MR. PAGE: Okay. It would go to the,
10 look at the top line under total dissolved solids,
11 the second column from the right. You have 1000
12 there; it's shaded and bold. It shouldn't be
13 bold; it should be shaded.

14 The bold indicates that the value is
15 above the upper limit of maximum contaminant
16 level; and the shaded means that the value's above
17 the secondary limit.

18 MR. GALATI: Could you please explain
19 the shading and the bold?

20 MR. PAGE: Yes.

21 MR. GALATI: What that means to us?

22 MR. PAGE: Okay. Barring the typo, I
23 took the exact same table that was in the staff's
24 report and looked at the constituents, the
25 concentrations of the various constituents that

1 exceeded either the recommended limit -- and I'll
2 get to what these limits are from -- the
3 recommended limit, upper limit or short-term limit
4 of the California Department of Health Services
5 contaminants.

6 And I think the important constituents
7 we should look at it's total dissolved solids and
8 specific conductants. Those have some values that
9 are above the upper limit. And let me explain.

10 Under title 22 of the California Code of
11 Regulations, article 16, they've established these
12 recommended -- backtrack now to the second column
13 from the left, which has a DHS maximum contaminant
14 levels. This is from the state's staff's report.

15 The first they list, under for total
16 dissolved solids and specific conductants, three
17 numbers, 500, 1000 and 1500. Let's just deal with
18 total dissolved solids right now.

19 So they have three numbers there. Well,
20 the first number, the 500, is the recommended
21 limit. The recommended maximum contaminant limit.
22 The second number, the 1000, is the upper limit.
23 And the third number is the 1500, the 1500 is the
24 short-term limit.

25 Reading, I'm going to read from that

1 directly from the code here, so I don't misstate
2 this. But I'm concerned about the shaded
3 concentrations, those over 1000, which puts us
4 between over the upper limit, but still under the
5 short-term limit.

6 And it says, the state code states:
7 constituent concentrations ranging to the short-
8 term limit. Not exceeding, but ranging to the
9 short-term contaminant level are acceptable only
10 for existing systems on a temporary basis pending
11 construction of treatment facilities or
12 development of acceptable new water sources.

13 MR. GALATI: So, Mr. Page, people
14 drinking this water should only be doing it
15 temporarily?

16 MR. PAGE: Right. With a plan of action
17 to get a better source of water.

18 MR. GALATI: Staff has made the
19 assertion that groundwater pumping is going to
20 cause 3300 acrefeet loss of eventually Colorado
21 River water. Do you agree with that?

22 MR. PAGE: No.

23 MR. GALATI: Why not?

24 MR. PAGE: Well, you look at the --
25 well, first of all, you're pumping from

1 percolating groundwater in storage. You're
2 getting water from, not just from the direction of
3 the Colorado River, agree with the staff there
4 that the cone of depression will not get there.
5 When it reaches the valley limit, the return
6 irrigation flows and the, you know, the
7 groundwater underneath the valley will essentially
8 be a recharge boundary, which will be the source
9 of the majority or a good portion of the recharge
10 that will flow towards the well.

11 But the well will also receive water in
12 the 360 degrees. It will receive some from the
13 west, from groundwater storage. And physically,
14 if you look at that flow rate of about .2 of a
15 foot per day, that water, for the life of the
16 project, physically a drop of water there would
17 not be pumped out of the well.

18 MR. GALATI: If the upwelling occurs, as
19 staff predicts, you testified earlier that that
20 would be localized to the well.

21 MR. PAGE: Yes.

22 MR. GALATI: What would you expect, if
23 that occurred, would be the TDS limits? Would
24 they go upward?

25 MR. PAGE: Yes, they would.

1 MR. GALATI: And that would be in the
2 project well?

3 MR. PAGE: In the project well.

4 MR. GALATI: Dr. Harvey, in applying the
5 Commission's policy on the Integrated Energy
6 Policy Report 2003, you have stated that there was
7 a hierarchy guidance. Can you restate that for
8 us, please?

9 DR. HARVEY: It's derived from the State
10 Water Resources Control Board's policy developed
11 in -- the Energy Commission's policy was
12 developed, derived from the State Water Resources
13 Control Board policy 7558; and uses the same
14 hierarchy with some recognition that one of them
15 may not apply anymore, but the first priority for
16 use of water for cooling a power plant was
17 wastewater that is presently being discharged to
18 the ocean.

19 The second is ocean water; ocean water
20 for cooling is the one that is perhaps less in
21 favor than it was when that policy was first
22 formulated.

23 The third priority is either naturally
24 occurring brackish water and/or irrigation return
25 flows.

1 The fourth priority was inland
2 wastewaters of low total dissolved solids. And
3 the fifth was other inland waters, which could be
4 any waters, fresh waters, other inland waters of
5 low TDS that weren't wastewaters.

6 MR. GALATI: Dr. Harvey, have you
7 investigated other projects that the Commission
8 has licensed in which they allowed recycled water
9 to be used?

10 DR. HARVEY: We did look at just a few
11 of them to get a sense of what the TDS levels
12 were. So I can give you those very briefly just
13 to give you an idea.

14 But, for example, in the Pico
15 assessment, the Pico case, they were required to
16 use treated wastewater that had a total dissolved
17 solids of 749 parts per million, milligrams per
18 liter.

19 In the Roseville Energy Park case, this
20 is right from the final staff assessment, again
21 using reclaimed water for the power plant cooling,
22 total dissolved solids were 398, just a little
23 below 400 parts.

24 And finally in the Tesla case, City of
25 Tracy's reclaimed water was a TDS of 600

1 milligrams per liter.

2 MR. GALATI: Applying the hierarchy in
3 7558, which would be worse, for purposes of
4 applying that hierarchy, the groundwater proposed
5 by the Blythe II projects or any of those recycled
6 sites?

7 DR. HARVEY: Worst to use relative to
8 the priority, or worse in quality?

9 MR. GALATI: Worse in quality.

10 DR. HARVEY: The use of brackish water
11 from the groundwater body is clearly higher.
12 We're dealing with 1000 TDS and higher relative to
13 wastewater that would be significantly better
14 quality. That's not to say it's all great quality
15 water, but it's better quality than the brackish
16 groundwater.

17 MR. GALATI: And Rannels Drain, how
18 would you characterize the water in Rannels Drain?

19 DR. HARVEY: That's a good question
20 because that's another one there's been quite a
21 bit of confusion about, and staff has presented
22 some very limited data. Some of it from '60s,
23 early '70s, a four-year period, and then one spot
24 data from November of '95 to claim that it is a
25 terrible quality of water. Really doesn't not

1 address what's happened in the interim in terms of
2 use and management of water in the area.

3 It also doesn't address just the
4 measurement error that it gives you.

5 Early in my testimony, and I'll repeat
6 it, water in the Rannels Drain comes from three
7 sources. It is not one thing. It is not just
8 agricultural drain water. Water applied in excess
9 of crop need and excess of evaporation percolates
10 down through the soil. It's applied intentionally
11 in over-amount so that it will leach salts out of
12 the soil and make the soil more productive. It's
13 also released above even that amount just by
14 inefficiencies in irrigation.

15 So we have that water, that fraction of
16 the irrigation applied water that goes through the
17 soil, flushes water out, goes to the groundwater
18 below which is shallow in the valley because of
19 nearly 100 years of irrigation water, shallow.

20 The District has, in response to that
21 shallow water, cut drains that intercept that
22 groundwater and have it fall out.

23 So the drain contains both the shallow
24 groundwater coming from the leach fraction of
25 water; it includes surface water runoff from the

1 field that is simply water that has not percolated
2 in the soil, runs off the end. And it includes
3 operational spills, what's referred to. It's the
4 amount of water that is diverted by the District
5 into its whole canal and delivery system, but no
6 one takes it because it rained, because their crop
7 water need wasn't what they thought it was,
8 because more water was put into the system than
9 had been intended to be put in, measurement error.

10 So that you end up with a component of
11 the water in the drain is relatively fresh water,
12 Colorado River water quality, 500, 600 TDS from
13 the river. A portion of it is that leaching drain
14 water from the soil and a portion of it, which
15 tends to be higher salinity, and a portion of it
16 is surface water runoff, which tends to be
17 somewhere in between fresh river water and
18 drainage water.

19 And the proportion of those things is
20 going to vary throughout the year. Depends on
21 whether it's peak irrigation season; depends on
22 what crop rotation is going on, what crops are
23 being irrigated at what time. Depends on how much
24 water is being diverted into the system. And
25 depends on how much water, based on the applied

1 water, is coming out as drain water, groundwater
2 into the drains.

3 So, at some point you're going to have
4 very little -- you're not diverting very much
5 water from the river, for example, in November,
6 because you don't have very high irrigation demand
7 in early winter, late fall. And so you're going
8 to have mostly drain water, higher salinity
9 counts.

10 In spring, summer and even part of fall,
11 again Ed Smith, the Manager of PVID can confirm
12 this, you're going to have a lot more operational
13 spill, a lot more surface water runoff, and have
14 much lower salinities. But it's going to vary
15 over the course of a day, but it's also going to
16 vary seasonally significantly.

17 MR. GALATI: So, between Rannels Drain
18 and the groundwater you proposed, which is the
19 worst quality of water?

20 DR. HARVEY: Oh, clearly on a consistent
21 basis it is the brackish groundwater from the well
22 proposed for the site.

23 MR. GALATI: Would you characterize
24 operational spillage water as other inland waters
25 for purposes of the 7558 policy?

1 DR. HARVEY: It's an odd one. Yes, I
2 guess you would have to say yes, it is not a
3 wastewater. It is a fresh water. It is not an
4 irrigation return flow because it was never
5 actually applied in irrigation, so it's not
6 exactly an irrigation return flow, although it
7 gets measured ultimately as irrigation return flow
8 because all that water together goes out the
9 drain, back into the river. That is the last
10 return part of PVID's measurement, and therefore
11 it is measured as return flow to the river.

12 But, yes, it is, for all purposes in
13 terms of its quality, Colorado River water.

14 MR. GALATI: Use of the groundwater,
15 will it require any accounting?

16 DR. HARVEY: Not in compliance with
17 LORS. PVID does not regulate any well, and does
18 not require them to account in any way. The
19 Bureau of Reclamation does not regulate any well,
20 does not require them to account in any way, it
21 will not account for them.

22 It will be accounted for voluntarily by
23 the project as part of the water conservation
24 offset program. One of the requirements that are
25 stipulated for that program are that the operator,

1 the applicant, will measure that water use and
2 will report that water use every year.

3 MR. GALATI: Water used from Rannels
4 Drain, would it affect PVID's accounting?

5 DR. HARVEY: Absolutely, because it is
6 part of the diversion, less return flow
7 calculation. Water in Rannels Drain that goes
8 back out to the river is accounted for as the
9 return water. Water taken out of Rannels Drain
10 would be less water going into that return water,
11 which would show higher water use of surface water
12 from the Colorado River for PVID than is shown
13 otherwise.

14 MR. GALATI: If the project used waters
15 from Rannels Drain, who would lose that water?
16 Who would not get that water?

17 DR. HARVEY: Well, under strict
18 interpretation of the priorities if it was
19 measured as a great amount of water used by Palo
20 Verde Irrigation District, like I indicated
21 earlier in my testimony, under the quantification
22 settlement agreement, Metropolitan Water District
23 is the agency that would take a deduction from its
24 water entitlement for every acrefoot over the
25 420,000 acrefeet that the QSA stipulates for PVID.

1 MR. GALATI: That would not occur if the
2 project used groundwater, correct?

3 DR. HARVEY: That is correct.

4 MR. GALATI: Dr. Harvey, in your opinion
5 does the use of groundwater result in any
6 significant environmental impacts to the
7 downstream users of Colorado River water?

8 DR. HARVEY: No, it does not. We talked
9 about the inability to measure that water, the
10 inability to see it in the overlying surface water
11 system and measurement for error, one thing we
12 didn't mention is that the groundwater body
13 relative to that measurement, some 10 or 11
14 million acrefeet of water is the estimate of the
15 volume in the regional groundwater, you're
16 definitely not going to see it in any measurable
17 way in downstream waters. And you're not going to
18 be accounting for it in any way that would affect
19 any downstream water right holder or water user.

20 MR. GALATI: Mr. Page, --

21 MR. PAGE: Yes.

22 MR. GALATI: -- do you believe the use
23 of groundwater would -- tell us whether the use of
24 groundwater would result in significant
25 environmental impacts to the groundwater aquifer

1 or to any well user.

2 MR. PAGE: No, it would not. Dr. Harvey
3 mentioned that first of all there's just under the
4 mesa, itself, there's an estimated almost 7
5 million acrefoot storage capacity of groundwater
6 in the groundwater reservoir and it may not be 100
7 percent full, but it is significantly full since
8 the cessation of irrigation water.

9 And then there's another 5 million
10 acrefeet of groundwater in the reservoir under the
11 valley. And that is full because it's constantly
12 recharged.

13 So the small amount of water taken out
14 of the project would not have any significant
15 effect. And you've seen in the staff report, and
16 that the drawdowns, the local drawdowns are small,
17 especially in the context of a 500-foot feet of
18 saturated thickness at the project site. You're
19 talking five, ten feet at the most that would
20 occur. That's small. That's very minor, and the
21 project is over, that water will recover, the
22 water levels will recover. And any depletion from
23 storage will be refilled with time.

24 MR. GALATI: Looking at the time, I have
25 witnesses now on dry cooling. This would be a

1 good time for me to break unless you wanted to go
2 through --

3 HEARING OFFICER SHEAN: We're thinking a
4 more orderly record does water, water, dry
5 cooling, dry cooling.

6 MR. GALATI: Okay. We were, in applying
7 the policy there's a part about feasibility, so as
8 long as that's continuous that would be fine.
9 Then at this time I'd like to identify a couple of
10 -- an exhibit that was previously docketed, was
11 referred to by Dr. Harvey. It was dated June 14,
12 2002. A letter from Robert Johnson from the
13 Bureau to Terry O'Brien at the CEC regarding well
14 water use. And it includes a copy of the proposed
15 water conservation offset plan. I'd like to move
16 that, those two documents together, into the
17 record as it has previously been docketed.

18 HEARING OFFICER SHEAN: Is there
19 objection?

20 MS. DeCARLO: No.

21 HEARING OFFICER SHEAN: Hearing none,
22 it's admitted.

23 MR. GALATI: I would also like to make
24 sure I move in the record the testimony of Oliver
25 Page and the combined testimony of Ed Smith and

1 Dr. Harvey.

2 HEARING OFFICER SHEAN: Any objection?

3 MS. DeCARLO: No.

4 HEARING OFFICER SHEAN: It's admitted.

5 MR. GALATI: Our witnesses are available
6 for cross-examination.

7 (Pause.)

8 HEARING OFFICER SHEAN: Did we get all
9 of your witnesses in that you wanted? Let's see,
10 we had --

11 MR. GALATI: The other three witnesses
12 are all on dry cooling.

13 HEARING OFFICER SHEAN: All right.

14 MS. DeCARLO: Because of the complexity
15 of the issue we felt it would be the clearest to
16 address the applicant's contentions in our direct.
17 But I do have one question for Dr. Harvey, I
18 believe.

19 CROSS-EXAMINATION

20 BY MS. DeCARLO:

21 Q Do you have any data to support your
22 claim that TDS levels for Rannels Drain are lower
23 than the groundwater TDS levels?

24 DR. HARVEY: There are a very few
25 measurements that the Water District has

1 available. And Ed Smith, the Manager of the Water
2 District, is the one who explained to me the
3 complexity of the drains, the operational spill
4 fraction and what that means in terms of variation
5 over time.

6 As your staff has found, trying to find
7 data, there are very few data points and they're
8 very old and that's what's available.

9 MS. DeCARLO: So your testimony that the
10 TDS levels are, in fact, lower in the Rannels
11 Drain is purely based on assumption from the way
12 the drain operates, and there's no hardcore
13 numbers that you can refer us to?

14 DR. HARVEY: I don't have hardcore
15 measurements, but it a little more than an
16 assumption. We know what the values for the river
17 are, and we know what the values at the worst in
18 the drain are when it's drainwater. And we know
19 what the operations are for that drain, and what
20 the mixing of water would be.

21 So we know it would have to be better
22 than what the worst data would show.

23 MS. DeCARLO: That's all.

24 HEARING OFFICER SHEAN: That's it?

25 MR. GALATI: Just one redirect then.

1 HEARING OFFICER SHEAN: I didn't know my
2 turn might be coming up so quickly. Hang on just
3 a second.

4 Let me go to page 3 of your testimony,
5 Dr. Harvey, because I want to get this number
6 correctly. Under A, project description, you use
7 capable of pumping up to 2500 gallons a minute.
8 And some of the project descriptions have used
9 3000 gallons. Should that number be -- oh, I'm
10 sorry, we're talking gallons per minute versus --

11 DR. HARVEY: Acrefeet.

12 HEARING OFFICER SHEAN: -- 3000
13 acrefeet.

14 DR. HARVEY: I think there is --

15 HEARING OFFICER SHEAN: I think I just
16 found my own answer. Okay.

17 DR. HARVEY: May all your questions be
18 that difficult.

19 HEARING OFFICER SHEAN: Yeah. In both
20 the staff's testimony and in the Commission's
21 decision on the Blythe project I, it's generally
22 understood that the hydrologic cycle will always
23 have surface waters that eventually are the source
24 of recharge of the aquifer that underlies the
25 project, is that correct?

1 DR. HARVEY: That's universally true,
2 yes, sir.

3 HEARING OFFICER SHEAN: Okay. I don't
4 have anything more. You have your redirect, then,
5 Mr. Galati?

6 REDIRECT EXAMINATION

7 BY MR. GALATI:

8 Q Mr. Smith, could I ask you to please go
9 to the microphone? Thank you.

10 Did you hear Dr. Harvey's testimony
11 about his opinion that the drain water would
12 probably be better quality than the groundwater?

13 A Yes, I did.

14 Q Do you agree with that?

15 A Yeah, absolutely.

16 MR. GALATI: No further questions.

17 HEARING OFFICER SHEAN: Any recross?

18 MS. DeCARLO: No.

19 HEARING OFFICER SHEAN: All right. Then
20 given that, thank you, and technically the
21 witnesses are excused.

22 MR. WOLFE: Mr. Shean.

23 HEARING OFFICER SHEAN: Yes.

24 MR. WOLFE: As strictly a friend of the
25 hearing, here, -- Pat Wolfe, by the way, --

1 HEARING OFFICER SHEAN: Yes.

2 MR. WOLFE: I'm not involved in this
3 part of it, but I am a local resident. If you
4 would like some information --

5 UNIDENTIFIED SPEAKER: Which one was the
6 flood? What year?

7 MR. WOLFE: Doesn't make any difference.
8 Early '80s we had a flood year in the valley and
9 our water table went up considerably. And we're
10 talking about how long it takes that water to
11 move. It only takes several years.

12 Because at that time we had numerous
13 houses here in the valley, cracked foundations.
14 It was due to the hydraulic effect of the water
15 raising our houses. And we broke plaster and
16 stuff. In the vicinity like a couple years, my
17 house broke, so I happen to be aware of it.

18 So it is not the long period of time, as
19 we say. I don't know if it's relevant, but I
20 thought you might want to know this. It was like
21 a two-year period.

22 We're five miles from the river. So
23 somewhere in the period of that high water we
24 caught in those years, it went over our
25 riverbanks, it did raise our water level. Some of

1 our houses couldn't take it; we cracked
2 foundations and stuff.

3 So it's not as quite as long as you
4 think. Two years, I got hit, and I'm five miles
5 from the river. I don't know about anyone else.

6 But I thought you might want to hear
7 that. That was relevant at this time, it did
8 happen.

9 HEARING OFFICER SHEAN: Okay.

10 MR. WOLFE: So we know those figures are
11 there.

12 HEARING OFFICER SHEAN: All right, thank
13 you.

14 THE REPORTER: What was your name, sir?

15 MR. WOLFE: Pat Wolfe from the Airport.
16 I don't even know how it relates to your
17 situation, but you might want to know.

18 HEARING OFFICER SHEAN: Interesting,
19 thank you.

20 All right, I'm informed by Mr. Hull that
21 by the good graces of the City we have lunch, and
22 it is in the multipurpose room.

23 Why don't we resume as we had scheduled
24 at 1:00, which gives us a little bit longer lunch
25 than we planned. And we'll begin then with the

1 Commission Staff and your witnesses.

2 (Whereupon, at 12:10 p.m., the hearing
3 was adjourned, to reconvene at 1:00
4 p.m., this same day.)

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1 AFTERNOON SESSION

2 1:04 p.m.

3 HEARING OFFICER SHEAN: All right, let's
4 go back on the record, please. We're going to
5 resume this afternoon after lunch. And a thank
6 you to the City for having provided the lunch at
7 the expense of the applicant, so thank you, both.
8 We appreciate it.

9 All right, staff.

10 MS. DeCARLO: Okay, for staff, staff's
11 witnesses for the water resources portion of this
12 testimony will be Linda Bond, Richard Sapudar,
13 Mark Lindley, Jim Schoonmaker and John Kessler.
14 And they all need to be sworn in.
15 Whereupon,

16 LINDA BOND, RICHARD SAPUDAR, MARK LINDLEY

17 JAMES SCHOONMAKER and JOHN KESSLER

18 were called as witnesses herein, and after first
19 having been duly sworn, were examined and
20 testified as follows:

21 DIRECT EXAMINATION

22 BY MS. DeCARLO:

23 Q Was a statement of each of your
24 qualifications contained in the final staff
25 assessment supplemental?

1 MS. BOND: Yes.

2 MR. SAPUDAR: Yes.

3 MR. LINDLEY: Yes.

4 MR. SCHOONMAKER: Yes.

5 MR. KESSLER: Yes.

6 HEARING OFFICER SHEAN: Mr. Galati, do
7 you have objection to qualifying these witnesses
8 to testify as experts?

9 MR. GALATI: No objection.

10 HEARING OFFICER SHEAN: Hearing none,
11 they are so qualified.

12 BY MS. DeCARLO:

13 Q And did each of you co-author the
14 testimony entitled, soil and water resources,
15 final staff assessment technical report in the
16 final staff assessment?

17 MS. BOND: Yes.

18 MR. SAPUDAR: Yes.

19 MR. KESSLER: Yes.

20 MR. LINDLEY: Yes.

21 MR. SCHOONMAKER: Yes.

22 MS. DeCARLO: And do the opinions
23 contained in this testimony you are sponsoring
24 represent your best professional judgment?

25 MS. BOND: Yes.

1 MR. SAPUDAR: Yes.

2 MR. KESSLER: Yes.

3 MR. LINDLEY: Yes.

4 MR. SCHOONMAKER: Yes.

5 MS. DeCARLO: At this point should I
6 identify, Mr. Shean, the documents that they'll be
7 sponsoring?

8 HEARING OFFICER SHEAN: Yes.

9 MS. DeCARLO: Okay. Along with the
10 final staff assessment, which was already entered,
11 the soil and water supplement filed June 2, 2005?

12 HEARING OFFICER SHEAN: Yes.

13 MS. DeCARLO: And then the rest of the
14 documents we've identified in the exhibit list
15 that we filed on July 27th. Would you like --

16 HEARING OFFICER SHEAN: And that would
17 be attachment A of that list, is that correct?

18 MS. DeCARLO: Yes. Would you like me to
19 read each of those separately?

20 HEARING OFFICER SHEAN: No.

21 MS. DeCARLO: Okay.

22 HEARING OFFICER SHEAN: Is there
23 objection to admission of those exhibits?

24 MR. GALATI: No objection. We haven't
25 seen one of them, but I think it's just a table

1 that Mr. Schoonmaker put together, so I think
2 we're going to be okay with it. We may disagree
3 with the contents, but I think we'll let it in.

4 HEARING OFFICER SHEAN: All right.
5 Admitted.

6 MS. DeCARLO: Thank you.

7 BY MS. DeCARLO:

8 Q Can you please describe what you
9 concluded regarding Blythe II's potential to
10 create a significant adverse impact to water
11 resources?

12 MR. SAPUDAR: Rich Sapudar. Staff
13 determined that Blythe II's proposed pumping would
14 have two significant adverse impacts. First, the
15 project pumping would cause a decrease in
16 groundwater flows from the PVID impacting other
17 users of Colorado River water in the state.

18 And that project pumping would increase
19 groundwater salinity over time, impacting other
20 groundwater users near the project.

21 With regard to the Colorado River,
22 project pumping of groundwater will produce a
23 physical change in the environment. That physical
24 change is a decrease in the return flows from the
25 PVID to the Colorado River resulting in the amount

1 of water consumed within the PVID increasing.

2 Based on substantial evidence in the
3 record staff has established the hydrological
4 basis of the groundwater, surface water and
5 agricultural drain relationships that support this
6 determination.

7 This increased consumption of water
8 within the PVID decreases the amount of water
9 available to the state as a whole, and
10 specifically to those users with less senior
11 Colorado River water rights in southern
12 California.

13 Based on substantial evidence in the
14 record this groundwater has been determined to be
15 derived from the Colorado River by agencies that
16 include the U.S. Bureau of Reclamation, the
17 Colorado River Board, the Palo Verde Irrigation
18 District and also staff.

19 PVID's consumptive water use is
20 determined as the difference between the amount of
21 water diverted by the PVID at its intake, less the
22 amount returned to the river in its -- by, at its
23 drain.

24 Over the years the state has become
25 increasingly dependent on surplus Colorado River

1 water, particularly in southern California. And
2 that affects the more junior water rights holders
3 such as the Metropolitan Water District.

4 The recently signed quantification
5 settlement agreement provides the means by which
6 California will be reducing its water use from a
7 high of about 5.4 million acrefeet a year of
8 Colorado River water to its allocated amount of
9 4.4 million acrefeet per year. This is a
10 reduction of about a million acrefeet a year.

11 The QSA requires that California
12 incrementally reduce its use of surplus Colorado
13 River water to 4.4 million acrefeet per year over
14 the next 11 years resulting in about a million
15 acrefeet of Colorado River water no longer
16 available to the state.

17 This decrease in water supply will occur
18 during a period of constantly increasing demand
19 both within California, and particularly in
20 southern California.

21 Staff considers any unnecessary use of
22 fresh water that will reduce Colorado River water
23 or other water supplies, particularly in southern
24 California during this period of forced reduction,
25 to be a contribution to a significant cumulative

1 impact to the state's Colorado River water supply
2 and those users dependent on it.

3 Staff believes it necessary that the
4 applicant proportionately mitigates its
5 contribution to this significant cumulative
6 impact.

7 MS. DeCARLO: Can you please explain how
8 pumping groundwater at the Blythe II site depletes
9 Colorado River flow?

10 MS. BOND: Yes. I have a couple of
11 figures I'd like to use to illustrate my
12 testimony.

13 HEARING OFFICER SHEAN: Could you
14 introduce yourself for the record, for the
15 purposes of the reporter?

16 MS. BOND: Oh, I'm sorry, my name is
17 Linda Bond.

18 This figure shows a cross-section of the
19 Palo Verde Valley and the edge of the mesa. And
20 the purpose of this figure is to talk about how
21 the Colorado River provides virtually all of the
22 recharge available in the valley.

23 PVID diverts water from the Colorado
24 River; they apply it to crops throughout the
25 valley. This water then percolates down through

1 the soil into the groundwater system.

2 PVID diverts almost a million acrefeet a
3 year. And without agricultural drains groundwater
4 levels would rise to the point that they'd flood
5 the valley. So PVID has constructed a series of
6 agricultural return drains throughout the valley.
7 And groundwater then seeps out and drains out into
8 these drainage ditches. Once the water is in the
9 ditches it's then conveyed down through the
10 valley, through the drainage system, and then
11 returns to the Colorado River.

12 This water that percolates from the
13 Colorado River into the groundwater system and
14 then actually drains is often called rejected
15 recharge. And what it represents is the amount of
16 potential available water, available for
17 groundwater recharge.

18 And this is a cross-section moving to
19 the west showing the valley, and then the land
20 surface above the mesa. The groundwater table,
21 which is the top of the saturated aquifer, the
22 Blythe II pumping well, and this drain represents
23 in the cross-section, the nearest agricultural
24 drain which is the Rannels Drain.

25 What happens when pumping occurs at the

1 Blythe site, is that initially groundwater levels
2 are drawn down right around the well and causes
3 what's called a cone of depression to form right
4 around the well. And the first water that's taken
5 out of the aquifer is water that has been stored
6 in the aquifer. But progressively, with time,
7 this cone of depression expands outward, taking
8 more and more water out of storage until it
9 intercepts the valley and the nearest drain.

10 And at this point the pumping starts to
11 draw water from the drains and from the valley
12 toward the well. It essentially, at that point
13 it's intercepted this available recharge, this
14 potential groundwater recharge that otherwise
15 would discharge out of the drains.

16 And at that point the cone of depression
17 and the drawdown stabilizes. It stops enlarging;
18 it stops seeking new water out of storage because
19 it's intercepted the available recharge there in
20 the valley. And it induces flow from the valley,
21 water that would have discharged into the drains.

22 So essentially the cone of depression
23 enlarges until it hits the drains and then at that
24 point it starts drawing the rest of its water for
25 the life of the project from the valley. And this

1 water that it takes reduces the amount of water
2 that's going out to the Colorado River by an
3 equivalent amount that's being pumped at the
4 project.

5 This is a --

6 HEARING OFFICER SHEAN: Can you repeat
7 that, please?

8 MS. BOND: Certainly. When the cone of
9 depression intercepts the valley and the Rannels
10 Drain, it will then induce recharge that is
11 essentially equal to the rate that the well is
12 pumping at.

13 HEARING OFFICER SHEAN: Let me ask you a
14 question --

15 MS. BOND: Certainly.

16 HEARING OFFICER SHEAN: -- if I may
17 interrupt you.

18 MS. BOND: Yes.

19 HEARING OFFICER SHEAN: The cone of
20 depression, if I think of it as a cone, --

21 MS. BOND: Um-hum.

22 HEARING OFFICER SHEAN: -- and if I were
23 to take, instead of the side view, a top view,
24 that would be essentially a circle, is that
25 correct?

1 MS. BOND: When the well first starts
2 pumping (inaudible) hit the source of recharge, it
3 would be essentially circular. Okay. As it
4 approaches the valley -- I mean as it approaches,
5 yeah, as it approaches the valley then what'll
6 happen is, let's go over --

7 HEARING OFFICER SHEAN: I think you need
8 to be a little closer to the mike. I think you
9 can --

10 MS. BOND: Oh, right, okay.

11 HEARING OFFICER SHEAN: -- just continue
12 to describe what --

13 MS. BOND: Okay, what happens is when it
14 intercepts the drain, the drain maintains
15 essentially the same water level. And so the cone
16 then becomes -- what's the word -- truncated.
17 It's truncated at the drain level, because the
18 water then enters the aquifer and no more drawdown
19 extends across into the valley.

20 The draw --

21 HEARING OFFICER SHEAN: So does that
22 mean that there is no other drawdown that occurs
23 in the cone of depression other than that tangent
24 that intersects the drain?

25 MS. BOND: That's right, once the cone

1 of depression intercepts the drains, it will
2 enlarge along that boundary. If this represents
3 the boundary and here's the cone of depression,
4 gets bigger and bigger and bigger until it touches
5 the drains.

6 At that point it initiates flow toward
7 the drain from -- excuse me, toward the well from
8 the drain, and it enlarges until the gradients,
9 until this angle, these groundwater gradients are
10 sufficient to induce the amount of flow from the
11 drain that is equal to the pumping rate.

12 HEARING OFFICER SHEAN: 100 percent
13 equal. So there's no other -- is that correct,
14 there's no other source essentially in the aquifer
15 than the flow from the drain?

16 MS. BOND: The only caveat I would make
17 is that as the pumping fluctuates because of
18 operational changes where they'll shut down or
19 lower the pumping rate in the winter or increase
20 it in the summer, there'll be kind of a surging up
21 and down of this cone. So it'll go in and out
22 just a little bit, enough to adjust to the change
23 in the pumping rate.

24 But it will essentially, the cone of
25 depression will stabilize, not take any more water

1 out of storage. That's not where it gets its
2 storage, once it hits the drain, and essentially
3 all of your water will come out of -- when I say
4 when it comes out of the drain, it's capturing
5 groundwater that would have discharged out to the
6 drain, or it's actually causing leakage from the
7 drain.

8 But it's coming from water that has been
9 diverted to the valley from the Colorado River.
10 It's seeped through the soil down to the
11 groundwater table.

12 HEARING OFFICER SHEAN: And your
13 testimony is that this is happening in real time?

14 MS. BOND: You know, this concept of
15 real time, I don't --

16 HEARING OFFICER SHEAN: Well, let's
17 just --

18 MS. BOND: -- I guess what I'm trying to
19 say is, is an hour less real than a minute.

20 HEARING OFFICER SHEAN: Well, how about
21 if we were to track a molecule. Do you expect to
22 see a molecule of water that is present, let's
23 say, within the drain or just under it now
24 reaching the head of the pump?

25 MS. BOND: That's a great question. Let

1 me explain.

2 HEARING OFFICER SHEAN: Okay.

3 MS. BOND: There's two ways in which we
4 talk about groundwater movement. One is the
5 pressure gradient and the other is the movement of
6 molecules.

7 One way to think about it is imagine
8 that I've covered this with syrup, okay. And I
9 tilt it. Within a second the syrup is going to
10 start to slide down and off the edge. But the
11 syrup at the top of the piece of paper is going to
12 take a minute or two to get down, while the syrup
13 that's right at the edge is going to run off.

14 The groundwater is the same way. It
15 only takes I calculated seven days for that cone
16 of depression to extend and to reach to intercept
17 the drains. So within seven days the water begins
18 to shift toward the well.

19 It would actually take, I calculated it
20 would take in 30 years -- the actual molecules
21 right here only move a few hundred feet inland, or
22 a few hundred feet in toward the mesa. But the
23 pressure gradient, the shift of water toward the
24 well happens within a few days.

25 Imagine across the boundary, the mesa

1 and the valley, you have a moving front of water
2 that's going toward the well. You've got a couple
3 miles of water, 500 feet thick, because that's
4 about how thick that saturated aquifer is, moving
5 toward the well. So that water would have gone
6 out the drains, but it's not anymore. Now it's
7 been shifted toward the wells.

8 The actual molecules, though, have only
9 moved about 100 feet, 200 feet. I think I
10 calculated 700 feet in 30 years.

11 Another example is you've got your
12 garden hose; you bring it home from the hardware
13 store; you screw it in. And you turn on the
14 water. Well, it takes a couple of minutes for it
15 to get all the way down your 50-foot length of
16 hose.

17 But if you go the next day and you have
18 your hose already full of water, say you have one
19 of those spray nozzles on the end and you turn on
20 the water at the tap. Well, the water comes out
21 immediately because that hose is already full of
22 water.

23 This aquifer is full of water. When you
24 start to draw water in, it shifts this way. The
25 molecules don't make it to the wellhead, but the

1 shift away from the drains happens almost, you
2 know, within a week it begins.

3 That's been one of the major confusions
4 and it's not intuitive.

5 I think that answers the question.

6 MS. DeCARLO: Okay.

7 PRESIDING MEMBER GEESMAN: I've got one
8 because I want to make certain I understand the
9 arithmetic behind your testimony. That shift of
10 molecules 700 feet away from the drain and toward
11 the well results in a diminished flow into the
12 drain of precisely the amount of water pumped from
13 the well?

14 MS. BOND: The reason why I'm hesitating
15 is the word precise carries a lot of weight. I
16 just want to think about it for a minute.

17 Yes, that's the way the math would work
18 out. Initially the water comes out of storage.
19 Then it starts to induce the recharge from the
20 river, and it shifts the water toward the well.
21 So, okay, the question is hold it, wait, it
22 already took out all this water within the cone of
23 depression. Doesn't that count for something. It
24 does.

25 But what happens is, I believe the

1 applicant testified to this, also, once that well
2 is shut off at the end of the project, at the end
3 of 30 years, that cone of depression that took all
4 that water out of storage then fills back up. And
5 what fills it back up is continued flow, continued
6 shift of water from the drains. And it doesn't
7 stop moving toward the -- excuse me, shift of
8 water from the drains toward the well. It doesn't
9 stop moving until that cone is filled up.

10 So, at the end of the project, you've
11 replaced all the water that was originally taken
12 out of that cone of depression, but you have
13 prominently removed the water from the Colorado
14 River. That water has moved toward the mesa, and
15 it is in the mesa. And you never get that water
16 back that went down the river -- that would have
17 gone down the river. But you do fill back up the
18 cone of depression.

19 So, yes, in the end precisely the amount
20 of water that you've taken out of the Colorado
21 River is going to equal what you've pumped out at
22 the project.

23 Does that answer your question?

24 PRESIDING MEMBER GEESMAN: Yes, it does.

25 MS. BOND: Okay.

1 MS. DeCARLO: Now, the applicant claims
2 that a significant source of recharge to the
3 aquifer comes from water other than the Colorado
4 River water. Is this accurate?

5 MS. BOND: No. Clearly --

6 MR. GALATI: I'd object to that
7 mischaracterization of the testimony.

8 MS. DeCARLO: I'll rephrase. What is
9 your response to an argument that a significant
10 source of recharge to the aquifer is something
11 other than the Colorado River water?

12 MS. BOND: The applicant has listed in
13 their testimony that there were four or five
14 sources of recharge that included percolation from
15 the river, percolation from irrigation water,
16 percolation from the drains and percolation from
17 stormwater detention ponds. There was also in
18 another part of the testimony listed percolation
19 from the McCoy Wash.

20 Clearly water from the river, from
21 irrigation and from the drains originates from
22 diversions from the Colorado River. That leaves
23 percolations from detention ponds, and
24 percolations from McCoy Wash.

25 The Blythe percolation pond, stormwater

1 percolation pond for the 100-year flood has been
2 calculated to contribute 96 acrefeet. Okay, 96
3 acrefeet compared to a half a million acrefeet of
4 water is insignificant.

5 Percolation from the McCoy Wash,
6 according to the USGS, has never been actually
7 quantified. But if you took all of the rainfall
8 that falls on the mesa and imagined, or if you
9 just said all of that percolates every single
10 year, it wouldn't even be a tenth of the amount of
11 water that percolates every year because of the
12 diversions from the Colorado River.

13 In fact, the McCoy Wash is, it's
14 located, I believe, three miles, four miles north
15 of the project site. The only times that it
16 percolates any water is during intense storm
17 events in the summer. I would expect that the
18 percolation from the McCoy Wash is minimal at
19 best, compared to the half a million acrefeet that
20 go through the system in the valley.

21 The other thing that is very
22 significant, though, about percolation from McCoy
23 Wash or also there's 400 acrefeet that comes in
24 from the Chuckawalla Valley, is that those are
25 static sources of recharge. There's nothing that

1 the project's pumping can do to increase the
2 recharge from those sources. That's already part
3 of what makes the groundwater table what it is.

4 The difference with the water that's
5 coming from the Colorado River that's being
6 applied in the valley is that there's a half a
7 million acrefeet of potential recharge that is
8 induced to recharge the groundwater valley, or
9 induced to recharge the mesa has a project pumping
10 that -- I'm sorry, I'm saying it backwards --
11 project pumping induces the recharging, makes the
12 recharge increase from the Colorado River
13 percolation. While it can't affect what's coming
14 in from, say, the McCoy Wash or the Chuckawalla
15 Valley.

16 Besides the difference, the vast
17 difference in the amount, it's also the
18 relationship.

19 HEARING OFFICER SHEAN: Let me just ask
20 a question, then, that follows that up. If
21 there's a half a million acrefeet of annual return
22 from the PVID system, and this would be taking out
23 3000 or 3300 acrefeet, how is it that reaches the
24 level of significance? What percentage then of
25 the total return flow would be equivalent to

1 what's taken by this project?

2 MS. BOND: It's a very small amount.

3 That's no argument.

4 HEARING OFFICER SHEAN: It's in tenths
5 of a percent, isn't it?

6 MS. BOND: Yes, yes, it is.

7 HEARING OFFICER SHEAN: Okay. And how
8 does that become significant then?

9 MS. BOND: Staff considered it
10 significant because the total amount of water that
11 California has used in the past has been cut back.
12 There is not as much water as California needs and
13 wants to use available in the Colorado River than
14 there was previously. This is a contribution to
15 the decrease in the total amount of water that
16 California would use.

17 It's a lot like an air quality argument.
18 If air quality is poor you don't want to
19 contribute to that. You don't want to contribute
20 to the continued diminishment of air quality. And
21 this is, in essence, a cumulative impact to the
22 dis -- I can't say that today -- to the decrease,
23 there we go, in water available to California from
24 the Colorado River.

25 HEARING OFFICER SHEAN: Okay.

1 PRESIDING MEMBER GEESMAN: Did you
2 testify in the Blythe I case in front of the
3 Commission?

4 MS. BOND: Yes, I did.

5 PRESIDING MEMBER GEESMAN: What, if
6 anything, has changed since then that influences
7 your testimony today?

8 MS. BOND: My testimony on this issue
9 was essentially the same in the Blythe I hearings.
10 What has changed, to some degree, and I believe
11 Rich Sapudar can help me on this, is the change in
12 the Energy Commission's policy with regards to use
13 of inland water.

14 Rich, is there anything specific to this
15 you could also add?

16 MR. SAPUDAR: I would add that we
17 understand the relationship in the groundwater
18 system between a river, the drains and how the
19 project's pumping affects that. The fact that
20 less water is being returned.

21 The big picture is that there is serious
22 cutbacks of the Colorado River water available to
23 the state. And we've had other agencies voice
24 their concern about this issue. The Colorado
25 River Board provided us with a letter that

1 basically said they don't want any more an
2 increase in consumptive use within the PVID.
3 Because of the impact on junior water rights
4 holders, like the Metropolitan Water District.

5 So, we're looking at it as an increased
6 use of fresh water. And the fact that the
7 groundwater pumping does influence the return
8 flows to the Colorado River from the PVID, which
9 is not credited back to the state under the
10 diversion laws return policy.

11 So it's a decrease in new water
12 available to the state. And our point is that at
13 this time we believe that fresh water should be
14 conserved in general, consistent with either
15 policy 7558 or the Commission's own IEPR policy.

16 And that there are ways to keep the
17 project's water use to the amount that's
18 reasonable and beneficial for a power plant. And
19 we've identified those in the alternative study.

20 PRESIDING MEMBER GEESMAN: You indicated
21 that you had an understanding of the relationship
22 between groundwater pumping and the return flows
23 to the drains and the river. Has that
24 understanding changed since the Blythe I
25 proceeding?

1 MR. SAPUDAR: I think we understand it
2 better at this point. I think what we didn't have
3 in the Blythe I was we didn't look at the impact
4 of California losing that much Colorado River
5 water.

6 PRESIDING MEMBER GEESMAN: What has
7 contributed to your improved understanding of
8 those hydraulics?

9 MR. SAPUDAR: Well, I think we've
10 identified additional studies. And we've talked
11 to the other agencies, even the PVID, about the
12 relationship between their drains and the
13 groundwater. So we understand that pumping on the
14 mesa will cause flows to decrease to the drains,
15 which causes a decrease in flows to the Colorado
16 River from those drains, which results in the PVID
17 and the State of California not getting a credit
18 for those flows. That water is consumed by the
19 project.

20 MS. BOND: I think that also at that
21 time it was not clear to me that there was so much
22 confusion regarding the movement of groundwater.
23 And this confusion between the movement of
24 molecules versus changes in pressure gradient and
25 the redirection of water versus the movement of

1 molecules.

2 I think to a large extent the questions
3 that the applicant has raised has enabled us to
4 address those questions better.

5 PRESIDING MEMBER GEESMAN: On the basis
6 of studies that have been performed since the
7 Blythe I proceeding?

8 MS. BOND: No. Because the question --
9 during the Blythe I hearing I was not aware that
10 there was this confusion, so I didn't address it.
11 You can flip open any groundwater hydrology text
12 book and it will explain this difference between
13 the movement of molecules and the movement of the
14 pressure gradient.

15 But without being asked that question it
16 just wasn't raised.

17 HEARING OFFICER SHEAN: Is there an
18 underflow contribution to the water that would be
19 supplied to the cone of depression at or about the
20 drain location?

21 MS. BOND: You mean right here?

22 HEARING OFFICER SHEAN: I mean from your
23 prior picture you showed the Colorado River to the
24 right of the diagram that you currently show. And
25 I guess what I'm asking is, is there an underflow

1 contribution to the water, to the groundwater
2 which would be extracted by the project well?

3 MS. BOND: Directly from the river?

4 HEARING OFFICER SHEAN: Correct.

5 MS. BOND: Probably not. There's no
6 reason why it would because essentially what
7 you've got here is a --

8 HEARING OFFICER SHEAN: I'm not
9 surprised.

10 MS. BOND: Yeah, no, no --

11 HEARING OFFICER SHEAN: I just wanted
12 you to say that.

13 MS. BOND: -- you're only tapping into
14 the source of recharge which is represented in a
15 sense by this entire body of water. And any
16 molecules or any water that begins to shift this
17 way will be immediately -- you've got a constant
18 source of recharge coming down into the
19 groundwater system.

20 HEARING OFFICER SHEAN: Which is the
21 irrigation flow?

22 MS. BOND: Right, which is the diverted
23 water that's being used for irrigation. If that
24 drain wasn't there this would be a lake.

25 HEARING OFFICER SHEAN: Right. Okay,

1 now the staff has indicated that it is concerned
2 about fresh water use. Where is the fresh water
3 in the system that gets to the wellhead?

4 MS. BOND: Okay, we'll go back to this.
5 We're kind of skipping ahead, but that's okay,
6 right? Okay.

7 The water in the vicinity of the Blythe
8 II project has a TDS of about 1000; it's got a
9 chloride content of about 200. This is right on
10 the threshold between what is termed fresh water
11 and brackish water. This water is used by
12 surrounding well owners for irrigation and
13 drinking water. And as such, staff considers it
14 fresh water. It's being used for these sources.

15 HEARING OFFICER SHEAN: Okay, so this
16 1000 --

17 MS. BOND: TDS.

18 HEARING OFFICER SHEAN: -- TDS water you
19 consider fresh?

20 MS. BOND: Yes.

21 HEARING OFFICER SHEAN: Okay. Is there
22 a numerical boundary between what you consider
23 fresh and what is used in policy 7558 as brackish?

24 MS. BOND: Yes. Policy 7558 defines
25 brackish at 1000 TDS up to 30,000 TDS; and

1 chloride as being 250 TDS up to --

2 MR. SAPUDAR: 12,000.

3 MS. BOND: -- 12,000 TDS. So, for TDS
4 this water, on average, is slightly above that
5 threshold; and for chloride it's below that
6 threshold. 7558 defines brackish as water that
7 exceeds both criteria, over 1000 TDS and over 250
8 TDS. So it is right below the threshold.

9 MS. DeCARLO: Did you mean over 250
10 chloride?

11 MS. BOND: Chloride. What did I say,
12 TDS? Sorry. Okay. So 7558 defines brackish as
13 over 1000 TDS and over 250 chloride.

14 PRESIDING MEMBER GEESMAN: Did the
15 Commission decide this brackish question on the
16 Blythe I case?

17 MS. DeCARLO: No. It touched upon the
18 issue, but it didn't make any final determination
19 with regard to 7558.

20 MS. BOND: I think also at that time we
21 had less information about what the drain water
22 quality was at that time. And the Commission's
23 policy decisions had not focused -- had not
24 directed staff at that point to consider all other
25 sources of water.

1 So, you know, we did not analyze the
2 alternatives as fully as we have this time.

3 The TDS in the drains in PVID range from
4 under 1000 TDS to, the records I have, in some
5 drains it's as high as 3500 TDS. And possibly
6 even higher at the outfall drain. So there are
7 ample other sources of much poorer quality water
8 than here at the project.

9 HEARING OFFICER SHEAN: Based upon
10 either your own information or testimony you've
11 heard today from the PVID, would you say that in a
12 consistent way throughout the year the well water
13 would have higher TDS content than the Rannels
14 Drain water?

15 MS. BOND: No. We asked PVID to provide
16 us with all of the data they had on specifically
17 the Rannels Drain. We had looked at that one
18 specifically as it was so close.

19 And all of the data that we received had
20 average TDS values from 1976 to 19 -- 1967 to 1971
21 it averaged, I believe, around 1800 TDS. In 1975
22 it was 1900 TDS in one sample. And more recently
23 in 1963, I believe, and '62 -- were those the two
24 data -- John, what are the two days we have the
25 recent TDS?

1 MR. KESSLER: John Kessler. The most
2 recent readings are September 2002. The reading
3 was 1510 milligrams per liter; and March 2003 the
4 reading was 1730.

5 MS. BOND: So all the data that we've
6 been given shows the TDS at the Rannels Drain is
7 about -- recently has been about 1600 TDS, while
8 the TDS at the well is 1000 TDS.

9 And, in addition, there are numerous
10 other drains in the PVID that are of much more
11 quality than the Rannels Drain, although they are
12 farther away from the project.

13 MR. KESSLER: I might add, I think our
14 point is there are some options to the project as
15 to how they intercept and collect the irrigation
16 return water.

17 We acknowledge that part of the flow in
18 the drain is made up by operational spill, and
19 that has a diluting effect, because it's a little
20 bit lower TDS. So if you didn't necessarily feel
21 confident because our data is limited on the TDS
22 levels, but it is the only data we have. And we
23 feel it's compelling.

24 But if we want to be sure that we're
25 intercepting the most degraded supply, that with

1 the highest TDS, you could establish a shallow
2 well field along the interface with the drain.
3 And in that case you would not be picking up the
4 dilution factor as what's contributed by the
5 operational spills.

6 HEARING OFFICER SHEAN: Stand by, Mr.
7 Wolfe. We're going to let the staff continue to
8 direct their testimony, and we'll get to you and
9 your question, if you have it. Okay, just stand
10 by.

11 MS. DeCARLO: Now, a claim has been made
12 that your testimony that the project will deplete
13 Colorado River water, and the regional aquifer at
14 the same time is contradictory. Can you please
15 respond to that?

16 MS. BOND: I think I've essentially
17 already covered this. The groundwater pumping
18 will deplete both water that's stored in the
19 aquifer and water that would otherwise discharge
20 out to the drain at the same time.

21 The reason is is that cone of depression
22 has to be established first. It's the physics of
23 groundwater flow. Establish a gradient toward the
24 well to pull the water toward the well. This
25 takes water out of storage.

1 When it intercepts the -- the cone of
2 depression intercepts the drains, it starts
3 inducing additional recharge that would have
4 otherwise discharged at the drain and it moves
5 toward the well.

6 When the project is completed and all
7 pumping ceases that cone of depression fills back
8 up with water still that would have been
9 discharged out to the drains; fills up the cone of
10 depression. The water in groundwater storage has
11 been replaced at that point.

12 So that's why both happens at the same
13 time. It's not intuitively obvious, but it is a
14 fact.

15 MS. DeCARLO: Would you like to provide
16 any further explanation as to how you came to the
17 conclusion that pumping, groundwater pumping by
18 Blythe II would create significant adverse impacts
19 to downstream users?

20 MR. KESSLER: Yes. As Ms. Bond
21 summarized, the project's pumping results in a
22 reduction of the groundwater flow into the drains.

23 HEARING OFFICER SHEAN: Can we just for
24 purposes of the record have the witness identify
25 himself as you begin to testify.

1 MR. KESSLER: John Kessler. The
2 project's pumping will result in a reduction of
3 the groundwater flow into the drains by the amount
4 of water pumped and consumed by the project.

5 The result is an increase in consumptive
6 use under PVID unless Colorado River water
7 available to the state and junior water rights
8 users of the Colorado River supply.

9 We all know that water supply in the
10 southern part of the state is the most critical
11 area, as we face those challenges. We believe
12 overall that evaporating water for cooling is not
13 necessary in this case because there are feasible
14 alternatives.

15 We know that California lost about a
16 million acrefoot of its supply as a result of the
17 QSA. And has depended on that supply for
18 literally almost 50 years. And during hardship to
19 absorb that loss.

20 We look at Metropolitan Water District's
21 Colorado River use, their supply in recent history
22 has been on the order of 1.2 million acrefeet.
23 And they're abruptly, whereas this phased-in
24 approach goes in effect, they're having to cut
25 back to their normal allocation of less than half

1 of that, 550,000 acrefeet.

2 If we take into account the supplemental
3 water that they will receive from the water
4 transfer agreements and fallowing, PVID and
5 others, there's still a deficit of several hundred
6 thousand acrefeet over the supply they've enjoyed
7 and put to beneficial use in recent years.

8 Another illustration of water supply
9 challenges shortfalls and the impact, in this
10 case, of the project to southern California water
11 users is if we look at San Diego County Water
12 Authority.

13 In their cases they are projecting their
14 long-term needs; they're looking at desalinizing
15 seawater. And we know historically that seawater
16 desalinization is one of the most extreme, last-
17 resort, and most costly sources of water supply to
18 provide to consumers.

19 And just to touch on the issue of what
20 is the significance of 3300 acrefeet per year. Is
21 that -- there's been testimony as to whether
22 that's measurable, is it significant. Comparably
23 when we look at some other users that are eligible
24 to receive, or junior in Colorado River water
25 supplies, some of them are lending to the lower

1 Colorado River water supply project.

2 That's a project that's coordinated
3 through Colorado River Board, and is overall
4 managed by the Bureau.

5 This is a project where the first phase
6 is only 5000 acrefeet. The water's derived from
7 groundwater pumping near sand hills along the, I
8 believe it's the All American Canal. And the
9 allocations under that first phase are about 3500
10 acrefeet to the City of Needles, which is about
11 equivalent to what this project would use.

12 Another 1150 acrefeet to BLM. And
13 there's about 350 acrefeet per year that we
14 understand is still unallocated.

15 So, just as the picture in terms of
16 increments of water supply are volumes on an
17 annual basis that are significant to other users
18 in southern California. The amount the proposed
19 project would use is significant.

20 MS. DeCARLO: And does the applicant's
21 proposed water conservation offset program
22 mitigate for this impact?

23 MR. SAPUDAR: We don't believe so at
24 this time. What the applicant has given us is
25 basically a description of the water conservation

1 offset program; it's about a page and a half of
2 things the project will do.

3 We look at the other plans that are
4 proposed, for instance, the Imperial/San Diego
5 water volume transfer program, also the MWD/PVID
6 water volume program, and they have a lot more
7 detail. They have contracts with landowners; they
8 have qualifications for lands.

9 Basically what we're looking for is if
10 the program were properly implemented, and it was
11 managed and monitored, reported and verified, both
12 for water conservation and also for significant
13 impacts to fallowed lands, it could be an
14 effective water conservation program. And
15 actually offset the project's water use.

16 The Colorado River Board, in a letter,
17 brought up the issue that they are interested in
18 those same things. They want to see a plan; they
19 want the lands identified; they want to see how
20 the lands are qualified, how the plan is managed.
21 And we're in agreement with them.

22 In fact, they sent a letter that
23 basically said that until a detailed plan is
24 provided that people can look at, including the
25 River Board, the USBR, even, they recommend the

1 project not be licensed. So they've taken a very
2 strong stand on this amount of water.

3 And the fact that the water conservation
4 plan must not be an illusion. It must actually
5 conserve water.

6 HEARING OFFICER SHEAN: Let me ask you a
7 question, if I may.

8 MR. SAPUDAR: Sure.

9 HEARING OFFICER SHEAN: Until you asked
10 this question I had understood the thrust of most
11 of the staff's testimony to be California is in a
12 water deficit. Do whatever you can to prevent the
13 use of any of the water coming out of the Colorado
14 River because either MWD or somebody else can make
15 better use of it than this particular power plant.

16 Now, if I understand correctly, staff
17 has a wet option, a wet cooling option, that
18 you've included that you have determined both
19 complies with LORS and with California
20 Environmental Quality Act, is that correct?

21 MR. SAPUDAR: What we've looked at is
22 we've considered the fact that California's 4.4
23 plan for living with our allocation of Colorado
24 River water, in the QSA one of the central tenets
25 of both of those plans is water transfers from

1 agricultural uses to urban uses. That's how
2 California is going to meet its future water
3 needs, along with conservation.

4 Our position has evolved to the extent
5 that we're looking at it the same way that the
6 Colorado River Board does for all water rights
7 holders. And that is they would like to see no
8 net increase in use of Colorado River water within
9 the PVID that could potentially significantly
10 impact other users of that water resource.

11 So, we recognize that --

12 HEARING OFFICER SHEAN: I'd just like to
13 compare, then, the net zero concept of the staff's
14 wet option with what's being proposed by the
15 applicant then.

16 If I understand correctly, on both sides
17 you're talking about a PVID diversion supplying
18 water for irrigation. Are we correct so far?

19 MR. SAPUDAR: Absolutely.

20 HEARING OFFICER SHEAN: Okay. That
21 irrigation water then either enters the
22 groundwater and becomes water capable of being
23 extracted by well. Or, on the other hand, it
24 makes its way into the drain or multiple drains,
25 but let's just use the drain concept here, and

1 under the staff's option is capable of being
2 extracted from the drain and goes to the power
3 plant.

4 Now, if I understand correctly then,
5 you're going to subtract let's say 3000 acrefeet
6 from the drain on the staff option, or 3000
7 acrefeet from groundwater for the applicant's
8 option. The applicant's proposal then is as a
9 project enhancement they will offset that use.
10 And for the negative that they've taken out of the
11 groundwater they're going to add a plus by way of
12 an offset.

13 In the staff's program or proposal you
14 take the negative 3000 acrefeet that you have
15 removed from the drain and you add that back with
16 your verifiable water conservation offset program,
17 so that the net from the staff's option is zero
18 impact to the Colorado River. And the net impact
19 from the applicant's option, as they propose it,
20 would be zero.

21 So, what's -- is there a difference in
22 your mind and why are they not essentially
23 functionally similar, if not equal?

24 MR. SAPUDAR: There's a fundamental
25 difference, a very important difference, and that

1 is will the plan accomplish what it's supposed to
2 do.

3 Now, if there's implementation
4 procedures, verification; if the lands are
5 qualified, they use water, there's monitoring of
6 that, there's a very good chance that a water
7 conservation program, if properly implemented,
8 managed, monitored and reported and verified,
9 would save water. And that's exactly what the
10 Imperial Irrigation District is doing with San
11 Diego. And that's exactly what Metropolitan Water
12 District is doing with the PVID. They have a
13 complete plan.

14 The only problem we have with the
15 applicant's approach is they haven't produced a
16 complete plan. And we're in agreement, like I
17 said, with the Colorado River Board that says they
18 want assurance that there will be a plan that will
19 actually achieve water conservation with no
20 significant impacts.

21 We don't see that in the applicant's
22 page-and-a-half discussion.

23 HEARING OFFICER SHEAN: But if the
24 applicant does have a plan that meets the
25 requirements of whatever jurisdiction would be

1 accounting for the diversion/less return, then
2 does that mean that there is no significant
3 environmental impact?

4 MR. SAPUDAR: There's one issue, depends
5 on where the water comes from. And with the
6 degradation of the groundwater caused by the
7 pumping from the formation down below, that's a
8 significant impact.

9 HEARING OFFICER SHEAN: That leaves us
10 then with the only question about environmental
11 impact is an issue of salinity between the staff's
12 Rannels option and the applicant's groundwater
13 pumping option, is that correct?

14 MR. SAPUDAR: And our position on that
15 is that the --

16 HEARING OFFICER SHEAN: I just need a
17 yes or no, and then you can explain it. Other
18 than salinity, the question of significant
19 environmental impact between the staff's Rannels
20 option and the applicant's groundwater pumping
21 option only is salinity?

22 MR. SAPUDAR: Salinity increase in the
23 groundwater due to pumping, or salinity in the
24 groundwater versus salinity in the drain water?
25 The latter?

1 HEARING OFFICER SHEAN: The former,
2 right.

3 MR. SAPUDAR: The former, okay. Yes.

4 HEARING OFFICER SHEAN: Okay, so now
5 we've got this whole thing encapsulated, right?

6 MR. SAPUDAR: Right. Which is, if I --
7 would you like me to explain? I don't have to,
8 but --

9 HEARING OFFICER SHEAN: No, no, we want
10 to hear from the staff.

11 MR. SAPUDAR: Oh, good, okay. And
12 that's exactly what led us to look for another
13 option. We tried to bring options to the table
14 that were workable. And we saw that Rannels Drain
15 water would avoid the salinity degradation in the
16 aquifer due to pumping. It could also be
17 accounted for as directly as groundwater.

18 And if it was accompanied with a
19 verifiably effective water conservation offset
20 program, we would consider that a workable
21 solution. And we've said that in our testimony.

22 What we've also recommended is that if
23 there is a good water conservation offset program
24 it should be put together, something that's
25 capable of being reviewed; and sent to the USBR;

1 sent to the Colorado River Board, which represents
2 all the Colorado River rights holders in the
3 state; sent to the Natural Resources Conservation
4 Service for soil erosion control; and sent to the
5 PVID.

6 And have these agencies review and
7 comment on it. And then have it sent back to the
8 Energy Commission for review and approval by our
9 compliance program.

10 That's the way we see a logical
11 progression and how to get a plan that works, and
12 that there won't be any problems with it because
13 all the other agencies have signed off on it.
14 It's a way to avoid some of the disagreements that
15 occurred after the Blythe I plant.

16 PRESIDING MEMBER GEESMAN: Did the
17 Metropolitan or San Diego County Water Authority
18 plans go through that same process, but for our
19 involvement?

20 MR. SAPUDAR: They did their own EIR,
21 both of those plans went through the EIR process,
22 so they considered everything that we're trying to
23 consider the applicant's water conservation offset
24 program. That is --

25 PRESIDING MEMBER GEESMAN: Did they go

1 to that variety of other agencies, though?

2 MR. SAPUDAR: I don't -- they received
3 comments from, you know, a multitude of agencies
4 with regard -- because it's the EIR process. We
5 are the EIR process for the water conservation
6 offset program. That's why we want to see a plan
7 so we can evaluate it. We don't really have
8 anything to evaluate right now.

9 If we don't do the CEQA on the water
10 conservation offset program, nobody does. As with
11 Blythe I.

12 So, we look at it, if there's a good
13 solid plan that's been reviewed by the interested
14 parties that have interest and knowledge in the
15 subject, and they say that's fine, we're happy.
16 Under those circumstances we have a good plan that
17 actually conserves water, has no significant
18 impacts and results in a no net increase in water
19 use within the PVID, which would therefore have no
20 adverse impacts to any other water users during
21 this serious water crisis we have in southern
22 California.

23 HEARING OFFICER SHEAN: And is it your
24 position that it is not a matter for either the
25 United States Bureau of Reclamation or the PVID,

1 in their accounting process, to be the ones that
2 make a determination as to the adequacy of the
3 WCOP. It is up to the Energy Commission under the
4 guidance of CEQA to make that determination?

5 MR. SAPUDAR: I think since we are the
6 CEQA agency for this process, if it's determined
7 that we want this plant to conserve water and have
8 no impacts, we would certainly want to look at
9 impacts.

10 Because these are other agencies
11 involved, we would consider them and defer to them
12 to whatever extent we need to as far as the water
13 conservation aspects.

14 For instance, if it was acceptable to
15 the Colorado River Board and all the water rights
16 holders in California they represent, that would
17 probably be good enough for us. The only thing
18 we'd be interested at that point is the erosion-
19 related significant impacts to fallowed lands.

20 HEARING OFFICER SHEAN: Which we know
21 can be mitigated.

22 MR. SAPUDAR: They can be mitigated,
23 yes, absolutely.

24 PRESIDING MEMBER GEESMAN: We seem to
25 have signed off on the WCOP for Blythe I. What's

1 changed since then?

2 MR. SAPUDAR: Commissioner Geesman,
3 that's a long story. And I would be more than
4 happy to tell it, if you'd like to hear it. We
5 have documents in the record that show the
6 sequence of events, what happened from the time
7 that plan was adopted to the present, as far as we
8 know. And I'd be more than happy to go into that
9 if you'd like to.

10 PRESIDING MEMBER GEESMAN: Well, why
11 don't you take a couple minutes and do that.

12 MR. SAPUDAR: Okay. What initially
13 happened with the Blythe I water conservation
14 offset program is it was proposed by the
15 applicant, again with almost, not much more detail
16 than we have with the current plan.

17 Upon seeing that plan, I believe the
18 Metropolitan Water District said this is a good
19 idea, we like this, you know. They would be the
20 junior water right holder that would be harmed the
21 most by the increased water use.

22 Once they saw how the plan was
23 implemented, Metropolitan objected. And they sent
24 a letter to the Commission, and they cc'd the U.S.
25 Bureau of Reclamation.

1 And what their point was is that the
2 Blythe I water conservation offset plan was
3 fallowing lands that were sometimes as old as 20
4 years old, out by the airport.

5 Staff, at that point, and also
6 Metropolitan, in their letter, said that if your
7 lands aren't using water, when you fallow those
8 lands you're not conserving any water. There is
9 absolutely no water conservation at all.

10 So, at that point the Bureau sent a
11 letter to the applicant saying that if that's the
12 case, if you've fallowed lands that haven't used
13 water in 20 years, that doesn't meet the
14 requirements of the water conservation offset
15 program we approved for Blythe I. And they said
16 they wanted the applicant, the Blythe I project
17 owner, at this point, to work with all the
18 interested parties to develop a water conservation
19 offset program that was satisfactory to everybody.

20 Clearly the Bureau has an interest in
21 actually conserving water. And obviously so does
22 Metropolitan Water District. The Colorado River
23 Board has also said the same thing.

24 We're at the point now where eventually
25 just before the Blythe I project began operation

1 the Bureau sent another letter to the Blythe I
2 project owner, basically questioning their right
3 to use the water. And they wanted them to
4 identify their right to use the water.

5 And that's about as far as our paper
6 trail goes. So the Blythe I project WCOP failed
7 for that reason. There was no plan that people
8 reviewed and approved. And there was challenges
9 to it after.

10 PRESIDING MEMBER GEESMAN: Now the
11 applicant has proposed in this WCOP to restrict
12 the time horizon to five years in terms of lands
13 that have previously been irrigated. Does that
14 change anything?

15 MR. SAPUDAR: Five years? What you have
16 with how frequently lands are irrigated and used
17 to grow crops is the more frequently they're
18 irrigated the more water you save. If a parcel is
19 irrigated for every one out of five years, and the
20 project is pumping water for five years
21 continuously, you've only conserved about 20
22 percent of the water the project's used.

23 The more, two out of five years
24 increases that. I think in Metropolitan's very
25 first fallowing program they used four out of the

1 last five years, the assumption being they were
2 getting basically 80 percent conservation.

3 Now, with the new fallowing programs
4 there's been some changes in that with regard to
5 the amount of acrefeet per acre conserved, and how
6 often the lands have to be in agricultural
7 production for the last five years.

8 I think at this point, considering that
9 there's two big fallowing programs in progress in
10 the Imperial Irrigation District, and also within
11 the PVID where this project is located, that have
12 gone through the EIR processes; have been
13 accepted. That we would have to consider that in
14 as far as what we consider would be a good value.

15 And I think if the applicant were to
16 meet the requirements that say Metropolitan did
17 for their current fallowing program now, it would
18 be hard to argue with that.

19 So, staff is open, certainly, to
20 considering such an approach.

21 MS. DeCARLO: One other difference
22 between Blythe I and Blythe II is that in Blythe I
23 the Commission did not find a significant impact.
24 So they weren't concerned with a WCOP as
25 mitigating the project's water use. They were

1 mainly concerned with it complying with USBR LORS.

2 PRESIDING MEMBER GEESMAN: And why do
3 you consider the impact from Blythe II to be any
4 different than the Commission determined the
5 impact from Blythe I to be?

6 MR. SAPUDAR: I think a large, large
7 part of that is just realizing how critical the
8 water situation is now compared to five years ago.

9 Five years ago there was a plan to cut
10 back California's water use back to within its 4.4
11 million acrefeet allocation. But as the applicant
12 recognizes, and we do too, that the Bureau's been
13 planning to do this for awhile, it just hasn't
14 happened.

15 What's occurred now is that California
16 has lost a million acrefeet of water. And as John
17 described, they're considering seawater
18 desalination. The water that's lost to California
19 is being replaced by transfers from agricultural
20 areas, as we talked about before.

21 We look at this as that's a measure of
22 how desperate the water situation is there. And
23 there's probably going to be more large-scale
24 fallowing programs to move water from agriculture
25 to the city.

1 So we look at this, as John pointed out,
2 you know, is 3300 acrefeet of water a lot of
3 water. Is 6600 acrefeet a lot of water for both
4 Blythe I and Blythe II. Over the life of the
5 project, for each project, that's about 100,000
6 acrefeet of water in 30 years. That's about what
7 Metropolitan's fallowing program is moving out of
8 the PVID in one year. And this is one power
9 plant.

10 So you get an idea over the long term
11 that this is not an insignificant amount of water
12 in the big picture. And staff is very aware of
13 that. And we've had comments from -- actually,
14 the Colorado River Board was very helpful in
15 pointing out just how desperate the situation was
16 and is for the Colorado River, which we've made
17 their opinion available in our FSA.

18 HEARING OFFICER SHEAN: And is it
19 correct that notwithstanding as you've
20 characterized it, how desperate the situation is,
21 the one agency with the jurisdiction to take
22 regulatory control over withdrawal of groundwater
23 that is in the Palo Verde area has chosen not to
24 do that?

25 MR. SAPUDAR: Exactly. And that was one

1 issue that the Colorado River Board, they gave
2 us -- we asked them some questions and they gave
3 us a very helpful submittal with documentation and
4 data. And they had a letter in there, recently
5 sent, I think it was in 2003 or '04, to the
6 Colorado River Board saying we have a problem with
7 the way you're not regulating unauthorized use of
8 groundwater is how they characterized it.

9 HEARING OFFICER SHEAN: How is it --
10 you're terming it unauthorized use of groundwater?

11 MR. SAPUDAR: That's a legal definition
12 that is used by the USBR as far as people that are
13 pumping groundwater without a contract with the
14 Bureau.

15 Now, the fact is that the Bureau, and as
16 the applicant recognizes, isn't regulating that
17 right now. So, --

18 HEARING OFFICER SHEAN: So what makes it
19 unauthorized?

20 MR. SAPUDAR: Well, under this Supreme
21 Court decree in 1964 that's considered that this
22 groundwater is the same as surface water, as far
23 as the Bureau is concerned. And they would be
24 accounting for its use. They haven't done that.

25 And the River Board made that apparent

1 in their letter, saying you haven't started
2 accounting for this water yet and California's
3 water right holders are being harmed by the fact
4 that when water use of the Colorado River is cut
5 back, the authorized users get their water cut
6 back, but the unauthorized users just keep pumping
7 away.

8 So that was an issue for them. And
9 their issue was that until the USBR takes action
10 and starts regulating this groundwater as Colorado
11 River water, that the State of California should
12 be held harmless for any of that use that's
13 occurring in the state, since it's a federal
14 issue.

15 HEARING OFFICER SHEAN: So all well
16 operators in the Palo Verde area are unauthorized
17 uses?

18 MR. SAPUDAR: If they're within the
19 accounting surface they could be considered that
20 when the regulations are finally passed. There is
21 a complication to that, though. It's that they
22 are within the PVID, and the PVID is a contractor
23 with the Bureau for water. And just as with the
24 Blythe II project, and the Blythe I project, that
25 if that water use is consumed, it's not being

1 returned to the drains, it's not being returned to
2 the river, and it's being counted -- it
3 constitutes an increase in consumptive use within
4 the PVID.

5 HEARING OFFICER SHEAN: But it is
6 accounted for in the difference between the
7 diversion and the return, correct?

8 MR. SAPUDAR: That's exactly right.

9 So, --

10 HEARING OFFICER SHEAN: So that it comes
11 within the PVID allocation?

12 MR. SAPUDAR: Exactly right. So the
13 argument is then, and we would have to agree with
14 this aspect of it, is that that water is being
15 accounted for. It's occurring within the PVID.
16 Whether the PVID is approving this water use or
17 sanctioning it through contracts or agreements,
18 doesn't matter. That consumptive use is occurring
19 within the PVID. And we would argue that there
20 doesn't need to be any further accounting as far
21 as volume.

22 Just when the Bureau finally does
23 something, if they ever do, it would be a matter
24 of how to regulate that use by those pumpers.

25 HEARING OFFICER SHEAN: So whether --

1 this water is accounted for and it's allocated and
2 it's unauthorized? Is that right? The
3 groundwater that --

4 MR. SAPUDAR: It depends on who you talk
5 to. It's the Colorado River. The River Board
6 would consider that unauthorized use, the Colorado
7 River Board.

8 The USBR looks at it as, they looked at
9 it a couple ways. Their position has shifted a
10 little bit.

11 HEARING OFFICER SHEAN: And four years
12 ago how did the Energy Commission look at it?

13 MR. SAPUDAR: We looked at it as --

14 HEARING OFFICER SHEAN: No, how did the
15 Energy Commission look at it?

16 MR. SAPUDAR: The decision?

17 HEARING OFFICER SHEAN: Yeah.

18 MR. SAPUDAR: Yeah. I believe it was,
19 thinking back, is that you found that the water
20 wasn't being regulated by the USBR, the
21 groundwater pumped -- the Colorado River water
22 pumped as groundwater, was not being regulated by
23 the USBR.

24 And while they have good intentions and
25 they say they're going to, they haven't. So there

1 was no applicable regulation to apply.

2 HEARING OFFICER SHEAN: So, there was no
3 LORS issue?

4 MR. SAPUDAR: No. And we don't find a
5 LORS issue with this, either, as far as Colorado
6 River water use. We understand that at this
7 point. We've evolved a little bit, too.

8 HEARING OFFICER SHEAN: All right.

9 MR. KESSLER: Commissioner Geesman, you
10 asked the question where in the case of the PVID,
11 MWD following agreement, were there other agencies
12 involved in approving that plan.

13 I had a quick chance to look at that
14 during this discussion and it looks like both
15 Coachella Valley Water District and Imperial
16 Irrigation District had to convey their agreement
17 to the PVID/MWD arrangement before that could go
18 forward.

19 And they are both agencies represented
20 by the River Board. And in this case we're just
21 trying to reflect the River Board's desire to
22 review and approve the plan as part of the
23 process.

24 PRESIDING MEMBER GEESMAN: Thank you.

25 MS. DeCARLO: Now, getting back to the

1 discussion of WCOP, itself. The applicant has
2 objected to staff's proposed requirement that crop
3 and water-use history for the lands fallowed or
4 retired be provided.

5 Their argument is that because they are
6 using a low-average water consumption rate to
7 begin with, that staff does not need this
8 information.

9 Why is staff requesting this
10 information?

11 MR. SAPUDAR: As we touched on --
12 actually touched on quite a bit -- the fact is
13 it's qualifying lands. Are these lands qualified
14 to be included in a fallowing program that
15 concerns water.

16 And, again, it gets back to their
17 current water use, their historical water use.
18 Are they using water that if those lands are
19 fallowed would be conserved. And that's the basis
20 of it. I mean, will these lands conserve water if
21 they're fallowed.

22 MS. DeCARLO: The applicant has also
23 objected to erosion control measures outside the
24 ones that they've identified that staff has
25 provided in soil and water-7, and also claiming

1 that the fallowing or retirement of farmlands does
2 not pose any erosion issues.

3 Is there any potential for erosion of
4 fallowed farmlands?

5 MR. LINDLEY: I'm Mark Lindley. Yes,
6 there is a potential for erosion of fallowed
7 lands, particularly wind erosion. This is
8 especially possible on lands classified as highly
9 erodible land.

10 To mitigate for these potential wind
11 erosion impacts, the applicant has specified a
12 couple of primary land management measures in
13 their WCOP, including maintenance of stubble
14 residue on fields planted in alfalfa, wheat,
15 barley and similar kinds of crops. Or clod
16 tilling on fields that wouldn't have stubble
17 residue.

18 They also mention that they would
19 utilize mulch, integrated into the clause, on
20 soils classified as higher erodible land.

21 I submitted these land management
22 measures to the NRCS for review. And the NRCS
23 provided some comments on these land management
24 measures. The NRCS recommended the use of a cover
25 crop on fallow lands. And they mention that that

1 could require some light irrigation during dry
2 years. They thought that that irrigation water,
3 if necessary, should be accounted for in the
4 offset figure.

5 They also expressed some concerns
6 regarding salt waking in fields that were left
7 fallowed for long periods of time. And also
8 mentioned that irrigation water was required to
9 prevent salts from waking up to the surface.

10 And if the landowner wanted to bring
11 these fallowed fields back into production,
12 increased irrigation water would be necessary to
13 rinse those salts from the surface of the soil.

14 The mentioned one other thing is that
15 for highly erodible lands, a NRCS-approved
16 management plan is required to maintain USDA
17 benefits.

18 And finally they noted that clod
19 ploughing would not be effective on sandy soils or
20 for long-term duration. And I would note that the
21 applicant, in some of their recent materials and
22 testimony, has altered the timeframe for clod
23 ploughing from, I believe, four years down to two
24 to three years, which is, I think, in line with
25 some of the guidance from NRCS.

1 So, NRCS, you know, they thought that
2 the primary land management measures provided by
3 the applicant could work, but there could be some
4 remedial measures required, some irrigation water
5 required, additional measures.

6 I also looked at the PVID/MWD fallowing
7 program. And they have a little bit more
8 extensive land management procedures. They
9 include some requirements for controlling invasive
10 plant growth on fallowed fields.

11 They offered pretty much the exact same
12 primary land management measures. But they went a
13 step further. They have periodic inspections to
14 determine if there's any wind erosion occurring,
15 and specified some remedial measures in response
16 to erosion problems.

17 The cited spreading mulch or manure on
18 eroding soils. Similar to NRCS, they mentioned
19 use of a cover crop, if necessary. They mentioned
20 that if clod ploughing wasn't working properly,
21 additional clod ploughing may be required. And as
22 a final remedial measure they mentioned use of
23 light irrigation. And they included a procedure
24 by which the offset figure would be adjusted, and
25 payments from MWD to the landowner would be

1 altered or adjusted, depending on how much
2 irrigation water was required.

3 So, staff would like to see the WCOP
4 include that kind of level of effort, some
5 inspection, the potential for remedial actions and
6 offer any accounting for any irrigational water
7 that's required to prevent erosion-related
8 impacts.

9 Certainly I think review by the local
10 NRCS, the PVID and approval by the CPM wouldn't be
11 an onerous requirement. And given that there's an
12 existing very detailed agreement that's already
13 been worked out between MWD and PVID, it would
14 seem like the applicant could utilize that
15 agreement in some way as a template for their
16 agreement, or maybe they can even work with MWD to
17 provide some subcontractor buy-in method into this
18 rather large fallowing program.

19 All of the management mechanisms are
20 already in place within the PVID, so it would seem
21 like that might be a viable method to alleviate
22 our concerns and meet the concerns of the River
23 Board and NRCS, and make this plan something that
24 everybody could accept.

25 MS. DeCARLO: And for clarity's sake,

1 can you just explain what the role of NRCS is?

2 MR. LINDLEY: NRCS is the Natural
3 Resources Conservation Service, formerly known as
4 the Soil Conservation Service. And they
5 specialize in erosion control, in erosion issues
6 to help farmers deal with those kinds of issues.

7 They're the entity that approves land
8 management plans for highly erodible lands. I
9 believe they help the USDA manage benefits to
10 farmers.

11 MS. DeCARLO: Now, getting back to the
12 aquifer, itself. Can you please explain how you
13 reached the conclusion that Blythe II's pumping of
14 groundwater would cause a potential significant
15 impact to the groundwater quality?

16 MS. BOND: Certainly. I have some more
17 figures.

18 (Pause.)

19 MS. BOND: The underlying aquifer in the
20 Palo Verde -- yes --

21 HEARING OFFICER SHEAN: May I just ask
22 you, are you going to be the salinity person? Is
23 this the salinity angle on this or something
24 different?

25 MS. BOND: Yeah.

1 HEARING OFFICER SHEAN: Okay. Pardon
2 me.

3 MS. BOND: I may call on Mr. Kessler for
4 some details, but -- underlying the aquifer in the
5 mesa and the valley, directly underlying it is a
6 formation called the Bouse Formation.

7 The Bouse Formation was deposited when
8 this entire region was an inland sea. So the
9 water contained in this formation as it was being
10 laid down was salty brackish water.

11 This formation is 500 feet thick on
12 average, according to the USGS, and underlies the
13 entire Palo Verde area. It is at a depth of about
14 650 feet below the valley, the top of it. And it
15 bows up like a bowl, and outcrops at various
16 points along the surrounding mountains. So it
17 raises in elevation.

18 By my best estimate the Bouse is about
19 150 feet or less below the bottom of the Blythe I
20 well. The Blythe I well is about 600 feet in
21 depth, and the Bouse Formation is going to be
22 bowing up, it'll be less than 750 feet below land
23 surface.

24 The Blythe Power Plant well is unique in
25 that the amount of water it will be pumping, it

1 will be pumping on average 330 acrefeet per year.
2 That, along with the existing Blythe plant, those
3 two wells together pump the equivalent or greater
4 than all of the other pumping that exists on the
5 mesa right now.

6 MS. DeCARLO: I'm sorry, Linda, did you
7 mean it would be pumping 3300 acrefeet of water.

8 MS. BOND: Acrefeet, I'm sorry, did I
9 say 32,000?

10 MS. DeCARLO: No, you said 330.

11 MS. BOND: Okay, yeah, sorry, 3300
12 acrefeet. The two wells together then are about
13 6000 acrefeet, and this is equivalent to what all
14 the other wells in the mesa are pumping. So
15 you're going to have a very deep, very powerful
16 well pumping directly above the Bouse Formation,
17 which contains brackish water.

18 The proximity of the Bouse Formation,
19 the depth and the rate of the project pumping is
20 what is the basis of our conclusion that it will
21 cause an upwelling of saline water from the Bouse
22 Formation.

23 In addition, one of the effects of the
24 pumping when you have inactive wells located in
25 the same area is that essentially water flows in

1 the groundwater system along the path of least
2 resistance. These sediments have been laid down
3 in layers pancake fashion. And they're going to
4 vary a little bit from layer to layer as to what
5 their permeability or their transmissive
6 properties are.

7 So there is also potential beyond the
8 water welling up beneath the wells in this 150 or
9 less feet of aquifer beneath the wells, that the
10 pumping wells will also draw through the gravel
11 pack water that is coming up from the Bouse
12 Formation. So there is potential for mixing in
13 between the wells.

14 Essentially what will happen by the end
15 of the project that you'll have an area or a pool
16 of degraded groundwater in the area of the wells.
17 The wells, if you take into account the Blythe II
18 project wells, along with the existing Blythe
19 well, they expand an area of about a half a mile,
20 2000 feet. And so the area of degradation would
21 encompass that well field.

22 Now, although groundwater pumping
23 creates gradients across, you know, a large area,
24 up to let's say a drawdown of I think the two
25 projects pumping in combination creates drawdown

1 at a distance of three miles, about 500 -- excuse
2 me, three miles about five feet of drawdown. The
3 drawdown is greatest near the project wells.
4 That's where the concentration of upwelling is
5 going to occur.

6 I wanted to put up just for a minute a
7 copy of the applicant's diagram of this process,
8 and I just wanted to point out a couple things.
9 One is that the well is not going to function like
10 a straw. There is no opening on the bottom of the
11 well for saline water to be sucked in.

12 The water comes in from the sides.
13 You're going to have saline water moving up
14 through the bottom of the aquifer until it
15 encounters the wells, and then coming up through
16 the sides of the wells. So you will have, at the
17 very least, an area of degraded water between the
18 Bouse and the base of these wells. It'll take
19 several years for this water to move up, but that
20 will be the net effect.

21 MS. DeCARLO: I'm sorry, did you mention
22 what the TDS level of the Bouse Formation is?

23 MS. BOND: Oh, no, I didn't. Thank you.
24 There's very little information on what the
25 concentration of water is in the Bouse Formation.

1 We know it was deposited in an inland sea, so it's
2 going to contain brackish water.

3 There is some USGS data that indicates
4 the aquifer, well, the formation below the Bouse,
5 which was laid down in a fresh water environment
6 has a TDS of over 4000. So the Bouse would have
7 had to have degraded that lower formation.

8 So, based on that information you can
9 see that the Bouse Formation would contain TDS of
10 at least 4000 or more.

11 MS. DeCARLO: And once that saline water
12 is mixed in with the area near the pumps, is there
13 any way to desalinate or mitigate the impact?

14 MS. BOND: The wells, themselves, will
15 certainly pump out some of the saline water
16 through the life of the project. I would expect
17 that the water produced by the project wells will
18 get more and more saline.

19 But they will not, again, suck up the
20 water, the saline water like a straw. There's
21 going to be saline water sort of moving again like
22 the front of sea water incursion up through the
23 aquifer between the Bouse and the base of the
24 project wells.

25 And when those wells shut off that

1 saline water doesn't suck back into the Bouse
2 Formation. It's going to remain there essentially
3 like a cloud, well, it will be in an area
4 surrounding the project wells of degraded water.
5 Any water users that install wells within this
6 nearby area of the project wells during the life
7 of the project or after would encounter this
8 degraded water.

9 HEARING OFFICER SHEAN: I have two
10 questions while I still have it in mind. Is this
11 upwelling in the nature of a reverse cone?

12 MS. BOND: No, no, not exactly. It's --

13 HEARING OFFICER SHEAN: Okay, that's
14 sufficient for me.

15 MS. BOND: Okay. No.

16 HEARING OFFICER SHEAN: All right,
17 number two, as you described earlier about the
18 cone in not this testimony but quite a bit prior,
19 the cone extending to the canal, and at that point
20 drawing principally from the canal, how does that
21 affect, if it does affect, a tendency to upwell if
22 the principal source of the groundwater recharge
23 is the canal?

24 MS. BOND: That's a good question. And
25 I thought about that, because the question is if

1 you stabilize that kind of impression, then what's
2 going to bring the water up from below.

3 HEARING OFFICER SHEAN: Well, I try not
4 to ask really dumb questions, so I'm glad you did.

5 MS. BOND: No, no, it's a good question.
6 The movement of the water from below will be
7 initiated during the initial drawdown. And I
8 believe that during the project operation over the
9 30 years as water is, the pumping rate is
10 increased and decreased, that there's going to be
11 a surging effect that will bring that saline water
12 up.

13 The thing is the water doesn't go back
14 into the Bouse when the cone stabilizes. It
15 remains in the aquifer.

16 HEARING OFFICER SHEAN: Is that over all
17 time?

18 MS. BOND: Yes. It doesn't go back in.

19 HEARING OFFICER SHEAN: So, any
20 difference in specific gravity of the water that's
21 holding this increased levels of dissolved solids
22 does not cause that water to essentially settle or
23 resettle?

24 MS. BOND: No. If you look at examples
25 of like seawater intrusion along the coast, you

1 have a really large difference in the TDS of the
2 fresh water and ocean water. I can't think of
3 that TDS off the top of my head. Were we saying
4 that was about 35,000? 35,000. You do get a
5 pressure difference between saline ocean water and
6 inland fresh water because there's such a large
7 difference in the salt. But there isn't going to
8 be any density difference here. The water does
9 move up and a way, though, in the same sense, in a
10 moving front.

11 HEARING OFFICER SHEAN: Has the pumping
12 history out of Blythe I provided you any
13 information which would confirm this?

14 MS. BOND: No, not as of yet. Just as
15 the actual water molecules move slowly and from
16 the valley, this water from the Bouse is also
17 going to move up slowly. I would expect that it
18 might take five years or more for the wells to
19 start producing water, depending on how close they
20 are to the Bouse. If the Bouse is 20 feet below
21 the base of the wells you're going to start seeing
22 it maybe in three or four years.

23 So far the Blythe project has not been
24 pumping at its full rate, it hasn't been producing
25 energy to require that much pumping. If the Bouse

1 Formation is 150 feet, which would probably be the
2 maximum below the pumping wells, it might take
3 five or ten years to get up into the project
4 wells.

5 HEARING OFFICER SHEAN: So would well
6 depth be a way to mitigate this potential if it
7 were there?

8 MS. BOND: Well depth would help. And
9 that's one of the reasons why you don't see a lot
10 of real steady change in salinity in the existing
11 well up on the mesa, because most of those wells
12 are, you know, 300 feet, about 300 feet below the
13 water table. So they're maybe 300 or 400 feet
14 above the Bouse Formation, and they're not going
15 to be pumping nearly as high a rate.

16 If the project wells were not as deep
17 that would help. Just like the gradients
18 radiating away from the well, also the vertical
19 gradients radiate down.

20 HEARING OFFICER SHEAN: Now are you
21 referring to, within your exhibit, the -- let's
22 see, there are ten graphs of --

23 MS. BOND: Right.

24 HEARING OFFICER SHEAN: -- groundwater
25 quality sampling that deal with salinity as well

1 as a map called Palo Verde Mesa wells sampled for
2 salinity over time, right?

3 MS. BOND: Right.

4 HEARING OFFICER SHEAN: There seem to
5 be, within the charts, a lot of variability in
6 salinity based upon the depth of the wells. For
7 example, the shallower wells, what you're showing
8 as well number 4, was a state well, had an
9 increase of salinity of like 110 percent, and that
10 well is at 135 feet.

11 Whereas some of the other deeper wells
12 showed increases over the reporting time of
13 between, I don't know, basically 6 to 8.5 percent
14 or so, right.

15 And the ones with the decreasing
16 salinity, that would have been wells number 7 and
17 8, are at 750 and 400 feet. That appears to me to
18 be inconsistent. How --

19 MS. BOND: Yes, --

20 HEARING OFFICER SHEAN: How do you --

21 MS. BOND: -- it's really interesting.

22 HEARING OFFICER SHEAN: How do you
23 resolve that?

24 MS. BOND: I was puzzled. Well, I'm
25 looking for my red pen. Does anybody know where

1 it's rolled off to? Thank you. Okay.

2 I'm trying to think how to explain this.
3 I'm going to have to jump ahead, but that's all
4 right.

5 HEARING OFFICER SHEAN: All right.

6 MS. BOND: This well that shows the very
7 linear rise, the very steady rise in TDS --

8 HEARING OFFICER SHEAN: Yes, well number
9 4.

10 MS. BOND: Yes. That well is located --
11 I had it right the first time, there we go -- is
12 located right here on the edge of the mesa. This
13 kind of shadow here is the edge of the mesa, and
14 this represent the Rannels Drain.

15 Well number 4 is labeled right here.
16 It's a very shallow well. It's only 130 feet
17 below the water table. And what it is drawing in,
18 imagine this well being located right here, is it
19 is drawing in water from the shallow groundwater
20 table in the valley.

21 The shallow groundwater in the valley is
22 very saline because of the irrigation. And prior
23 to agricultural irrigation was very saline because
24 swampy conditions existed. You had a lot of
25 phreatophytes growing there, and essentially

1 plants take up water and leave the salts.

2 And so this well, which was only about
3 150 feet deep, is drawing in water from the
4 valley, rather than from the Bouse Formation.

5 HEARING OFFICER SHEAN: Okay.

6 MS. BOND: Okay?

7 HEARING OFFICER SHEAN: I'm going to --

8 PRESIDING MEMBER GEESMAN: Shouldn't it
9 be drawing from the drain?

10 MS. BOND: Pardon me?

11 HEARING OFFICER SHEAN: Yeah.

12 PRESIDING MEMBER GEESMAN: Shouldn't it
13 be drawing from the drain?

14 HEARING OFFICER SHEAN: Why isn't that
15 drain water with that kind of salinity and --

16 MS. BOND: The groundwater is
17 actually --

18 HEARING OFFICER SHEAN: -- degraded
19 condition --

20 MS. BOND: -- as Mr. Smith pointed out,
21 is actually more saline than what's in the drain.
22 The groundwater in the valley.

23 HEARING OFFICER SHEAN: Because you're
24 not adding the -- I forget your fancy term for
25 it --

1 MS. BOND: Operational spills.

2 HEARING OFFICER SHEAN: -- your
3 operational spill.

4 MS. BOND: Exactly. This water,
5 especially the -- well, I'm not going to get into
6 details.

7 So if that's confusing there's another
8 well sitting right next to that well, well number
9 7. Well number 7. And I have it shown as a blue
10 well, fresh water. If you go to page, the second
11 page of my --

12 HEARING OFFICER SHEAN: Um-hum.

13 MS. BOND: No, I haven't got the right
14 one in my hand.

15 HEARING OFFICER SHEAN: Well, I --

16 MS. BOND: Here we go. All right.
17 There's number 7. You can see what's happening is
18 the, right here, the water quality increases with
19 time. It gets better. And so you ask, hold it,
20 wait, these two wells are right next to each
21 other, this makes no sense at all. What's going
22 on? This one's a deep one.

23 Well, again, you go back to this cross-
24 section, and like I said, the plants concentrated
25 the salinity in the shallow groundwater system.

1 Below there, the deeper you go in the valley, in
2 the central part is fresh water. Okay? The water
3 in the deeper part of the aquifer in the valley
4 are about 600 to 800 TDS. That's more or less in
5 the right range.

6 So up here you have very saline water;
7 and here you have better quality water. This
8 water is much more saline than what's in the
9 groundwater beneath the mesa and this is better
10 quality than what's in the mesa.

11 The mesa doesn't have this top layer of
12 salinity because the water table is 100 feet below
13 land surface. So you don't have that evaporation
14 going on. You don't have the plants growing on
15 the mesa that you do down here in the valley.

16 HEARING OFFICER SHEAN: Well, then can I
17 ask you, I beg your pardon, can you draw a line
18 downward where you think well number 4 is
19 conceptually located in this --

20 MS. BOND: Sure, sure, well number --

21 HEARING OFFICER SHEAN: -- and one for
22 number 7.

23 MS. BOND: -- 4 and well number 7 are
24 right here. Okay? And so these actual molecules
25 are entering the well, that's why you have the

1 salinity coming up so quickly, and the fresh water
2 coming up so quickly. That's why those two wells
3 represent -- produce water that is essentially
4 from the valley, because both the molecules and
5 the groundwater gradients are having an effect.

6 HEARING OFFICER SHEAN: And in this case
7 you've drawn two lines for two wells, but the
8 other line would be deeper, is that correct?

9 MS. BOND: Yes. I'm sorry, let me draw
10 that.

11 HEARING OFFICER SHEAN: Just so we can
12 keep --

13 MS. BOND: I always draw a well as being
14 two lines.

15 HEARING OFFICER SHEAN: Okay.

16 MS. BOND: There we go. There's the
17 other one. And the other thing that's important
18 about this second well is it's not perforated all
19 the way from the top to the bottom of the
20 saturated portion.

21 By perforated I mean those are the holes
22 that let the water in. This well's only
23 perforated in the lower part, so it's pulling
24 water in primarily this way. This well only goes
25 down this far, and it's just perforated up here in

1 the top.

2 HEARING OFFICER SHEAN: Okay. If I may
3 ask you to go back to your map that shows the
4 relative locations of these two, both the power
5 plant, the airport and what I guess is the
6 boundary of the mesa, if I understand correctly
7 from the upper right-hand corner near 9 and 10,
8 all the way down past 4 and 7, that that line that
9 you've drawn in there, does that represent
10 essentially the boundary between the valley and
11 the mesa?

12 MS. BOND: That line. This represents
13 the Rannels Drain.

14 HEARING OFFICER SHEAN: That's the
15 Drain, okay.

16 MS. BOND: Okay? And the edge of the
17 mesa is near this more sort of gray area. What
18 these are are a concentration of a topographic
19 contour showing the --

20 HEARING OFFICER SHEAN: Contours.

21 MS. BOND: -- rapid change in elevation.
22 So the actual edge of the mesa is this.

23 HEARING OFFICER SHEAN: Now, with
24 respect then to -- so are there any wells
25 represented that aren't on the mesa that are in

1 the valley, if you will?

2 MS. BOND: Not that I put in this
3 drawing. There are wells in the valley --

4 HEARING OFFICER SHEAN: Okay, yes.

5 MS. BOND: -- like for the City of
6 Blythe.

7 HEARING OFFICER SHEAN: And so none of
8 the wells that are represented in the graphs that
9 show essentially trends in salinity are from the
10 valley, they're all from the mesa.

11 MS. BOND: Correct. There's different
12 things going on in the valley than what's
13 happening in the mesa.

14 HEARING OFFICER SHEAN: And so am I
15 correct, the one that -- let's see, we're showing
16 here number 7 would appear to be the deepest of
17 the wells from the mesa. None have a deeper draw,
18 is that correct?

19 MS. BOND: This is the only really deep
20 well, number 7. Yeah.

21 HEARING OFFICER SHEAN: Okay. And
22 number 7 then is something less than -- I beg your
23 pardon, let me -- am I correct that the graphs
24 that you've shown to us and the map, are they the
25 underlying information from which you drew your

1 conclusion about the potential for the increase in
2 salinity from the project wells?

3 MS. BOND: No. The graphs are not -- I
4 would not call them the primary basis for my
5 conclusion. The primary basis of my conclusion,
6 what these graphs represent is the limited data we
7 have on salinity changes in wells that were
8 available.

9 The primary basis of my conclusion was,
10 first of all, the USGS' review of the groundwater
11 conditions and the geology in the mesa was that
12 further pumping in the mesa over time could cause
13 upwelling from the Bouse Formation.

14 The reason why I concluded that the
15 project wells would cause upwelling from the Bouse
16 Formation is the proximity of the Bouse Formation,
17 the extent of the Bouse Formation, the fact that
18 it's regionwide, so it's not going to be absent
19 below the project.

20 The depth of the project wells. And
21 sheer rate and volume of pumping that's going to
22 occur from these project wells that will far
23 exceed any other wells pumping rate and length of
24 time of anything that's been pumped out on the
25 mesa to date.

1 HEARING OFFICER SHEAN: Now, with
2 respect, let's just go to the well number 7. If
3 it's 750 feet BLS, what does that mean in --

4 MS. BOND: Below land surface.

5 HEARING OFFICER SHEAN: All right, so
6 that's -- and the pump from the project is going
7 to be how deep?

8 MS. BOND: Well, if it will be the same
9 as Blythe, it will be 600 feet below land surface.
10 So, you're at --

11 HEARING OFFICER SHEAN: So it's 150 feet
12 closer to the surface or farther away from the
13 Bouse Formation --

14 MS. BOND: Correct.

15 HEARING OFFICER SHEAN: -- than this
16 well?

17 MS. BOND: Correct.

18 HEARING OFFICER SHEAN: Is that correct?
19 So, how do we get, then, with this showing a
20 decline over time, how do we then get to a
21 conclusion that somehow out in the future that
22 line for the project well is going to, even if it
23 paralleled this line for awhile, is going to turn
24 and head upward?

25 MS. BOND: Right. The primary

1 difference would be the rate and the amount of
2 pumping that will occur at the project.

3 This well is for the Mesa Verde
4 Community. It's a Mesa Verde water supply well.
5 And this is actually a question I've had. My
6 understanding is that that's a fairly large
7 community out there, but it's a couple thousand
8 people? I don't know if anybody in the --

9 MS. GARNICA: Yeah, it's about 3000
10 people.

11 MS. BOND: 3000 people, okay.

12 UNIDENTIFIED SPEAKER: There's 163 water
13 meters.

14 MS. GARNICA: And there's about ten
15 kids, ten family members on each water meter.

16 (Laughter.)

17 HEARING OFFICER SHEAN: Thank you, Ms.
18 Garnica.

19 HEARING OFFICER SHEAN: All right, so
20 then the difference is that you are anticipating,
21 based upon what you have -- the general concept
22 with, was it the USGS?

23 MS. BOND: Yes.

24 HEARING OFFICER SHEAN: Then that sooner
25 or later, given the volumes of water being pumped,

1 is that notwithstanding other data that suggests
2 something different, that there will be an
3 uplifting of salinity, correct?

4 MS. BOND: Yes.

5 HEARING OFFICER SHEAN: Okay.

6 PRESIDING MEMBER GEESMAN: Based on your
7 earlier testimony wouldn't you expect both well 4
8 and well 7 to be drawing from the drain?

9 MS. BOND: They do, in essence, draw
10 from the drain. I mean the thing that gets
11 complicated here is what these wells do is they
12 catch the water that would otherwise discharge to
13 the drain.

14 They may induce recharge or percolation
15 from the drains, or they may capture water that
16 would have otherwise percolated into that drain.

17 If the drain was -- just a second, let
18 me draw a picture -- if the drain extended all the
19 way, extremely deep drain, like a 600-foot deep
20 drain, then all the pumping would intercept water
21 horizontally from that drain.

22 Instead you have a situation here, the
23 drain is shallow and you either have water
24 percolating out of the drain, or water that would
25 have come into the drain being redirected straight

1 this way.

2 HEARING OFFICER SHEAN: Is the drain
3 unlined?

4 MS. BOND: Yes. The drain would have to
5 be unlined because --

6 HEARING OFFICER SHEAN: It's just a
7 ditch.

8 MS. BOND: Well, it's a ditch, but the
9 reason it's there is to be an outlet for all this
10 extra water in the groundwater system. Otherwise
11 water levels would get higher --

12 HEARING OFFICER SHEAN: Well, so the --
13 (Parties speaking simultaneously.)

14 MS. BOND: -- and higher.

15 HEARING OFFICER SHEAN: Right, right.

16 MS. BOND: So they percolate into the
17 drain.

18 PRESIDING MEMBER GEESMAN: And you don't
19 feel that the significant variance in salinity in
20 wells 4 and 7 undercut your theory about drawing
21 from the drain? You attribute that difference to
22 differences in well depth?

23 MS. BOND: Definitely the reason why
24 there's a difference in the salinity that these
25 two wells produce is because of the stratification

1 of salinity in the aquifer in the valley.

2 Again, pumping from the project is
3 either going to draw water out of the drains as
4 induced percolation from the drains, or it's going
5 to capture water that is otherwise, otherwise it
6 would be coming up through the groundwater system
7 and percolating out this way.

8 Instead it will be redirecting it
9 straight across. And instead of going up into the
10 drain, it's going to come across this way.

11 There will also be water coming across
12 this way.

13 Imagine -- one way to do it would be
14 imagine a bathtub just full of water. And it's
15 about to overflow, okay, out of the top of the
16 tub. Well, if you open the drain it will start
17 going out this way. And water will exit the drain
18 instead of spilling over the lip of the bathtub.

19 Imagine this water in a sense spilling
20 into this drain up here. But instead now it's
21 going out this way.

22 PRESIDING MEMBER GEESMAN: Yeah, but I'm
23 also imagining a cone of depression somewhat
24 similar to the way you've configured it for Blythe
25 II. And I'm recalling your statement that once it

1 hits the drain --

2 MS. BOND: Um-hum.

3 PRESIDING MEMBER GEESMAN: -- that's
4 where all the water comes from.

5 MS. BOND: When I say hits the drain I
6 mean hits the region where you have this surplus
7 of percolating water. It hits the valley, reaches
8 the valley, reaches the area where you have a
9 surplus of potential recharge, a surplus of excess
10 recharge.

11 Another way to think about it is when
12 this well starts pumping, the screen's down here,
13 so it's going to draw water primarily horizontally
14 into this well, in these well screens. If water
15 is removed here, then water levels will lower a
16 little. And so you'll have less water to go into
17 the drain. Maybe that's another way to explain
18 what I'm saying.

19 It's taking water across here, and so
20 that will lower water levels a little bit, and
21 there'll be less going into the drain. Another
22 way of saying it is it's capturing water that
23 would otherwise discharge to the drain.

24 So you --

25 HEARING OFFICER SHEAN: And can you draw

1 a similar lines, are there similar -- is there a
2 reason for there to be similar lines for the lower
3 portion of the project well --

4 MS. BOND: Yes. I --

5 HEARING OFFICER SHEAN: -- based upon --

6 MS. BOND: Yes. I could have drawn
7 arrows like this, but I thought it made it look
8 too confusing. The water is coming this way. The
9 predominant path of flow to the well will be
10 horizontal, okay?

11 HEARING OFFICER SHEAN: Okay.

12 MS. BOND: The Blythe -- we draw this
13 cone of depression partially because as you come
14 from below the water level goes down. But it's
15 both a water level change and a pressure change.

16 HEARING OFFICER SHEAN: Now, with a
17 horizontal flow what is going to give the vertical
18 uplift to the salinity then?

19 MS. BOND: Okay. Fair enough. If your
20 water pressure, say here, is 250 feet, okay, and
21 you start pumping here, it lowers the water
22 pressure up here to 200 feet. So the water
23 pressure is less up here than here.

24 And so there is also an upward gradient.
25 There is a three-dimensional component to your

1 pumping. The physics are such that if you remove
2 water there's a draw in all directions. And the
3 only reason why your main direction of flow is
4 horizontal is that all these sediments were, at
5 one point, laid down by an ancestral Colorado
6 River in layers. And so you'd have a very strong
7 flood event and it would scatter gravels and sand.
8 Then you'd have a very low flood event that would
9 spread out clay. So you have this continuous
10 variation of clay/sand, clay/sand.

11 But in the horizontal it's a layer of
12 sand. So the water is going to tend to stay in
13 those -- will preferentially flow in this
14 direction. But nevertheless the pressure radiates
15 outward and you still have that pressure gradient
16 going vertically. The only reason why it doesn't
17 flow just as easily vertically is that you have
18 these clay layers in between.

19 The physics of the flow right here
20 proportionately will be, say your horizontal
21 permeability is 100 feet per day and your vertical
22 permeability is about 10 feet per day. So that
23 means ten times more water would be coming in this
24 way, because it's easier for that water to flow
25 than upwards.

1 And these physics don't change. It
2 doesn't matter if this well is ten miles from the
3 river or ten feet from the river. What controls
4 the movement is the grain sizes. And the reason
5 why water flows quickly to a well next to the
6 river is the distance. It's distance times
7 permeability.

8 So water -- the physics don't change
9 just because a well is closer to a river. It's
10 the grains that allow the water to flow more or
11 less easily.

12 HEARING OFFICER SHEAN: But is it not
13 true from your former testimony that the, as you
14 call it, the syrup running off the paper, that the
15 pressure that exists from that is a result of
16 essentially nature trying to equilibrate --

17 MS. BOND: Correct.

18 HEARING OFFICER SHEAN: -- the pressure
19 from above and the pressure from below?

20 MS. BOND: Right. But there is no --
21 those physics don't exist in two dimensions. It
22 exists in three dimensions. There is going to be
23 a pressure gradient difference between the Bouse
24 below and the aquifer above because you're pumping
25 above. You're creating a change in pressure up

1 here. And so there's going to be that force to
2 equilibrate between the Bouse and the primary
3 aquifer here.

4 The only reason why water doesn't flow
5 rapidly up in this direction as compared to
6 horizontal is you have these layers of clay which
7 impede the flow.

8 You've heard about aquatards and clay
9 layers. They don't prevent water from flowing,
10 they just slow it down. The porous spaces are
11 much smaller in clay. The permeability is lower.

12 PRESIDING MEMBER GEESMAN: Earlier in
13 your testimony on salinity you mentioned a depth
14 of five feet to three miles, or an impact --

15 MS. BOND: The pressure gradient, um-
16 hum.

17 PRESIDING MEMBER GEESMAN: Could you
18 elaborate on what you meant by that?

19 MS. BOND: Yes. The farther away you
20 move from the pumping well the smaller the
21 pressure gradient is. In the Blythe I wells, when
22 they tested the aquifer and tested the well, the
23 drawdown or pressure gradient right there at the
24 well was, I believe, about 20 feet of pressure
25 difference or drawdown in one and 40 feet in the

1 other.

2 As you move away from the well that
3 pressure gradient decreases logarithmically. I
4 believe -- trying to remember the numbers. I know
5 the numbers I know the best is calculating the
6 change in pressure gradient or the change in
7 drawdown for the two wells for the Blythe I and
8 Blythe II combined at a distance of three miles
9 you had a five-foot pressure gradient. While
10 right there in the well field it'll probably be
11 about double what it was in the Blythe I and
12 Blythe II wells. It'll be like 60 feet of
13 drawdown versus five.

14 PRESIDING MEMBER GEESMAN: That's a
15 logarithmic calculation that you've made?

16 MS. BOND: Yes. The physics are ruled by
17 logarithmic decrease. So that's why the upwelling
18 is going to be near the wells, because that's
19 where the highest pressure gradient is.

20 But, again, it doesn't suck up through
21 the bottom of the well like a straw.

22 MS. DeCARLO: The applicant claims that
23 if groundwater were truly being replaced by
24 Colorado River water, as staff claims, then
25 groundwater quality would improve over time, is

1 this correct?

2 MS. BOND: Groundwater quality will be -
3 - the changes in groundwater quality will be
4 governed by the dynamics that I just discussed.
5 Adjacent to the valley a moving front of water
6 will come in from the valley toward the mesa over
7 the life of the project. That water may move
8 about 600 feet into the mesa. The top portions of
9 it will be more saline; the deeper portions of the
10 water will be fresher, reflecting the variation in
11 salinity in the valley.

12 The pumping of the project well, the
13 groundwater in the project well won't be affected
14 by the freshness or the salinity in the valley
15 because those molecules don't move very far.
16 That's the best way to put it.

17 MS. DeCARLO: Now, there's been some
18 discussion about the age and the small sample
19 sizes, the data you've used. Is the data
20 reliable?

21 MS. BOND: I believe the data's
22 reliable. It forms the basis of the USGS'
23 assessment that there was potential for upwelling
24 from the Bouse Formation and the increase in
25 salinity in the mesa. And again, based on the

1 proximity of the Bouse Formation, the nature of
2 the Bouse Formation and the rate of pumping of the
3 project wells, I believe that there will be enough
4 leveling of salinity.

5 The data that we have does include more
6 recent data, including wells at the airport, as
7 well as along the edge of the mesa. And they
8 represent essentially the preliminary indications
9 of salinity increases. But because none of those
10 wells were very deep except for the one right at
11 the mesa's edge, I would not expect a very steady
12 increase of salinity to show at this point in
13 time.

14 MS. DeCARLO: Now the applicant has
15 provided some testimony that the population of
16 Mesa Verde will soon be getting its drinking water
17 supply straight from the City and no longer using
18 its water well. Does this fact change your
19 conclusion regarding the significant adverse
20 impacts to the groundwater quality?

21 MS. BOND: No. I would not have
22 expected saline upwelling caused by the project to
23 have affected the Mesa Verde wells because Mesa
24 Verde wells are almost two miles from the project
25 site.

1 The area that will be affected by saline
2 upwelling would be surrounding the area of the
3 project site, spanning over the 2000 square feet,
4 maybe a half mile square mile area where the wells
5 are located.

6 And the only people who would be
7 impacted by this would be groundwater users
8 located near the site, or once the project is
9 complete, any groundwater users that located near
10 the previous project site location.

11 MS. DeCARLO: Now let's go on to staff's
12 analysis of LORS. What did you conclude regarding
13 the project's compliance with water law policy?

14 MR. SAPUDAR: We concluded that the
15 project's proposed use of groundwater is
16 inconsistent with both state water policy and also
17 with the Energy Commission's IEPR water policy,
18 which states the use of fresh water for power
19 plant cooling will be allowed only where
20 alternative water supplies, sources, and
21 alternative cooling technologies are shown to be
22 environmentally undesirable or economically
23 unsound.

24 We determined two alternatives that
25 would provide consistency with the state and

1 Commission policy. The use of dry cooling; and
2 also the use of agricultural drain water from the
3 Rannels Drain, along with a verifiably effective
4 water conservation offset program.

5 MS. DeCARLO: And how did you conclude
6 that the groundwater in question, the one proposed
7 to be used by Blythe II, is fresh water under the
8 Energy Commission's policy?

9 MR. SAPUDAR: This is going to take us
10 back to policy 7558. We considered several
11 things. We looked at not only policy 7558, but we
12 also looked at the State Water Board's policy 8863
13 which defined sources of drinking water.

14 We looked at the Warren Alquist Act; and
15 we also looked at the Commission's IEPR for water
16 policy.

17 The State Water Board policy 8863
18 defined sources of drinking water. And the
19 aquifer under the mesa is considered a source of
20 drinking water by the state and regional boards,
21 and is afforded that protection.

22 The aquifer is a substantially higher
23 quality and greatly exceeds any other requirements
24 that would allow it to be exempted as a source of
25 drinking water under policy 8863.

1 And one of the key criteria here is it
2 says that a water body may be exempted as a source
3 of drinking water if the total dissolved solids
4 exceed 3000 mg/liter, 3000 ppm; and it is not
5 reasonably expected by the water board to supply a
6 public water system.

7 The groundwater is only about 1000 ppm
8 TDS. And just to put that in perspective, I have
9 the annual water quality report for the City of
10 Davis, a few miles west of Sacramento. And they
11 list the TDS range of my water as 290 to 1000 ppm
12 TDS. So the water I get in Davis at times isn't
13 much better than the water that the City of Mesa
14 Verde has.

15 And, again, the 1000 ppm TDS is an upper
16 maximum contaminant level, secondary maximum
17 contaminant level, not a primary MCL. The
18 groundwater under the mesa is only about 1000 ppm
19 TDS. And it has supplied a public water system,
20 that's the community of Mesa Verde, for years.
21 And will likely supply future water systems in the
22 area if this area grows.

23 Now, 7558 defines inland water as all
24 waters within the territorial limits of California
25 exclusive of the water of the Pacific Ocean,

1 outside of enclosed basin estuaries and coastal
2 lagoons.

3 It defines fresh inland water as those
4 inland waters which are suitable for use as a
5 source of domestic, municipal, agricultural water
6 supply and which provide habitat for fish and
7 wildlife.

8 As we know, it defines brackish water as
9 includes all water in the salinity range of 1000
10 to 30,000 mg/liter and a chloride concentration
11 range of 250 to 12,000 ppm.

12 The application of the term brackish to
13 a water is not intended to imply that such a water
14 is no longer suitable for industrial and
15 agricultural uses according to 7558.

16 Now, the groundwater is used to serve
17 the same beneficial uses as fresh inland water
18 under policy 7558. The groundwater serves all of
19 the beneficial uses, as defined as fresh water.

20 The mesa groundwater averages, and this
21 is data that we have from testing at the actual
22 project site from monitoring wells and production
23 wells, shows an average TDS of 1015 TDS, and a
24 chloride concentration average of 218 ppm.

25 The TDS is very marginally over what's

1 defined as brackish by 7558, and the chloride is
2 under. So it doesn't meet both of the
3 requirements of 7558 to be defined as brackish
4 water.

5 Now, staff considers that the brackish
6 water criteria, particularly when it's in this
7 very marginal borderline area, to be much less
8 important than the fact that this water does serve
9 all the beneficial uses of fresh water as defined
10 in 7558, and is used for those purposes on the
11 mesa.

12 PRESIDING MEMBER GEESMAN: Is that how
13 you distinguish the lower TDS counts for the
14 recycled water used in the Pico Plant or the
15 Roseville Plant or the Tesla Plant?

16 MR. SAPUDAR: No, that's recycled water.
17 There's a part of the Water Code that deals with
18 that. That says that the use of fresh water in
19 cooling systems could be considered a waste or
20 unreasonable use of water, under the Water Code
21 and also the Constitution, if recycled water is
22 available.

23 There's also other issues with recycled
24 water.

25 PRESIDING MEMBER GEESMAN: That makes it

1 not available for the same beneficial use as the
2 groundwater would be.

3 MR. SAPUDAR: If it was substantially
4 cleaned up. I mean there's talk about treating
5 effluent to the point that it can be reinjected
6 into aquifers. And it could actually be used,
7 depending on the cleanup, as directly as drinking
8 water, but that's not potable to some people.

9 PRESIDING MEMBER GEESMAN: But the
10 Commission found those three sources of water all
11 with lower TDS counts than you're attributing to
12 this groundwater to be acceptable for power plant
13 cooling.

14 MR. SAPUDAR: Yeah, we found it
15 acceptable for power plant cooling as reclaimed
16 water. Just as we'd find -- reclaimed water is
17 not considered a source of drinking water; it's
18 not considered fresh water. It's reclaimed water.
19 It's got a legal definition, -- applied
20 particularly to that class of water.

21 MR. KESSLER: If I might also just add
22 to that distinction that in the case of the plants
23 that you mentioned, Commissioner, we talking about
24 tertiary treated wastewater.

25 In the case of ag return water, both of

1 those are specifically labeled as not being
2 suitable for drinking water.

3 But in the case of this groundwater
4 below the mesa, our research finds that it is
5 consistent for use, as well as the evidence shows
6 that it is being used as drinking water.

7 HEARING OFFICER SHEAN: Do you give any
8 value to the fact that the residents of the mesa,
9 and now the City, have decided that it's worth
10 expending public money to provide other sources of
11 fresh water to the mesa and its residents than to
12 have them continue to use the water that's
13 currently being pumped from groundwater?

14 MR. KESSLER: I think we certainly
15 encourage the highest quality of water to be made
16 available for drinking water, and recognize that,
17 you know, those plans are to the benefit of the
18 customers and the residents.

19 But in terms of distinguishing that the
20 quality of water suitable for drinking, the
21 current water supply, as Mr. Sapudar pointed out,
22 does fit within the 8863, and does also fit within
23 7558 when you look at both TDS and the salt
24 concentration.

25 HEARING OFFICER SHEAN: Is this

1 changeover effectively an offset against the use
2 of the groundwater that's in the Palo Verde Mesa
3 area against what the project's going to use?

4 MR. SAPUDAR: I think the water's going
5 to be supplied by the City of Blythe, the
6 pipeline. So it would be water obtained from the
7 City of Blythe's wells in the valley. That's my
8 assumption. If that's incorrect, I'm sure
9 somebody will fix it.

10 MR. KESSLER: And our understanding is
11 that water that the City draws from the wells is
12 also accounted for within PVID's diversion/less
13 return.

14 MR. SAPUDAR: So the point here is is
15 with the available data we have, the sampling data
16 from the project wells and the monitoring wells,
17 the water doesn't fit the term brackish under
18 7558. It is a source of drinking water; it's not
19 even close to any of the criteria in the sources
20 of drinking water policy that would exclude it as
21 a source of drinking water.

22 It also, it's capable and is being used
23 for all the beneficial uses served by fresh water,
24 and it's likely to be so in the future as water
25 becomes shorter in supply.

1 HEARING OFFICER SHEAN: So you're saying
2 it's being used for all the beneficial uses, so
3 does that mean it can be applied to crops without
4 limitation?

5 MR. SAPUDAR: Depends on the crops.
6 Some crops are --

7 HEARING OFFICER SHEAN: Well, some crops
8 are more sensitive to --

9 MR. SAPUDAR: Exactly. And in some
10 cases that water might need to be blended, or
11 there might have to be leaching. But the fact is
12 is that it is used for agricultural use also.

13 So I think if we're looking at this as
14 is this brackish water that's not suitable for any
15 beneficial use other than power plant cooling at
16 this point, clearly the facts don't support that.

17 HEARING OFFICER SHEAN: Is that the
18 requirement either of the State Water Board policy
19 or the Energy Commission's IEPR, that it not be
20 capable of being used for any other purpose?

21 MR. SAPUDAR: No, but that was the
22 assumption here, is that it's good enough to be
23 used for power plant cooling, but not to be
24 considered for other beneficial uses.

25 It has other uses --

1 HEARING OFFICER SHEAN: I'm sorry, I
2 just want to make it clear. Are you testifying
3 that the only brackish water that can be used for
4 power plant cooling is water that is so brackish
5 that it has no other beneficial use?

6 MR. SAPUDAR: No, not at all.

7 HEARING OFFICER SHEAN: Okay.

8 MR. SAPUDAR: Not at all. There's the
9 ranges that are set by 7558, and there's also the
10 ranges that are set by the sources of drinking
11 water quality that defines the source of drinking
12 water.

13 So I think we considered -- we didn't
14 look at a very narrow individual criteria. We
15 tried to look at a little broader picture and see
16 what else would apply.

17 Plus the fact that the water is being
18 used as a source of fresh water. It serves all
19 those beneficial uses.

20 Also we looked at the Warren Alquist Act
21 where it regards water conservation. And it says
22 it's the policy of the state and the intent of the
23 Legislature to promote all feasible means of
24 energy and water conservation, and all feasible
25 uses of alternative energy and water supply

1 sources.

2 And then, of course, the Commission's
3 2003 IEPR water policy which says that consistent
4 with Board policy and the Warren Alquist Act, the
5 Energy Commission will approve the use of fresh
6 water for cooling purposes by power plants which
7 it licenses only where alternative water supply
8 sources and alternative cooling technologies are
9 shown to be environmentally undesirable or
10 economically unsound.

11 So basically our conclusion is that we
12 found that the weight of evidence does not provide
13 any support for a finding that state water law and
14 policy allows a source of drinking water to be
15 preferential use for power plant cooling,
16 particularly when that water source meets and
17 serves all the beneficial uses that a fresh water
18 supply has, and is the only source of fresh water
19 available on the mesa.

20 HEARING OFFICER SHEAN: And wouldn't it
21 be correct to state then that the conclusions you
22 draw from that -- is different from that that the
23 Commission made in the Blythe I proceeding, which
24 is that we conclude that the water supply, as
25 proposed by the applicant, is acceptable. Taking

1 into account the state water policy that was
2 applicable at the time, which is the same as it is
3 today?

4 MR. SAPUDAR: It depends on was the data
5 we have available now available then on actual
6 water samples from the project.

7 HEARING OFFICER SHEAN: And do they
8 differ?

9 MR. SAPUDAR: Well, we have more data
10 now. And it shows that --

11 HEARING OFFICER SHEAN: That leads to a
12 different conclusion with respect to the
13 acceptability of the water supply?

14 MR. SAPUDAR: If you look at the table
15 of data we have in the FSA, and that has the set
16 of data we have on the project's wells, as far as
17 TDS and as far as chloride, 7558 says a water to
18 be considered brackish must be above 1000 ppm TDS
19 and greater than 250 ppm chloride.

20 The water under the project site, based
21 on the data that we have, the data in the record,
22 shows that it does not meet that requirement.

23 And again the argument that it is a
24 source of drinking water, and is protected as
25 such. And it meets all those beneficial uses.

1 MR. KESSLER: And the Blythe I analysis
2 did not have the benefit of an alternative water
3 supply to compare as to which would be most
4 degraded. And, as such, which might be most
5 consistent with the policy, both 7558 and more
6 recently the Commission's policy.

7 HEARING OFFICER SHEAN: So the --

8 MR. KESSLER: Blythe I did not have the
9 benefit of comparing Rannels Drain at the time.
10 Water quality --

11 HEARING OFFICER SHEAN: And why is that?

12 MR. KESSLER: It was not analyzed.

13 HEARING OFFICER SHEAN: Okay, it wasn't
14 that it didn't exist, it just wasn't analyzed?

15 MR. KESSLER: Correct.

16 HEARING OFFICER SHEAN: And so the
17 statement here under Commission discussion, it is
18 important to note that BEP is not using "fresh"
19 water for cooling purposes in the strictest sense.

20 You would disagree with that, under your
21 terms of fresh, so long as it's capable of being
22 consumed for drinking, it is fresh?

23 MR. SAPUDAR: We also have the numbers.
24 Again, we have the monitoring data from the
25 project site that shows 1015 ppm TDS, an average

1 value, and 2018 ppm chloride. 7558 says it must
2 be greater than 1000 ppm TDS and greater than 250
3 ppm chloride.

4 The data we have shows that that water
5 does not meet that requirement for brackish.
6 That's based on the evidence in the record that we
7 have available to us at this time.

8 MS. DeCARLO: And was that data
9 available during the Blythe I proceedings?

10 MR. SAPUDAR: I don't know if we had --
11 we didn't have all the data, for sure. I know we
12 had at least -- we didn't have at least six of
13 those data points, I think.

14 The monitoring data from the wells,
15 production wells, I don't know that we had that,
16 either. I'd have to --

17 MS. BOND: From Blythe I, well, the
18 production wells didn't --

19 MR. SAPUDAR: -- (inaudible) --

20 (Parties speaking simultaneously.)

21 MS. BOND: -- exist so we didn't know
22 what the specific --

23 MR. SAPUDAR: Okay.

24 MS. BOND: -- TDS and chloride would be
25 at the project site.

1 MR. SAPUDAR: So those data were
2 developed, I guess, during compliance when the
3 wells were tested; and also there's a monitoring
4 requirement associated with that.

5 PRESIDING MEMBER GEESMAN: How does your
6 concern with the potential upwelling of salinity
7 factor into that conclusion?

8 MR. SAPUDAR: The upwelling of salinity
9 would obviously degrade the groundwater quality
10 further. Whether that would, I mean that would be
11 the case.

12 PRESIDING MEMBER GEESMAN: We're pretty
13 close to the borderline of your definition now
14 anyway, aren't we?

15 MR. SAPUDAR: We are, yeah.

16 MS. BOND: So the --

17 PRESIDING MEMBER GEESMAN: If you do
18 have an upwelling phenomenon, isn't it likely that
19 you'd cross the borderline that your definition
20 would apply?

21 MR. SAPUDAR: You could. You could.
22 And you'd also have that zone of degraded higher
23 TDS water around the project site that if other
24 wells were put into it they'd be drawing that
25 degraded water, also.

1 So, yeah, based on the data we have that
2 could certainly, it's conceivable it could push it
3 over the edge.

4 MS. DeCARLO: Do you believe that the
5 purpose of 7558 and the Energy Commission's water
6 policy, as identified in the IEPR, was intended to
7 accommodate a potential situation where a project
8 might degrade an aquifer or water quality enough
9 to then make it fall under the brackish water
10 definition?

11 MR. SAPUDAR: I would have to assume
12 that a water quality that's designed to protect
13 fresh water sources of drinking water wouldn't
14 encourage or allow, except by just not being
15 written that way, to allow that water to be
16 degraded to a point where it could be used, or be
17 considered brackish and then designed to be used
18 for power plant cooling. I would not assume that
19 that was the case.

20 There's also --

21 PRESIDING MEMBER GEESMAN: Let me make
22 certain though I understand the practical
23 ramifications of the staff's position. You don't
24 believe the applicant should be allowed to utilize
25 groundwater on the site consistent with the

1 Commission's and the Water Board's policy; and
2 this is groundwater that we've been told by the
3 staff is derived principally from the Rannels
4 Drain, but you do believe a preferable alternative
5 would be to draw water directly from the Rannels
6 Drain?

7 MR. SAPUDAR: Yeah, there's two issues
8 there. Number one, we also had a letter that I
9 think we -- it's in the docket -- that we
10 submitted from the Chairman of the State Water
11 Resources Control Board, responding to the Siting
12 Committee's look at 7558 and how it applied.

13 And the Chairman at one point in the
14 letter summed it up by saying the policy
15 recommends that the lowest quality of water
16 available to use for power plant cooling, given
17 all the other choices.

18 Now, Rannels Drain is the lowest quality
19 of water available at this point that we've
20 identified that's reasonably available to the
21 project.

22 PRESIDING MEMBER GEESMAN: You've told
23 us it's the same water.

24 MR. SAPUDAR: It is the same water. But
25 it's further degraded than the groundwater. Now,

1 the impacts are the same, but the problem there is
2 that with the groundwater pumping you have the
3 degradation of the aquifer caused by increasing
4 salinity. You avoid that with the Rannels Drain
5 water.

6 Now, as far as the impacts on the PVID
7 return flows, since the water is going to be
8 removed from the PVID system and consumed either
9 way, we consider that to be an equal effect on the
10 return flows to the river.

11 MS. BOND: I'd like to add something.
12 If groundwater pumping is used to provide the
13 project with its cooling water, you will, again,
14 move water toward the pumping wells from the
15 Rannels Drain, but you won't be actually consuming
16 water that's right there at the drain.

17 If you pump at the project you run a
18 large risk of degrading the aquifer within the
19 proximity of the wells. If you use the Rannels
20 Drain water, actually pump from the Rannels Drain,
21 it would be a net benefit to the region because
22 you'd be removing saline water that would
23 otherwise discharge into the Colorado River water.

24 The salinity of the Colorado River water
25 is a regional problem, as water moves on down

1 through the Colorado River system. By the time it
2 gets to Mexico, it's extremely saline. And that's
3 been an issue over and over again in the
4 management of the river.

5 So with pumping groundwater you're going
6 to have a tendency to degrade existing water
7 sources. If you use Rannels Drain water, you're
8 going to be improving the water quality in the
9 Colorado River, causing a net positive impact.

10 In both cases you are going to decrease
11 the total flows to the river, but in one you've
12 got a positive effect in terms of salinity; in
13 others you're going to have a negative effect in
14 terms of salinity.

15 MR. KESSLER: And the last piece of the
16 puzzle here is that if you choose to intercept the
17 shallow groundwater, that red zone that Linda
18 showed in her graph, you're assured at collecting
19 the most degraded water and not having it diluted
20 by the operational spills from canal B.

21 So you have the opportunity to assure
22 that you're not degrading the aquifer below the
23 proposed project; and the ability to assure that
24 you're intercepting the most degraded water that's
25 not being diluted by 700 ppm diversions from the

1 Colorado River.

2 MS. DeCARLO: Now we've heard a little
3 bit about Rannels Drain. Can you discuss that and
4 any other alternatives you've identified, between
5 the alternatives to the project's proposed use of
6 groundwater?

7 MR. KESSLER: We reviewed the proposed
8 project and alternatives with respect to the IEPR
9 policy as to they're environmentally desirable and
10 economically sound. This included review for
11 adequacy of water supply, environmental
12 evaluations by our technical authors of the FSA,
13 as well as the valuation of economic comparability
14 and feasibility.

15 Alternative one, we looked at the
16 wastewater effluent from the City of Blythe's
17 wastewater treatment plant. And the bottomline
18 there is that there's not an adequate supply to
19 meet the current or future needs of the plant.

20 We also looked at alternative two, which
21 is the ag return water from Rannels Drain,
22 combined with wet cooling. And in that ditch the
23 flow normally varies from a minimum of about 2 cfs
24 in January of 15 cfs during most of the balance of
25 the year, as we understand from discussions with

1 PVID. Other than their maintenance outage
2 periods, which they advise us they could
3 accommodate with a makeup supply from the
4 irrigation system.

5 We also understand that the Rannels
6 Drain would require about a one-mile pipeline. We
7 evaluated two routes for the pipeline and both of
8 those were found to be acceptable. We just want
9 to clarify that water could either be directly
10 drawn from the drain as typical sump intake pump
11 system; or it could be intercepted, as we just
12 mentioned, from shallow fields, well fields that
13 would assure capturing the most degraded portion
14 of that shallow groundwater. And this we found to
15 be the most degraded water supply to the project.

16 We also looked at use of irrigation
17 return water from Rannels Drain for the hybrid
18 cooling, which would be a one-third wet, two-
19 thirds dry. And the results of this we found to
20 be feasible as well as this would conserve about
21 two-thirds of the proposed water supply. It would
22 only demand about 1100 acrefeet per year.

23 And we looked at dry cooling, which
24 would conserve the most water. Reducing the
25 annual water use of about 3300 acrefeet per year

1 to about 100 acrefeet per year. And this would
2 rely on groundwater from the existing Blythe I
3 wells. Since it's a minimal water supply, it
4 would not require any new infrastructure in that
5 respect.

6 We also looked at alternative five,
7 which was dry cooling with a peaker unit just to
8 help offset the energy efficiency performance of
9 the plant that would be associated with dry
10 cooling.

11 Our conclusions were that either dry
12 cooling or the wet or hybrid cooling with use of
13 Rannels Drain water, in conjunction with a
14 verifiably acceptable water conservation offset
15 plan would eliminate or mitigate the project's
16 effects on water supply and groundwater quality,
17 and are the preferred alternatives.

18 PRESIDING MEMBER GEESMAN: Would you
19 elaborate on your comment about an irrigation
20 makeup for, I believe, it was your option one?

21 MR. KESSLER: Alternative two, which is
22 the Rannels Drain supply. From our discussions
23 with PVID we understand that, just like any ditch
24 system, there's normally a maintenance outage that
25 lasts for a week or two.

1 And we understand that if there wasn't
2 adequate flow because of water being supplied to
3 the fields or being intercepted in the drains,
4 that if you had a surface water, basically a pump
5 intake system from Rannels Drain that you could --
6 PVID could accommodate that with releasing some of
7 the operational spill water, that same irrigation
8 supply water to the drains to maintain the water
9 supply continuity, and not cause an effect of an
10 outage to the plant.

11 I think it's our position that in lieu
12 of that, if you developed the shallow well field
13 you would have the opportunity to maintain
14 continuity; that wouldn't be an issue. You would
15 have the benefit of capturing the absolutely
16 degraded shallow groundwater in the vicinity of
17 the drain.

18 PRESIDING MEMBER GEESMAN: Do you have
19 an estimate of the volume of a likely irrigation
20 makeup?

21 MR. KESSLER: I know that the plant
22 demands on average about 3.5 cfs, so we're talking
23 something in that range in order to make up that
24 supply for a limited duration of a week or two.

25 PRESIDING MEMBER GEESMAN: And what's

1 that calculate out to in terms of acrefeet per
2 year?

3 MR. SAPUDAR: That's -- 3.5 cfs would be
4 7 acrefeet a day, so over the course of two weeks
5 we're talking roughly 100 acrefeet.

6 MS. DeCARLO: Now, the applicant claims
7 that the groundwater it is using in fact has a TDS
8 level higher than what's in Rannels Drain. Can
9 you please respond to this assertion?

10 MR. KESSLER: Excuse me, I had a frog in
11 my throat. We really touched on this earlier,
12 just to summarize what Ms. Bond said earlier is
13 that the groundwater samples within the Blythe I
14 wells that we've observed have ranged in TDS from
15 920 to about 1200 mg/liter. And we would expect
16 the Blythe II well to fall within the same range.

17 The observations that we have on Rannels
18 Drain water, which is just capturing that blended
19 water within the drain ditch, and it does account
20 for some dilution from the operational spills, we
21 have data from '67 to '71 where UCD's average
22 sample or the average of their samples was 1830
23 mg/liter.

24 We have data from 1975 from the Bookman-
25 Edmunston report and sampling of 1920. We have

1 data from UCD, both September 2002 and March 2003,
2 which showed levels of 1510 and 1730 mg/liter.

3 And we note that neither PVID nor the
4 applicant has been able to provide us with any
5 data that shows that the TDS levels for the drain
6 are lower than the groundwater TDS levels measured
7 at the Blythe site.

8 MS. DeCARLO: Would you like to add
9 anything to your testimony earlier regarding what
10 has changed since Blythe I was certified and
11 today?

12 MR. SAPUDAR: Yeah, there's several
13 things that have changed with regard to Blythe I
14 versus Blythe II. And some of the things that
15 kind of fall into this are the Colorado River
16 quantification settlement agreement was developed
17 and put into place. And it's designed to reduce
18 California's use of about 800 to a million
19 acrefeet of Colorado River water a day and bring
20 us back within our state's allocation.

21 This will happen over about the next ten
22 years or so. And it will result in a steady
23 decrease in California's amount of Colorado River
24 available to it.

25 This difference, this reduction is going

1 to be met primarily through transfers of
2 agricultural water for urban use and also
3 conservation. The following programs in place by
4 Imperial Irrigation District and San Diego and
5 PVID and Metropolitan Water District are examples
6 of just how that is happening and will continue to
7 happen in the future.

8 We find that the Blythe II project's
9 unmitigated groundwater use reduces the amount of
10 Colorado River water available by about 3300
11 acrefeet per year, and by nearly 100,000 acrefeet
12 over the lifetime of the project.

13 The cumulative effects for Blythe I and
14 Blythe II would double these amounts to 6600
15 acrefeet a year, or 200,000 acrefeet a year over
16 the life of the two projects.

17 The Blythe I and also Blythe II cause
18 decreases in Colorado River water available to the
19 state and will occur during this time when we're
20 cutting back our use of Colorado River water.

21 And we have a better understanding of
22 the Colorado River surface water/groundwater
23 system particularly within the PVID service area.
24 And lead staff to conclude that Blythe II's
25 unmitigated use of Colorado River water withdrawn

1 as groundwater would contribute to a significant
2 cumulative impact to the state's Colorado River
3 water supply. And that would be based on a
4 diversion/less return accounting system is the key
5 point in that finding.

6 The Energy Commission has since adopted
7 a 2003 Integrated Energy Policy Report that
8 reiterates the state's water policy to allow the
9 use of fresh water for power plant cooling only
10 where alternatives are environmentally undesirable
11 or economically unsound.

12 Staff also did not have the benefit of
13 the detailed water supply and cooling option study
14 for Blythe I as we do now for Blythe II. Even
15 though I believe the Commission in Blythe I found
16 that dry cooling was feasible for the Blythe I
17 project.

18 And our analysis of alternative cooling
19 options has progressed a lot, and we have a very
20 detailed and comprehensive alternative cooling
21 analysis for the Blythe II project.

22 This study supports the feasibility of
23 either a dry cooling or a wet cooling plant with
24 Rannels Drain water, in conjunction with a
25 verifiably effective water conservation offset

1 program as mitigation for the project's water use.

2 And we believe it also provides
3 consistency with both the state water policy and
4 also the Energy Commission's water policy. Either
5 one of those options.

6 California power projects utilizing dry
7 cooling are now either currently operating, that
8 would be the Sutter and the Crockett Plants, or
9 under construction, that's the Otay Mesa Plant.
10 And are or will be competing in the same merchant
11 power market as Blythe II.

12 MS. DeCARLO: We'll skip our discussion
13 of dry cooling until the applicant's gives their
14 testimony.

15 Now we'll move on to the conditions.
16 The applicant has objected to soil and water-11,
17 and expressed a preference for the version this
18 Commission adopted in Blythe I. Can you please
19 explain how and why this version has changed?

20 MS. BOND: I'm sorry --

21 MS. DeCARLO: Soil and water-11 --

22 MS. BOND: Soil and water-11, certainly.

23 MS. DeCARLO: Do you want to discuss
24 why --

25 MS. BOND: The primary reason why the

1 condition for Blythe II on soil and water-11 is
2 because there's been a change in the data
3 available for this condition which addresses well
4 interference.

5 Essentially with the testing of the
6 aquifer at Blythe I we now have information about
7 what the aquifer parameters of permeability and
8 storativity are which were needed to calculate
9 what the well interference would be caused by the
10 project.

11 Prior to Blythe I there was no local
12 data available on the operable property. So, as a
13 result, we were able to eliminate the aquifer
14 testing, the post-project calculation of well
15 interference, as well as the calculation of the
16 aquifer parameters. And we were also able to
17 determine what the potential impacts would be to
18 existing well owners.

19 For Blythe I we had included in the
20 requirements the condition to mitigate for
21 potential pump damage, for increase in pumping
22 lift, and potential decrease in capacity of the
23 Mesa Verde well.

24 Because we had this data from Blythe I
25 on the aquifer conditions, we were able to

1 determine that there will be no significant
2 adverse impact to the Mesa Verde well in terms of
3 capacity. We were able to determine that the
4 pumping list costs to nearby well owners would not
5 be significant.

6 And that the only significant adverse
7 impact would be from the cumulative potential
8 impacts for pump damage for the two projects
9 pumping together.

10 So we were able to narrow the
11 requirements for mitigation and eliminate a great
12 many of these other potential impacts.

13 We also added four clarifications to the
14 condition. First of all, we specified that if
15 Blythe II offered mitigation for potential damage
16 to nearby well owners to their pumps, and the
17 nearby well owners declined to have any work done
18 on their wells, decline the mitigation, that the
19 project owner would not be found in violation of
20 the condition. If the well owner doesn't want any
21 mitigation to their well, then Blythe has met
22 their mitigation requirements.

23 Second clarification we made was to the
24 depth specification for lowering pumping intake so
25 that it is now in keeping with standard methods

1 and materials needed to lower pumps.

2 The third was to notify well owners
3 prior to the installation of the project wells to
4 avoid any potential impacts that could occur to
5 their pumps.

6 And the fourth was simply to combine the
7 reporting for this mitigation with the rest of the
8 compliance, annual compliance report.

9 So, in summary, we eliminated a very
10 many aspects of the condition because of the new
11 information available. And we essentially
12 clarified and improved the condition so that it
13 will be easier to implement and less onerous.

14 MS. DeCARLO: Now the applicant has also
15 objected to soil and water-12, and also expressed
16 a preference for that version the Commission
17 adopted in Blythe I. And can you please describe
18 the condition and explain how and why it was
19 changed?

20 MS. BOND: Certainly. This condition is
21 required to mitigate and monitor for preexisting
22 hazardous chemicals that were detected in wells on
23 the Blythe I site that had preexisted the project.

24 We modified this condition primarily in
25 response to comments that we received from our

1 compliance staff. They asked us to make the
2 condition more explicit, both in terms of the
3 chemicals that would be tested, the process for
4 monitoring and mitigation, and the trigger
5 criteria.

6 And the reason why we need to specify
7 the chemicals to be tested is the Blythe I
8 condition referenced a data response, a response
9 they had to one of our data requests for the
10 Blythe I project. Clearly we couldn't reference a
11 data request or its response from Blythe I in a
12 Blythe II condition. So we had to make the
13 chemicals to be monitored explicit.

14 Secondly, we specified the environmental
15 screening levels developed by Regional Water
16 Quality Control Board as the trigger point for
17 reevaluating whether any actual mitigation other
18 than monitoring needed to be implemented. And,
19 again, this was something that our compliance
20 staff requested so that it would be clear both for
21 the applicant and the compliance staff.

22 And then finally we clarified what the
23 process would be if chemical levels were exceeded,
24 and clarified that there would be several
25 different alternative steps, but we spelled out

1 what those steps would be for the compliance staff
2 to follow with the applicant -- with the projector
3 operator at that point.

4 MS. DeCARLO: Does that conclude your
5 testimony regarding water resources except for
6 that portion of dry cooling that we'll get to
7 later?

8 MS. BOND: At this point, yes.

9 MS. DeCARLO: The panel is available for
10 cross.

11 HEARING OFFICER SHEAN: Let's be back at
12 4:00 and we'll start with cross from the
13 applicant.

14 (Brief recess.)

15 MR. GALATI: I'll just ask this of the
16 panel. Anybody can answer this one.

17 CROSS-EXAMINATION

18 BY MR. GALATI:

19 Q Anybody else use the term Colorado
20 River-derived groundwater, other than staff?

21 MR. SAPUDAR: Not that I'm aware of.
22 There's other terms that define it as Colorado
23 River water pumped as groundwater, things like
24 that. But that was our term for referencing water
25 that was hydrologically related to the Colorado

1 River aquifer, which we described in our FSA.

2 MR. GALATI: Thank you. In the staff
3 assessment on page 4.9-1, the summary, the
4 proposed Blythe Energy Project Phase II is located
5 in a desert environment which depends on
6 groundwater to supply to industrial and domestic
7 users.

8 What evidence does staff have that the
9 desert environment in and around the Blythe area
10 depends on groundwater to supply its industrial
11 and domestic users?

12 MR. SAPUDAR: What page is that?

13 MR. GALATI: This is on page 4.9-1 of
14 the staff assessment summary.

15 MS. BOND: What paragraph?

16 HEARING OFFICER SHEAN: It's actually
17 the first sentence of your testimony, as a
18 harbinger of things to come --

19 MS. BOND: Oh, okay --

20 (Laughter.)

21 HEARING OFFICER SHEAN: -- this is not
22 good.

23 MS. BOND: It wasn't written by
24 anybody --

25 MS. DeCARLO: Yeah, I have to actually

1 clarify --

2 (Parties speaking simultaneously.)

3 MR. GALATI: You know what, I'll
4 withdraw the question. I'll move on, thanks.

5 Ms. Bond, you said that you thought
6 there would be seven days to have a cone of
7 depression hit the drain.

8 MS. BOND: Yes.

9 MR. GALATI: You also, I believe, said
10 30 years for molecules to travel from the drain
11 towards the well, is that correct?

12 MS. BOND: Yes. There's a difference
13 between the pressure gradient and the molecule
14 movement.

15 MR. GALATI: I understand the
16 difference. I just want to get the numbers, 30
17 years. Does that travel all the way to the well?

18 MS. BOND: No, no, it just travels --
19 the molecules will move inward in a way that would
20 be a few hundred feet, maybe about 600 feet.

21 MR. GALATI: Okay, so if I understand
22 you correctly the way the project is using
23 Colorado River water is that the water it pumps
24 would eventually make it to the drain?

25 MS. BOND: The way the project pumping

1 will impact the river is it will cause a decrease
2 in the flows to the Colorado River water from the
3 drains.

4 MR. GALATI: Because the drain will leak
5 into the groundwater -- excuse me, leak into the
6 area underneath the drain --

7 MS. BOND: Groundwater would have --

8 MR. GALATI: -- to fill up the --

9 MS. BOND: -- discharged out the drain
10 will be redirected toward the project wells.

11 MR. GALATI: And it will be 3300
12 acrefeet?

13 MS. BOND: Once the cone of depression
14 stabilizes and has induced 3300 acrefeet of water
15 flow toward the well from the valley.

16 MR. GALATI: Will there be any
17 contribution from the valley for water flowing
18 under the drain?

19 MS. BOND: Yes, yes.

20 MR. GALATI: How much?

21 MS. BOND: Once the cone of depression
22 stabilizes and -- I'm sorry, you said when?

23 MR. GALATI: No, how much.

24 MS. BOND: How much. 3300 acrefeet.

25 MR. GALATI: Okay, let me clarify.

1 Maybe you could put up for me, I'd like to use one
2 of your exhibits --

3 MS. BOND: Um-hum.

4 MR. GALATI: -- the exhibit that shows
5 the Rannels Drain; it's the one that you colored
6 on and drew the two wells on.

7 MS. BOND: Um-hum, sure.

8 MR. GALATI: You see those large black
9 arrows that are flowing under the drain from
10 something labeled as the valley?

11 MS. BOND: Yes.

12 MR. GALATI: Is there any of that water
13 flowing to the well? The Blythe project well.

14 MS. BOND: You mean here?

15 MR. GALATI: Yes.

16 MS. BOND: Yes, yes.

17 MR. GALATI: Do you know how much water
18 will be coming from the other side of the drain
19 and flowing underneath the drain?

20 MS. BOND: There will be equivalent to
21 what is being pumped by the project.

22 MR. GALATI: So is the water on the
23 other side -- excuse me, the water on the valley
24 side of the drain --

25 MS. BOND: Um-hum, um-hum.

1 MR. GALATI: -- do you consider that to
2 be all Colorado River water, as well?

3 MS. BOND: What I'm trying to make clear
4 is that the project pumping will -- the impact it
5 will cause will be a decrease in discharges to the
6 drain and return. And from the drain it
7 discharges into the Colorado River water.

8 Molecule-by-molecule this water does not
9 get pumped out of the well. But it gets
10 redirected, and it does not -- an equivalent
11 amount of water does not enter that drain and
12 return to the river.

13 MR. GALATI: If water is flowing from
14 this side, underneath the drain, --

15 MS. BOND: Um-hum.

16 MR. GALATI: -- what's recharging it?
17 The drain?

18 MS. BOND: What's recharging this?

19 MR. GALATI: Correct.

20 MS. BOND: This side. Diversion from
21 the Colorado River by PVID.

22 MR. GALATI: Okay. And is all -- I'll
23 stop there.

24 MS. BOND: Okay.

25 MR. GALATI: Ms. Bond, I think you

1 stated in your testimony that what had changed
2 from your perspective since the Blythe I decision,
3 was the adoption of the Integrated Energy Policy
4 Report 2003, is that correct?

5 MS. BOND: That's one of the things that
6 has changed.

7 MR. GALATI: I just want to talk about
8 your testimony which deals with groundwater and
9 how it moves. Can you please summarize for me
10 specifically for you what has changed since Blythe
11 I?

12 MS. BOND: In terms of how groundwater
13 moves?

14 MR. GALATI: I'm trying to get a basis
15 for why your testimony is different than the
16 Commission decision in Blythe I. And so I'm
17 trying to understand what is different since the
18 Commission decided the project in Blythe I with
19 respect to groundwater, because that's what you're
20 testifying to, today than it was when we did the
21 Commission decision in Blythe I.

22 MS. BOND: What I'm having difficulty
23 with in your question is you're saying how was the
24 Commission's decision different than my testimony
25 today. Is that what you're asking?

1 MR. GALATI: In Blythe I did you testify
2 to the Commission that all the water was coming
3 from the drain, or that the drain was Colorado
4 River water and would replenish the groundwater?

5 MS. BOND: I believe that I did testify
6 at that time that groundwater pumping would cause
7 a decrease in the discharges to the Colorado
8 River.

9 MR. GALATI: In fact, didn't you say it
10 was equivalent, the same as you said today?

11 MS. BOND: I don't have my testimony
12 right in front of me, but I believe I did say
13 that.

14 MR. GALATI: Thanks. Are there any new
15 studies, Ms. Bond, since your testimony in Blythe
16 I and your testimony in Blythe II with respect to
17 groundwater movement that you're relying on?

18 MS. BOND: No, different questions were
19 raised and different issues were addressed because
20 of those questions.

21 MR. GALATI: So your testimony is within
22 seven days of pumping water starts to move from
23 the drain to the aquifer?

24 MS. BOND: Yes. Not 3300 acrefeet,
25 doesn't -- isn't redirected instantly, but that is

1 when it begins to intercept the water in the
2 valley. Do you understand the difference?

3 MR. GALATI: Yes, I do.

4 MS. BOND: Okay, --

5 MR. GALATI: But isn't that assumption
6 based on the static water table condition?

7 MS. BOND: What it's based on is -- no,
8 it's based on the change in water levels due to
9 the pumping. We're talking change in water
10 levels, change in pressures because of pumping.

11 MR. GALATI: And so anything --

12 MS. BOND: And it increases with time.

13 MR. GALATI: -- anything else taking
14 place such as additional irrigation or more
15 irrigation does not change that analysis?

16 MS. BOND: No. That's not how drawdown
17 from a well is calculated. The pressure changes
18 caused by pumping occurs regardless of what other
19 pumping or recharge is occurring.

20 The project has a physical impact that
21 is essentially in addition to whatever else is
22 happening.

23 MR. GALATI: So how the drain operates
24 doesn't affect it at all, either, correct?

25 MS. BOND: How the drain operates would

1 only affect it if that drain went dry for
2 significant periods of time, which it doesn't. If
3 that drain went dry it would make a difference.
4 It doesn't.

5 MR. GALATI: Would you agree that at
6 sometimes the drain is primarily carrying
7 drainwater or water it's intercepted as
8 groundwater?

9 MS. BOND: I don't have any data from
10 PVID as far as when, what the percentage of
11 operational spills and tailwater spills and
12 drainage from the aquifer would be.

13 I would assume, though, that the drain
14 would always contain water percolating from the
15 groundwater system, because that's a slow
16 continuous process. The operational spills would
17 be periodic. So the drains would carry drain
18 water plus or minus operational spills. With or
19 without operational spills would be a better way
20 to put it.

21 MR. GALATI: Are you aware there's been
22 a significant history of pumping on the mesa?

23 MS. BOND: Certainly.

24 MR. GALATI: Does 25,000 acrefeet during
25 the '80s sound like a reasonable number that was

1 pumped up on the mesa?

2 MS. BOND: It sounds conceivable. I
3 didn't know it was that high, or I didn't remember
4 it was that high.

5 MR. GALATI: In fact, didn't that
6 pumping kind of quit in the 1980s?

7 MS. BOND: There was an upsurge of
8 pumping in the 1970s, and then it has tapered
9 back, yes.

10 MR. GALATI: And the groundwater has
11 still not yet recovered, correct?

12 MS. BOND: It hasn't recovered in the
13 areas where pumping has continued. It, I assume,
14 has recovered in areas where pumping has ceased.

15 MR. GALATI: I thought you just said --

16 MS. BOND: There aren't any --

17 MR. GALATI: I thought you just
18 testified earlier that the Blythe project I and II
19 would be pumping 6600 acrefeet of water a year,
20 and that was by far and away the largest pumping
21 in the mesa.

22 MS. BOND: Currently.

23 MR. GALATI: Yes, --

24 MS. BOND: Currently. Right now
25 there's, according to PVID, there's 544 acres

1 being irrigated within the PVID boundaries, and an
2 additional 300 acres being irrigated with
3 groundwater outside of the PVID. Although I don't
4 know whether they're purely a groundwater or a
5 mixture of groundwater and surface water.

6 MR. GALATI: Okay, since the '80s when
7 the pumps were much much less pumping --

8 MS. BOND: There was less irrigation,
9 yes.

10 MR. GALATI: -- you would agree that the
11 groundwater levels have not yet recovered, right?

12 MS. BOND: Where pumping is continuing
13 the groundwater levels haven't recovered. Where
14 pumping has been discontinued I assume they've
15 recovered. There are no water level contour maps
16 available for current conditions.

17 MR. GALATI: Okay, I'm confused. Where
18 is pumping still continuing on the mesa?

19 MS. BOND: To my knowledge the citrus
20 fields near Blythe use a mixture of surface water
21 and groundwater. And if they're still using
22 groundwater, then there's still a drawdown around
23 those wells.

24 There would be, you know, a little bit
25 of drawdown around each of the wells that are

1 still pumping on the mesa --

2 MR. GALATI: Okay, --

3 MS. BOND: -- for irrigation.

4 MR. GALATI: -- I understand. So
5 regionally, not talking about just localized
6 impacts to wells, but regionally would you say the
7 groundwater levels have recovered on the mesa
8 since the pumping quit in the '80s, or not
9 recovered regionally within the entire basin?

10 MS. BOND: That question, I've answered
11 that question. Where they're still pumping
12 groundwater levels haven't recovered. Where there
13 is no pumping I would assume they've recovered.

14 MR. GALATI: Mr. Sapudar, title 22, did
15 you hear the testimony of Mr. Page on title 22?

16 MR. SAPUDAR: Yes.

17 MR. GALATI: Would you agree with this
18 characterization of the secondary and primary and
19 the temporary nature of high TDS water?

20 MR. SAPUDAR: I believe he was correct.

21 MR. GALATI: You testified earlier, I
22 think towards the very end of your testimony, that
23 this water was being used as drinking water, is
24 that correct?

25 MR. SAPUDAR: What water was that?

1 MR. GALATI: This would be the basic
2 groundwater.

3 MR. SAPUDAR: Right.

4 MR. GALATI: Okay. And you cited, I
5 believe, policy 8863 that said it's not exempted
6 from drinking water because it's not 3000 TDS,
7 correct?

8 MR. SAPUDAR: I said it didn't appear to
9 meet the requirements to be exempted as a source
10 of drinking water under 8863.

11 MR. GALATI: Are those the only
12 requirements that you would use to determine
13 whether something is drinking water?

14 MR. SAPUDAR: No.

15 MR. GALATI: In fact, doesn't title 22
16 provide that water between 1000 and 1500 TDS
17 should be considered temporary?

18 MR. SAPUDAR: If that's what title 22
19 says, yeah.

20 MR. GALATI: Let's look at the Mesa
21 Verde well with that idea. Would you consider
22 that to be a permanent source of water under title
23 22?

24 MR. SAPUDAR: You know, to be honest,
25 I'm not really familiar with the history of the

1 Mesa Verde well in the community and how long
2 they've been using water from that well.

3 MR. GALATI: You did testify, though,
4 that apparently the water you get in Davis is
5 about the same quality as you get in Mesa Verde.

6 MR. SAPUDAR: I said it's around -- it
7 can range up to 1000 ppm TDS, yeah.

8 MR. GALATI: Have you ever gotten a
9 notice that you ought to not use your drinking
10 water?

11 MR. SAPUDAR: No.

12 MR. GALATI: Are you aware that the City
13 is involved in building a water supply line down
14 Hobson Way to serve the community of Mesa Verde?

15 MR. SAPUDAR: I understand there was --
16 that's been talked about over the years. I'm not
17 sure exactly what the status of that is, but I
18 understand that is an ongoing thing.

19 MR. GALATI: If that were to occur can
20 you envision why anyone would build within a
21 couple thousand feet around the Blythe II project,
22 put in a well to serve their drinking needs, as
23 opposed to tapping into the line on Hobson Way.

24 MR. SAPUDAR: Well, I know that there
25 are some people that don't like to be hooked up to

1 city utilities if they don't have to be. And
2 there are people that if they don't have to hook
3 up to city utilities, they will put their own well
4 in if they're allowed to do that.

5 MR. GALATI: So somebody would be making
6 a conscious choice to take well water of
7 questionable character, high TDS, versus taking
8 treated city water, correct?

9 MR. SAPUDAR: I'm saying that there are
10 people that could make that choice, absolutely.

11 MR. GALATI: With respect to the
12 upwelling of salinity, either Ms. Bond or Mr.
13 Sapudar can answer, you haven't identified an
14 impact to any well, have you?

15 MS. BOND: We've provided a record of
16 all of the TDS data available for wells located in
17 the mesa.

18 MR. GALATI: Right. What I'm saying is
19 did you conclude that the impact is a degradation
20 of salinity in any existing well?

21 MS. BOND: I don't believe that the
22 increase in salinity has, in any existing well has
23 caused any well owners to cease using their wells
24 if that's what you're asking.

25 MR. GALATI: No, I'm sorry, let me set

1 this up a little better. I'm confused and
2 confusing, so I apologize.

3 You testified that the impact that you
4 seek to avoid by the use of Rannels Drain, or
5 shall I say one of the impacts, is that the
6 pumping of groundwater will cause an upwelling of
7 salinity from the Bouse Formation, is that
8 correct?

9 MS. BOND: Yes.

10 MR. GALATI: And I'm asking you if you
11 predicted that upwelling of salinity would
12 actually affect or impact any of the existing
13 wells that are out at the mesa now.

14 MS. BOND: The only well that I think it
15 will probably affect in the relatively near future
16 is the Blythe I well.

17 MR. GALATI: Okay, so the impact that is
18 identified as the upwelling of salinity is that it
19 would be degrading drinking water or water that
20 could be used for drinking for future users?

21 MS. BOND: Correct.

22 MR. GALATI: Mr. Sapudar, this is going
23 to sound familiar. Have you seen the January 14,
24 2002 letter from the Bureau of Reclamation to
25 Terry O'Brien from Robert Johnson?

1 MR. SAPUDAR: Let me see if I have that
2 right here. I believe I do. June 14, 2002, yes.

3 MR. GALATI: Does your version have
4 attached to it something labeled and called the
5 final voluntary water conservation offset program
6 for the Blythe Energy Project Phase II, Caithness
7 Blythe II, LLC?

8 MR. SAPUDAR: Yes.

9 MR. GALATI: Okay. Did you testify
10 earlier that there is no water conservation offset
11 program?

12 MR. SAPUDAR: For what? What --

13 MR. GALATI: You have said in your
14 direct testimony that the applicants have not
15 submitted a voluntary -- a water conservation
16 offset program.

17 MR. SAPUDAR: What I said was that staff
18 considered, or an agency such as the Colorado
19 River Board considered a complete plan that has
20 enough details to be considered a plan.

21 MR. GALATI: I just wanted to clarify
22 that testimony. So you don't believe that there's
23 not a water conservation offset plan, you just
24 think it should contain different things?

25 MR. SAPUDAR: I think it should contain

1 more things, yeah.

2 MR. GALATI: Okay. In the Blythe I case
3 you testified that after implementation of the
4 water conservation offset plan MWD objected. Do
5 you remember that testimony?

6 MR. SAPUDAR: Yes, I do.

7 MR. GALATI: Can I ask you to refresh
8 your memory, did MWD object before the license was
9 issued?

10 MR. SAPUDAR: Let's see, they objected
11 on March 19, 2001.

12 MR. GALATI: I would ask the Committee
13 to please take administrative notice of the record
14 in Blythe I, please.

15 HEARING OFFICER SHEAN: The whole thing,
16 or do you have something in mind?

17 MR. GALATI: Actually I'd like the whole
18 thing.

19 HEARING OFFICER SHEAN: Well, what is it
20 -- what fact is it that you want us to take notice
21 of, or document?

22 MR. GALATI: I'm afraid there's many of
23 them. I'll tell you what, I'll bring them up as
24 we go.

25 HEARING OFFICER SHEAN: Okay.

1 MR. GALATI: But I would like you to
2 take notice of the fact that the decision was
3 issued on March 21st. That's one of the --

4 MS. DeCARLO: I'm going to have to raise
5 a little concern about the applicant identifying
6 fact-by-fact. We do not have the opportunity to
7 corroborate those facts before they are entered.

8 I would acquiesce to the entrance of the
9 entire record of Blythe I into the evidence, and
10 then we can go back and brief the issues, include
11 factual issues in our brief if we need to. But
12 I'm a little concerned about this identifying
13 fact-by-fact.

14 HEARING OFFICER SHEAN: Well, that's why
15 we didn't do it specifically as he requested. So
16 let's just find out what it is that's requested
17 and go.

18 MR. GALATI: Mr. Sapudar, do you
19 remember the substance of MDW's complaint was the
20 length of time that the land had been irrigated?

21 MR. SAPUDAR: I have parts of their
22 letter right here in front of me. I could read it
23 for the record, if you'd like.

24 MR. GALATI: I'm asking you about your
25 memory.

1 MR. SAPUDAR: They had a problem with
2 the selection of lands.

3 MR. GALATI: They also have a problem
4 with the acrefoot per acre number, is that
5 correct?

6 MR. SAPUDAR: Yeah, they state the 652
7 acres do not meet the criteria for having recent
8 history of water use in the amount of 4.6 acrefeet
9 per acre. The basic premise of the WCOP.

10 MR. GALATI: Did MWD ever object to the
11 Blythe II water conservation offset plan?

12 MR. SAPUDAR: As far as we know, no.
13 Not in writing to us, anyway.

14 MR. GALATI: Who's the Watermaster?

15 MR. SAPUDAR: The Watermaster?

16 MR. GALATI: For the Colorado River.

17 MR. SAPUDAR: The U.S. Bureau of
18 Reclamation.

19 MR. GALATI: Okay. Is the Colorado
20 River Board the Watermaster?

21 MR. SAPUDAR: No.

22 MR. GALATI: Do they have any
23 jurisdiction over who is allocated to take water
24 out of the Colorado River?

25 MR. SAPUDAR: No.

1 MR. GALATI: Does the Colorado River
2 Board approve water conservation offset plans?

3 MR. SAPUDAR: They don't, as a matter of
4 routine.

5 MR. GALATI: Do they have the
6 jurisdiction to approve and allow the
7 implementation of a water conservation offset
8 plan?

9 MR. SAPUDAR: Well, we didn't ask them
10 to approve --

11 MR. GALATI: I'm not asking you that.
12 I'm asking you if know if their jurisdiction
13 extends to approving and allowing the
14 implementation of a water conservation offset
15 plan.

16 MR. SAPUDAR: As far as I know, no.

17 MR. GALATI: Ms. Bond, you put up a
18 series of, I don't believe we've yet marked the
19 exhibit, but an exhibit with a series of graphs
20 showing data points on it. Remember those?

21 MS. BOND: Yes, I do.

22 MR. GALATI: I'm sorry, I thought you
23 were getting them. You don't have to put them up
24 but you can if you'd like, want to refer to them.

25 MS. BOND: I just wanted to have them in

1 case you needed them.

2 MR. GALATI: The lines that you've drawn
3 out there you called trend lines, is that correct?

4 MS. BOND: Yes.

5 MR. GALATI: Can you really draw trend
6 lines with somewhere between two and six data
7 points?

8 MS. BOND: Yes. Not two; six. More
9 than two.

10 MR. GALATI: You have one graph that
11 shows two lines, I believe, two data points.
12 You've drawn a line between those, is that
13 correct?

14 MS. BOND: Yes, I did.

15 MR. GALATI: Okay. Is there any
16 guidance statistically about having a minimum
17 number of data points before you can perform a
18 linear regression?

19 MS. BOND: There should have been three.

20 MR. GALATI: Three?

21 MS. BOND: Yes.

22 MR. GALATI: Ms. Bond, do you believe
23 that those data points accurately characterize the
24 salinity of the groundwater today?

25 MS. BOND: Four of the wells, four of

1 the sampling events were from wells that were
2 sampled in the 1960s. The rest are recent, within
3 the last five or so years.

4 MR. GALATI: But do you believe that
5 they accurately characterize the salinity in the
6 groundwater today?

7 MS. BOND: The recent ones I have no
8 reason to believe that the tests were not done
9 accurately, and they're the best data we have.
10 I'm not too sure what you're getting at.

11 MR. GALATI: I just want to know what
12 you think of the data.

13 MS. BOND: Okay.

14 MR. GALATI: Are you familiar at all,
15 actually maybe Mr. Sapudar is familiar with the
16 MWD/PVID transfer?

17 MR. SAPUDAR: I'm generally familiar
18 with it, not in a detailed sense.

19 MR. GALATI: Did you hear Dr. Harvey's
20 testimony that people who are pumping groundwater
21 to irrigate their land are prohibited from
22 participating in that program?

23 MR. SAPUDAR: I believe he said that.

24 MR. GALATI: Do you have any independent
25 understanding of whether they are or aren't?

1 MR. SAPUDAR: No, I don't.

2 HEARING OFFICER SHEAN: Excuse me,
3 Mr. Galati.

4 If the hydrologic cycle that you've
5 talked of always happens and any of the
6 groundwater that they would be using to irrigate
7 ultimately had come from the river, then why
8 wouldn't cessation of groundwater pumping be of
9 the same policy effect as stopping the use of the
10 PVID allocation water, and therefore an acceptable
11 offset?

12 MR. SAPUDAR: I'm going to just give an
13 opinion, I don't know for sure. But if a
14 landowner participating in a fallowing program,
15 he's fallowing acres to conserve surface water. I
16 would assume that they don't want him using
17 groundwater because they don't want him putting in
18 more crops using groundwater for some reason.

19 HEARING OFFICER SHEAN: I thought the
20 objective was to conserve river water. And if the
21 river water can be on the surface, or the river
22 water can be subsurface, then isn't the objective
23 of conserving river water served by either not
24 using -- by offsetting with either surface water
25 irrigation or groundwater irrigation?

1 If your fundamental premise is correct,
2 that all of this is river water, then why
3 differentiate between one or the other?

4 MS. BOND: Are you saying -- excuse me.
5 Can I respond, or do you want to respond?

6 MR. SAPUDAR: Yeah, just --

7 MS. BOND: Are you saying would it be
8 equivalent to -- if you wanted to increase the
9 flows in the Colorado River water, you're asking
10 does it make any difference whether you stop
11 irrigating with Colorado River water or stop
12 pumping with groundwater -- irrigating with
13 groundwater? Is that your question?

14 HEARING OFFICER SHEAN: No. I'm just a
15 little cow county lawyer here. I understand that
16 what we're trying to do is to conserve Colorado
17 River water.

18 Now, as I've listened to you, --

19 MS. BOND: Okay, --

20 HEARING OFFICER SHEAN: -- the staff, --

21 MS. BOND: -- I'm with you so far.

22 HEARING OFFICER SHEAN: Okay. This goes
23 two directions. It can be the Colorado River
24 water that stays on the surface, or it's the
25 Colorado River water that goes underground.

1 Now, if the ultimate goal is saving
2 Colorado River water, why isn't an offset for
3 agricultural with groundwater pumping just as
4 valid as an offset that uses surface water
5 diversions?

6 (Parties speaking simultaneously.)

7 MS. BOND: Go ahead.

8 MR. SAPUDAR: Let me take a --

9 MS. BOND: Sure.

10 MR. SAPUDAR: Again, the idea is to
11 conserve water with the fallowing program. Now if
12 the fallowing agreement says you can't use water
13 on this amount of acreage because you're using
14 water and you're not conserving any. And they say
15 you can't use surface water on that acreage. And
16 then they say you can't use groundwater on that
17 acreage.

18 You could presume that's because it's
19 the same source of water. Otherwise, if the
20 surface water was conserved and the groundwater
21 had no impact on anything, the surface water
22 supplies, return flows, what-have-you, there would
23 be no reason to prohibit groundwater. The
24 landowner could put more on the land into
25 production, pump all the groundwater he wants,

1 wouldn't impact surface water at all.

2 MS. BOND: But it does.

3 MR. SAPUDAR: However, like I say, I'm
4 not detail-familiar with that, but just logically
5 thinking about it, that could be why that
6 provision is in there, to prevent the landowner
7 from taking land out of production and conserving
8 water with surface water, which is Colorado River
9 water; and then putting that acreage back in and
10 using groundwater derived from surface water to
11 irrigate it. Which would be a consumptive use,
12 could be considered a consumptive use of
13 groundwater hydrologically connected to the river.

14 That would be my guess.

15 MS. BOND: If the grower used
16 groundwater to irrigate it would cause a decrease
17 in return flows to the drains, and then to the
18 Colorado River. It will cause the same impact
19 whether you pump it or take a surface water
20 delivery. Your crops are still going to consume,
21 you know, more or less 4 acrefeet per acre, and it
22 will cause a decrease in return flows to the
23 drains.

24 MR. GALATI: Yet all the junior water
25 holders have prohibited a farmer who is only using

1 groundwater to participate in that program. Could
2 that be because the California Energy Commission
3 Staff is the only entity that believes the
4 groundwater is Colorado River water?

5 MS. BOND: I don't know why their
6 reasons for -- what their reasons for it are. It
7 probably has a lot to do with the regulation of
8 groundwater in California water law. It has
9 nothing to do with the physics.

10 MR. GALATI: They did a full EIR and
11 they prohibited groundwater farming to qualify to
12 transfer that water to MWD.

13 My question is, is there anyplace that
14 in the valley or on the mesa where you could
15 fallow land that is being used currently for --
16 that groundwater is currently being pumped for
17 agricultural, and transfer that water to a
18 downstream water right holder of the Colorado
19 River?

20 MS. BOND: You're asking a legal and an
21 economic question, not a physical question.

22 MR. GALATI: Okay, then I'll ask the
23 people who have opined legally and economically
24 about how those programs work. Is there anyplace
25 in the mesa or in the valley where you can do

1 that?

2 MR. SAPUDAR: Not that I'm aware of.

3 MR. GALATI: It's possible that you'll
4 be able to do that if the accounting service ever
5 became policy, correct?

6 MR. SAPUDAR: Yes.

7 MR. GALATI: And didn't the Bureau say
8 that our water conservation offset program meets
9 that future policy?

10 MR. SAPUDAR: Yes.

11 MR. GALATI: In fact, the water
12 conservation offset plan is not to mitigate any
13 impacts to downstream users, isn't that correct?

14 MR. SAPUDAR: The way it's been proposed
15 and the way you've taken a position on it, yes.

16 MR. GALATI: Would you agree that as the
17 Watermaster, one of the Bureau's main charges is
18 to protect junior water right holders?

19 MR. SAPUDAR: I would assume that they
20 have some responsibility for that, but I don't
21 know exactly to what extent they do.

22 MR. GALATI: Then why would they approve
23 our water conservation offset plan if they didn't
24 think it did just that, protect downstream junior
25 water right holders?

1 MR. SAPUDAR: Maybe at this point, as
2 with the Blythe I project, they assume it does at
3 this stage.

4 MR. GALATI: Yeah, and with the Blythe I
5 project, once again, their only objection
6 afterwards were the lands that were chosen, isn't
7 that correct?

8 MR. SAPUDAR: That was their principal
9 objection, yes.

10 MR. GALATI: And, in fact, this has been
11 solved by Blythe II by putting in the requirement
12 that MWD and the Bureau asked, which was five
13 years of irrigation history within the last five
14 years, isn't that correct?

15 MR. SAPUDAR: That's true.

16 MR. GALATI: They didn't ask for any
17 monitoring and verification of the water, did
18 they?

19 MR. SAPUDAR: They had some reporting
20 use for --

21 MR. GALATI: Just reporting the water.
22 Did they ask for any verification or reporting of
23 the water consumptive use on the plans that are
24 eventually chosen?

25 MR. SAPUDAR: I don't recall that.

1 MR. GALATI: Well, isn't that something
2 that you wanted to add to the water conservation
3 offset plan?

4 MR. SAPUDAR: Well, if you want a water
5 conservation plan to conserve water, that would
6 have to meet a more stringent set of requirements
7 than one that's designed to provide administrative
8 compliance with future loss.

9 MR. GALATI: I understand that that is
10 your position. My question is did the requirement
11 of verified crop usage and reporting the actual
12 water saved was an Energy Commission suggestion,
13 and not a Bureau suggestion for the water
14 conservation --

15 MR. SAPUDAR: I would say that that's
16 true.

17 MR. GALATI: If all the groundwater
18 that's being used results in an equal amount of
19 water, can I say, diverted from the Colorado River
20 prevent it from getting into the Colorado River,
21 then all of the groundwater use actually results
22 in a downstream impact to users, right?

23 MS. BOND: That's right. All
24 groundwater being pumped in Mesa Verde area
25 consumes water that otherwise would discharge back

1 to the Colorado River.

2 MR. GALATI: One way would be to account
3 for that water, correct?

4 MS. BOND: One way? One way of what?

5 MR. GALATI: To identify what rights are
6 left would be to account for that water use as
7 Colorado River.

8 MS. BOND: I'm sorry, what rights are
9 left to?

10 MR. GALATI: One way to identify what
11 the impacts would be to downstream users would be
12 to account for that water as used, for example, in
13 the Palo Verde district.

14 MS. BOND: If you put a meter on all of
15 the groundwater wells in the basin, and metered
16 how much water was being pumped, that would tell
17 you how much water was being captured and used
18 locally.

19 You'd have to add back in the amount of
20 that that was being used for, say, irrigating a
21 lawn and calculate how much return --

22 MR. GALATI: So, follow me on this.
23 Presumably then PVID's use would go up, correct?

24 MS. BOND: Their reported use would not
25 change because what they calculate, what they

1 report is based on the physical amount they divert
2 from the Colorado River and how much is discharged
3 back to the Colorado River in their drains. So
4 whether they acknowledge any of that water as
5 being consumed by groundwater pumpers irrigation
6 or not, it is physically already being counted.

7 MR. GALATI: If they acknowledge that
8 use, wouldn't it hurt the junior water right
9 holders because there would be less water on paper
10 for them to take?

11 MS. BOND: There wouldn't be less water
12 on paper. PVID calculates the consumption within
13 this basin based on how much it diverts and how
14 much physically exits the basin.

15 If PVID calculated their consumption
16 based on how many acres they personally deliver
17 irrigation water to, and then calculated how much
18 those crops were consuming. If it was a
19 calculation rather than a measurement it would be
20 different. But they are physically measuring the
21 difference.

22 MR. GALATI: But right now what they're
23 not doing is adding to their diversion the amount
24 of groundwater pumped, are they?

25 MS. BOND: They're physically measuring

1 what's occurring, so the groundwater pumping is
2 physically affecting the return flows. So --

3 MR. GALATI: I understand, --

4 MS. BOND: -- it's being counted.

5 MR. GALATI: -- that's on the downstream
6 side.

7 MS. BOND: Right and --

8 MR. GALATI: On the upstream side isn't
9 it true that PVID diverts water and says I've
10 got --

11 MS. BOND: They're diverting --

12 MR. GALATI: -- 100,000 acre --

13 MS. BOND: -- a million acrefeet --

14 MR. GALATI: -- a million acrefeet --

15 MS. BOND: -- and I'm returning 500,000
16 acrefeet --

17 MR. GALATI: So I'm consuming 500,000
18 acrefeet?

19 MS. BOND: Right.

20 MR. GALATI: If you accounted for the
21 wells wouldn't PVID have to report, let's say
22 there's 25,000 acrefeet being pumped, wouldn't
23 they have to report I'm diverting a million
24 acrefeet and also pumping 25,000 acrefeet, so I
25 have a million and 25,000, less the return flows

1 I've now consumed more. Now I have 525,000
2 acrefeet that is accounted and allocated to PVID.

3 MS. BOND: No, because what they report
4 is based on a physical measurement. What the
5 difference is --

6 MR. GALATI: That's what they report
7 now.

8 MS. BOND: What the difference is
9 they're saying we're diverting a million acrefeet,
10 we're consuming half of that. Our farmers are
11 consuming half of that and the other half we
12 return. In fact, what's happening is they're
13 diverting a million, their farmers are consuming
14 most of that 500,000 acrefeet, but some of that
15 500,000 acrefeet is actually being consumed by
16 groundwater irrigators, okay.

17 So it's the part that's being consumed
18 that is including what the groundwater pumpers are
19 consuming. If what they were reporting when they
20 say we've consumed 500,000 acrefeet, in fact
21 they've consumed a little less than that.

22 You would not add it at the end, because
23 it's physically already being counted. It's
24 already being measured. I'm talking about a
25 physical impact. I'm not talking about a paper

1 impact.

2 MR. GALATI: Okay. So with the water
3 conservation offset plan taking place, how does
4 that affect the physical measurement?

5 MS. BOND: If you implement an effective
6 WCOP that conserved or reduced the amount of
7 consumption in the basin by, I'll just round it
8 off, 3000 acrefeet, that would offset the amount
9 that you would either pump from the groundwater or
10 pump from the valley's drains. If it's an
11 effective WCOP it will be what it says it is, a
12 water offset conservation plan.

13 MR. GALATI: And this would be done to
14 insure that the downstream junior right holders
15 have the water that's coming to them, correct?

16 MS. BOND: It would insure that
17 consumption by the power plant would be offset by
18 a reduction in farming. The downstream water
19 right holders only have a right to the amount of
20 water that PVID does not consume by their
21 accounting system.

22 MR. GALATI: Right. I'd like to have a
23 moment.

24 MS. BOND: I want to make sure that you
25 understand, we're not objecting to PVID providing

1 water to its customers. What we're concerned
2 about is the CEC policy as far as water being used
3 by power plants when there's an economically
4 feasible alternative.

5 MS. DeCARLO: Is that --

6 MS. BOND: Did I say that correctly?

7 (Pause.)

8 MR. GALATI: Mr. Sapudar, on 4.9-29 of
9 your supplement you quote a letter from the
10 Colorado River Board --

11 MR. SAPUDAR: Just a second. Of the
12 FSA?

13 MR. GALATI: Well, it's actually your
14 supplemental technical reports. I think that's
15 part of the FSA.

16 MR. SAPUDAR: Oh, okay.

17 MR. GALATI: A water conservation -- and
18 there's a quote there that says: a water
19 conservation offset program could be used to
20 mitigate impacts of unauthorized use on the
21 condition that it be acceptable to reclamation and
22 junior right holders.

23 MR. SAPUDAR: Yes.

24 MR. GALATI: Isn't that exactly what we
25 have?

1 MR. SAPUDAR: Well, it goes on to say
2 what type of performance the plan would have to
3 say. I think you need to read the whole quote in
4 the interests of completeness.

5 MR. GALATI: Such an offset program must
6 not be illusory, such as an agreement to fallow
7 land which has not been irrigated for decades. Is
8 that what we have?

9 MR. SAPUDAR: The second paragraph would
10 also --

11 MR. GALATI: Okay. For a water
12 conservation offset program to be acceptable
13 mitigation, actual water conservation would be
14 necessary in an amount sufficient to offset the
15 BEP-II water use.

16 And isn't that what Reclamation has
17 found?

18 MR. SAPUDAR: That's what Reclamation
19 has found.

20 MR. GALATI: And, in fact, the Colorado
21 River Water Board is deferring to the Reclamation
22 and junior water right holders, aren't they?

23 MR. SAPUDAR: They seem to be, yes.

24 There is one other aspect of that quote
25 that --

1 MR. GALATI: I'll be fair, I'll read
2 that, too. I lost that page. Would you give me
3 that page number, again?

4 MS. DeCARLO: 29.

5 MR. SAPUDAR: 4-9.29. I'll read it for
6 you if you want.

7 MR. GALATI: Verification would be
8 necessary to insure that the amount of water
9 unused for other reasons in the service area is
10 not being credited against the water conservation
11 offset program.

12 Do we have that here?

13 MR. SAPUDAR: I don't know for your
14 program. The other one.

15 MR. GALATI: But the Bureau and junior
16 water rights holders have approved the plan?

17 MR. SAPUDAR: I don't know that the
18 junior water rights holders have.

19 MR. GALATI: Has any junior water rights
20 holder objected to Blythe II's water conservation
21 offset plan?

22 MR. SAPUDAR: I don't know that they've
23 all seen your water conservation offset program.
24 To our knowledge they haven't objected.

25 MR. GALATI: Just a moment; you asked

1 many of my questions --

2 (Pause.)

3 MR. GALATI: On page 4.9-53 of the
4 testimony after the paragraph where it's bolded
5 soil and water resources appendix B, the next
6 paragraph, specifically the second sentence, the
7 CRB and MWD are in agreement with staff that if
8 wet cooling is used the applicant should implement
9 a verifiably effective WCOP.

10 Where is your evidence that MWD was in
11 agreement with staff concerning the WCOP?

12 MR. SAPUDAR: You know, that was
13 probably a carryover from Blythe I.

14 (Pause.)

15 HEARING OFFICER SHEAN: So let me just
16 understand. So that sentence on page 53 should
17 not be read to mean that in this proceedings the
18 MWD has expressed an agreement with regard to --
19 an agreement with staff with regard to the need
20 for a verifiably effective WCOP?

21 MR. SAPUDAR: That's correct.

22 HEARING OFFICER SHEAN: Okay.

23 MR. GALATI: Other than the Needles well
24 is the staff aware of any application of the 1964
25 Supreme Court decision to groundwater in

1 California?

2 MR. SAPUDAR: No.

3 MR. GALATI: On page 4.9-70 there is a
4 paragraph at the bottom with the heading, proposed
5 use of Colorado River-derived groundwater. It
6 lists on that page and the next page three bullets
7 which are three legal classes of groundwater
8 recognized in this state, is that correct?

9 MR. SAPUDAR: Yes.

10 MR. GALATI: And you agree that
11 underflow of a surface stream and definite
12 underground streams could be regulated as surface
13 water in California, correct?

14 MR. SAPUDAR: I think it can be. I
15 think there's some examples where people have put
16 in wells right next to a river, and it's been
17 ruled that way. But this is a matter of loss, so
18 I don't pretend to --

19 MR. GALATI: Well, you say in your --

20 MR. SAPUDAR: Okay.

21 MR. GALATI: -- you analyzed it in your
22 staff assessment, --

23 MR. SAPUDAR: Okay.

24 MR. GALATI: -- so I'm assuming it is a
25 lay opinion.

1 MR. SAPUDAR: Exactly.

2 MR. GALATI: So in your opinion the
3 project is using percolating groundwater under
4 California law, correct?

5 MR. SAPUDAR: I believe that's the class
6 it falls into, yes.

7 MR. GALATI: And then under California
8 law you can't regulate it as surface water, it is
9 percolating groundwater, correct?

10 MR. SAPUDAR: It's regulated as
11 groundwater.

12 MR. GALATI: And not as surface water,
13 correct?

14 MR. SAPUDAR: To the best of my
15 knowledge, yes.

16 MR. GALATI: You cited a letter from the
17 Chairman of the State Water Resources Control
18 Board, I believe, giving the Energy Commission, or
19 the Siting Committee guidance on how to implement
20 the policy 7558, do you remember that testimony?

21 MR. SAPUDAR: Yes.

22 MR. GALATI: And in fact you testified
23 that in that letter the Chairman suggested that
24 you should use the most degraded quality of water,
25 correct?

1 MR. SAPUDAR: Yes, exactly.

2 MR. GALATI: If the groundwater were the
3 most degraded quality of water, would you
4 recommend its use over the Rannels drain?

5 MR. SAPUDAR: If it was the most
6 degraded source of groundwater and it met other
7 requirements, yeah.

8 MR. GALATI: And met what other
9 requirements, no impacts?

10 MR. SAPUDAR: No impacts for one. Also,
11 you know, if there were criteria such as the 7558
12 brackish water criteria, something like that.
13 That would be helpful.

14 MR. GALATI: Okay. Would you agree that
15 the Rannels Drain water and brackish groundwater
16 are the same category in policy 7558?

17 MR. SAPUDAR: They're both listed in an
18 order, whether that's a priority order or not.
19 But they're both listed.

20 MR. GALATI: And wasn't the Chairman
21 referring to that listing when he said use the
22 most degraded, the policy encourages use of the
23 most degraded water quality?

24 MR. SAPUDAR: I honestly can't say what
25 the Chairman was thinking, whether he was

1 talking -- for instance he could have been
2 referring to contaminated groundwater which has
3 been used in power plant cooling. I don't know
4 what he meant, if he was referring to that
5 specific list, or in general.

6 (Pause.)

7 MR. GALATI: I have no further cross-
8 examination, and would ask the Committee for five
9 minutes of rebuttal.

10 HEARING OFFICER SHEAN: Okay, let's
11 first see if we have any questions from our other
12 intervenors. Mr. Wolfe, Ms. Garnica, do you have
13 any questions of the staff witnesses?

14 MS. GARNICA: No.

15 MR. WOLFE: I'm going to give both sides
16 the same advantage here. You guys went over the
17 drain, what's the name of it that you call it?

18 HEARING OFFICER SHEAN: Rannels.

19 MS. DeCARLO: Rannels.

20 MR. WOLFE: Rannels Drain all afternoon.
21 It was projected up here on the wall, running the
22 whole length of the valley. It does not. The
23 drain starts just west of the power plant. The
24 canal runs into it, spills over into the drain and
25 that's what starts the drain.

1 The water right there at the front of
2 the drain is canal water, it's not drain water.
3 You guys kept arguing about salinity of the water
4 and stuff, what you (inaudible) was canal water.
5 Does not run the length of the valley.

6 Right there where these pumps are, right
7 here, --

8 HEARING OFFICER SHEAN: Why don't you
9 just go over there and point to it, and then come
10 back, if you would.

11 MR. WOLFE: Okay. Right here where
12 these pumps are, that is the end of the canal,
13 that is where the drain starts. It does not go up
14 here, this is the canal.

15 A canal is what we irrigate -- you can
16 hear me? A canal is what we generally call, what
17 we use to irrigate with. A drain is the ditch
18 that's below the surface to drain the water off.

19 You were discussing all afternoon about
20 the salinity of the water in the drain, the drain
21 starts right there. Doesn't run all the way to
22 the north end of the valley. So the water you
23 have right here at the front of this drain, just
24 east of the power plant, is actually canal water.
25 It's surface water.

1 And I'm sure it starts dripping into it
2 as it goes downstream. That water just east of
3 the power plant there is canal water.

4 The canal goes up to the end with all
5 the irrigation from about two miles up; anytime
6 the fields ar being irrigated that canal is full;
7 it runs over. I can't do this -- I can't do it.

8 (Laughter.)

9 MR. WOLFE: Okay. Right there. Right
10 where the straight starts. No, wrong direction.
11 Right there is where the canal stops and the drain
12 starts. Everything to the north of it is actually
13 a canal, not a drain dish.

14 So the water from that straight section
15 right there is the end of the canal, not a drain
16 ditch. So the water right there is essentially
17 canal water. Any time that any of those fields in
18 the next two miles are irrigating, if they're not
19 irrigating that canal will go down low. But
20 that's a lot of farmland, so that canal is full
21 most of the time. What it's got is a headgate
22 there with a spare overflow that it flows into it
23 as it starts the drain ditch.

24 So the whole time you was commenting on
25 the salinity of the water, you were actually

1 talking about canal water. Until it goes down far
2 enough to finally blend in.

3 That's the only thing I wanted to point
4 out to you earlier on, that what you was talking,
5 this thing here is wrong. That's a canal.
6 Whoever made that made a mistake. It runs in this
7 dead-end right here and stops. I know, I've
8 fished it many times.

9 And that's where those big pumps all
10 used to pump up on top of the mesa right there.

11 HEARING OFFICER SHEAN: All right,
12 let's -- thank you, Mr. Wolfe. Since you weren't
13 sworn as a witness let's get somebody who is.

14 MR. WOLFE: Okay.

15 HEARING OFFICER SHEAN: Can you -- does
16 anyone on the Commission Staff have knowledge with
17 respect to the matters just commented upon by Mr.
18 Wolfe?

19 Is Mr. Smith gone?

20 UNIDENTIFIED SPEAKER: Mr. Smith did
21 have to go back, I'm sorry. But we can --

22 HEARING OFFICER SHEAN: Okay, anybody
23 from your team?

24 MR. LOOPER: Pat's correct. And when
25 Dr. Harvey was testifying about the fact that it's

1 a combination of spillage, this is what we were
2 referring to, is that although they talked about
3 pulling water from Rannels Drain, which was really
4 south of this point, what we were trying to
5 continue to point out is that water that's in
6 Rannels Drain isn't just drainage water. It
7 substantially comes from canal water, direct
8 diversion from the Colorado River. Therefore,
9 from a water quality standpoint the reason that Ed
10 testified as he did, which was, in fact, that in
11 his opinion the water quality -- although he said
12 in the drain, which he means at the point that the
13 staff was pointing out that we would divert, is
14 better water quality than the groundwater quality
15 from what we were pumping, is based on what Pat
16 basically just said.

17 And Pat's characterized it very nicely.

18 HEARING OFFICER SHEAN: All right, well,
19 do you have some -- can you testify of your own
20 knowledge with respect to any matter that he's
21 raised?

22 MS. BOND: I just wanted to observe that
23 if the TDS values that we've been given by PVID at
24 this point are 15 to 19 hundred TDS, then these
25 drains, or this Rannels Drain, at the beginning

1 has already picked up a fair amount of salinity
2 from the groundwater system. And as we work on
3 down to this to being opposite to the project
4 plan, it would be more saline and that would also
5 speak to the concept of pumping, putting in
6 shallow wells next to the drain.

7 Clearly if the TDS is already 1500
8 rather than more like 600, which is what the
9 diverted water directly from Colorado River is,
10 then the groundwater must be quite a bit more
11 saline in the area of Rannels Drain where they're
12 measuring.

13 MR. GALATI: If I could ask her one
14 question, or I'll have to object. Do you know
15 where the samples were taken?

16 MS. BOND: Where the samples were taken?

17 MR. GALATI: Yeah, do you know -- the
18 argument you just made presumes that the samples
19 were taken at the location at the beginning of the
20 drain, correct?

21 MS. BOND: I've been informed by the
22 gentleman who just spoke that the only place you
23 can sample on Rannels Drain is right up here at
24 the head. That's the information I've been given.

25 It sounds like we, you know, could use

1 more information about the groundwater salinity in
2 this area and Rannels Drain sampling. But, the
3 data we have is the data we've got, that we
4 presented. We haven't withheld any information.

5 HEARING OFFICER SHEAN: Would you just
6 leave that up?

7 MS. BOND: Certainly.

8 HEARING OFFICER SHEAN: Mr. Wolfe, --

9 MR. WOLFE: Yes.

10 HEARING OFFICER SHEAN: -- sir, I think
11 you're going to be testifying tomorrow with
12 respect to the aviation safety issue, correct?

13 MR. WOLFE: Okay.

14 HEARING OFFICER SHEAN: Can we have the
15 reporter swear him in and we'll just ask you to
16 repeat what you've stated.

17 Whereupon,

18 PAT WOLFE

19 was called as a witness herein, and after first
20 having been duly sworn, was examined and testified
21 as follows:

22 HEARING OFFICER SHEAN: Okay, Mr. Wolfe,
23 can you point out on this staff exhibit where you
24 believe -- you stated in your comments that there
25 is a separation point between the PVID canal and

1 the beginning of the Rannels Drain.

2 If you could point that out to us,
3 please.

4 MR. GALATI: I apologize, Mr. Shean. I
5 did notice there is somebody from PVID here who is
6 willing to testify.

7 HEARING OFFICER SHEAN: Oh, okay.

8 MR. WOLFE: Right there. That's where
9 the canal ends and the drain starts. The canal is
10 the crooked line going up. The straight section
11 here is the first section of the drain.

12 I did mention about the samples. The
13 only thing I mentioned about the samples, it would
14 be easy to get a sample here. I can get down to
15 the water to fish here real easy. On farther down
16 it's -- difficult. So that's all I know about the
17 sampling part, is I know nothing about it.

18 But right there is where the drain,
19 where your canal stops and your drain starts.

20 This line here, it goes all the way up
21 to the diversion dam. And that's a canal.

22 HEARING OFFICER SHEAN: All right.

23 Thank you, sir.

24 MR. LOOPER: Roger's here from PVID. I
25 know this is not normal order, but he could

1 probably comment very quickly on where the water
2 quality sample was taken. Roger's the engineer at
3 Palo Verde Irrigation District. He works for Mr.
4 Ed Smith.

5 HEARING OFFICER SHEAN: You think you
6 can?

7 MR. HEMMING: Yes, sir.

8 HEARING OFFICER SHEAN: All right, if
9 you can, we've got to go through this little thing
10 here.

11 MR. HEMMING: Okay. My name's Roger
12 Hemming; I'm Chief Engineer at PVID.

13 HEARING OFFICER SHEAN: Okay, --

14 MR. HEMMING: If you have a marker I'll
15 mark where the Rannels Drain is.

16 MR. GALATI: Here, we have a pointer for
17 you.

18 HEARING OFFICER SHEAN: And let's have
19 the court reporter swear you in, please.

20 MR. LOOPER: Roger, I got a pointer for
21 you.

22 MR. HEMMING: Pardon?

23 MR. LOOPER: A pointer.

24 HEARING OFFICER SHEAN: Let's do that
25 first.

1 Whereupon,

2 ROGER HEMMING

3 was called as a witness herein, and after first
4 having been duly sworn, was examined and testified
5 as follows:

6 DIRECT TESTIMONY

7 MR. HEMMING: H-e-m-m-i-n-g. I was
8 going to mark it on the slide, make it more
9 permanent.

10 Rannels Drain starts here and goes up.
11 And right here it turns and goes up over and stops
12 right there. I'm shaky.

13 HEARING OFFICER SHEAN: Okay, so the --

14 MS. BOND: Sure, no problem, help
15 yourself.

16 (Pause.)

17 MR. HEMMING: Okay, Rannels Drain is
18 this portion of red that I've added to the slide.
19 Where it meets right here is where B still enters
20 the drain, and this is B spill, this little
21 stretch right here.

22 MR. GALATI: It's canal B that delivers
23 water into the system?

24 //

25 //

1 MR. HEMMING: And then B canal starts
2 here and goes all the way up to C canal.

3 HEARING OFFICER SHEAN: So that B and C
4 canal --

5 MR. HEMMING: And actually this is even
6 mislabeled. B canal starts -- or continues here
7 and goes over and up; and this is A canal here.

8 So you've got A canal, B canal spilling
9 into Rannels Drain here, and then you've got this
10 mile and a quarter of Rannels Drain generating
11 water, whether it is still in the B canal or not,
12 that's going down and through the pipe at Hobson
13 Lane.

14 The water samples were taken at two
15 locations, depending on which agency. One of
16 those samples is taken at 24th Avenue and Rannels
17 Drain; 28th Avenue and Rannels Drain. And I think
18 that we took just electrical conductivity readings
19 at I want to say 14th Avenue, but I'm not sure
20 about that one.

21 MR. LOOPER: Both south, Roger?

22 MR. HEMMING: But they're all south of
23 Hobson Lane. And they've got other drains feeding
24 into them the farther south you go.

25 UNIDENTIFIED SPEAKER: (inaudible)?

1 UNIDENTIFIED SPEAKER: -- on the map.

2 MR. HEMMING: The map doesn't go far
3 enough south.

4 MR. LOOPER: Way south, guys.

5 MR. HEMMING: This would be 14th, and
6 16th is off the map, right? No, 16th would be
7 right here. So we may have sampled just for
8 electrical conductivity readings right here. But
9 I'd have to look at the data to find out for sure.

10 HEARING OFFICER SHEAN: All right.
11 Thank you, sir.

12 Are there any other intervenor questions
13 of the witnesses here?

14 All right, we'll move back -- do you
15 have something, Ms. Garnica?

16 CROSS-EXAMINATION

17 BY MS. GARNICA:

18 Q I have some questions. As regards to
19 the water, first if you use fresh Colorado River
20 water for cooling, how many acres of land will be
21 affected by mitigation? That is one question.

22 MR. GALATI: We can provide some
23 testimony answers to this. Would that be okay?
24 My panel would --

25 HEARING OFFICER SHEAN: Okay, and I

1 think -- does this question relate then to the
2 socioeconomic economic impact of --

3 MS. GARNICA: No. Not this one, no.

4 HEARING OFFICER SHEAN: No, all right.

5 So the -- how many acres --

6 MS. GARNICA: Yes, how many acres of
7 land will be affected by mitigation.

8 HEARING OFFICER SHEAN: By the offset?

9 MR. LOOPER: The current water
10 conservation offset program is set at 4.2 acrefeet
11 per acre. And so for I think we have -- yeah,
12 3300 acrefeet -- I was going to say 720, whatever
13 the map is, Carmella; it's right around 700 acres
14 at the 4.2 acrefeet per acre number for the 3300
15 acrefeet of water use.

16 MS. GARNICA: Okay, as we talked about
17 the wells, how will the local residents' wells be
18 kept clean and free of contamination?

19 MR. LOOPER: There's a condition that
20 we've taken that requires us to monitor
21 surrounding wells, as in Blythe I, to take a look
22 at both, do we have degradation of the wells, do
23 we have impact the drawdown on the wells so that
24 there's increased pumping cost.

25 We basically have a make-whole provision

1 that we step up for deepening the well, paying for
2 the energy cost if there's an impact on a
3 neighbor's well.

4 MS. GARNICA: Where else in California
5 is groundwater 500 feet deep referred to as
6 brackish?

7 DR. HARVEY: I don't mean to sound
8 smart, but anywhere that it exceeds the salinity
9 standards to qualify as brackish water, starting
10 1000 to some 30-plus-thousand. And there are lots
11 of other places where groundwater even shallower
12 than 500 feet meets that standard.

13 For example, around the -- in the
14 Imperial Valley around the Salton Sea you very
15 quickly hit high saline water. Other places you
16 can go down to great depth and have much fresher
17 water.

18 So it really varies from place to place,
19 and in some cases from time to time. But it is
20 extremely variable.

21 MS. GARNICA: And any locations like
22 ours?

23 DR. HARVEY: The arid areas like yours,
24 and areas that have geologically over time been
25 subjected to shallow seas and sea water

1 inundation, very commonly that is the case.

2 MS. GARNICA: And are any of those wells
3 within ten miles of the Colorado River or any
4 other river?

5 DR. HARVEY: I'm not sure I understand
6 your question. Are any of the other wells that
7 might encounter brackish water at depth --

8 MS. GARNICA: Yes.

9 DR. HARVEY: All of the wells on the
10 mesa, wells on the Arizona side, wells in -- yes,
11 the answer would be yes, there are wells many
12 miles from the river that would encounter saline
13 water, brackish water.

14 MS. GARNICA: How many acrefeet does the
15 largest groundwater well currently pump per year?

16 MR. HUNT: Single well I believe is the
17 Blythe Energy I well, which pumps about the same
18 amount of water, 3000 to 3300.

19 I believe the Community College well was
20 one of the bigger wells. You have another well up
21 at the golf course area on the mesa. And a number
22 of agricultural wells. But I believe that the
23 single, by volume the single biggest pumping is
24 the first Blythe Energy Project.

25 MS. GARNICA: That's all I can remember

1 right now. There was another one that you had
2 brought up earlier, they had spoken about.

3 HEARING OFFICER SHEAN: If you're back
4 after dinner, he might be able to come up again.

5 MS. GARNICA: Yeah.

6 DR. HARVEY: I'd be happy to talk to
7 you.

8 MS. GARNICA: Okay.

9 DR. HARVEY: Thank you.

10 MR. LOOPER: Gary, before we break up if
11 I could, there was a comment that Ed Smith -- I
12 wish he was here -- but I'd like to capture a
13 thought for you that came up.

14 You directed a question to staff and I'd
15 like to respond to it, and it really has to do
16 with just the --

17 HEARING OFFICER SHEAN: Let's do it in a
18 question-and-answer format.

19 MR. LOOPER: Oh, okay, go ahead.

20 HEARING OFFICER SHEAN: Okay. Mr.
21 Galati, will you ask your witness the question he
22 wants you to ask him?

23 Whereupon,

24 ROBERT LOOPER

25 was recalled as a witness herein, and having been

1 previously duly sworn, was examined and testified
2 further as follows:

3 DIRECT EXAMINATION

4 BY MR. GALATI:

5 Q Mr. Looper, you were in the Blythe I
6 hearings?

7 MR. LOOPER: Yes, I was.

8 MR. GALATI: And do you remember when
9 Mr. Shean asked staff for an understanding of why
10 the Commission based its decision in Blythe I?

11 MR. LOOPER: I do.

12 MR. GALATI: And do you have a different
13 or more illustrative answer?

14 MR. LOOPER: I do. And it's important
15 to understand that when the Commission made the
16 decision in Blythe I facing the same set of facts
17 here in Blythe II, there's a key underlying legal
18 principle here of what, you know, started to get
19 to be referred to as staff water law versus what
20 is the facts.

21 And it's important that we reiterate
22 here that staff's scenario is one that you've
23 heard the terms this is physically how we
24 interpret this, this is how we think that the
25 water is going to be flowing from point A to point

1 B.

2 But, in fact, what we're dealing with
3 here is a PVID entitlement to Colorado River
4 water. And a theory such that PVID is not
5 entitled to their use or continued use or
6 increased use of their entitlement because either
7 the rest of California, the City of Los Angeles,
8 whoever it may, is more entitled to that water
9 because they've over-used that water for years,
10 and they now have to cut back, and they have to
11 institute measures of conservation.

12 And PVID and the people of the Blythe
13 Valley should be part of that. And therefore,
14 this power plant is a bad idea because you're
15 using water entitled to go to L.A.

16 And at the core of this issue is PVID's
17 entitlement to the use of their water. And it was
18 at the core of the Commission's decisions before.
19 And I just wanted to bring that point back up. I
20 know Ed would have. So that's all I had to say.

21 HEARING OFFICER SHEAN: Do you want to,
22 any cross?

23 MS. DeCARLO: Yeah.

24 CROSS-EXAMINATION

25 BY MS. DeCARLO:

1 Q Where in the Commission's decision is
2 that discussion located?

3 A It really permeates the entire decision,
4 Lisa, when PVID testified in their letters they
5 stood up before and they said, this is our water,
6 as they are saying right now. This is water that
7 if it is Colorado River groundwater the applicant
8 has the firm rights to use that water because it's
9 for beneficial use, it's part of our water
10 right --

11 Q Can you just point me to a page where
12 some portion --

13 A We'd have to bring out the document, go
14 through. Like we said, we wanted to enter the
15 Blythe I docket into the record so that we had
16 that testimony in.

17 DR. HARVEY: Even our testimony now --
18 BY MS. DeCARLO:

19 Q You're testifying now that that was the
20 core basis of the Commission's --

21 A Yes -- no, that was --

22 Q -- decision --

23 A -- one of the core bases of their
24 decision, yes.

25 Q So I'd just like a reference to where

1 you have -- you've obviously had some recent --

2 A I'll pull it out later tonight and I'll
3 bring you up a good reference, okay?

4 Q So as of now you have no --

5 A No.

6 Q -- no reference whatsoever? You're just
7 basing this on --

8 A Having been through all the Blythe --

9 Q -- memory?

10 A -- hearings and listened to the
11 Commission decision, yeah.

12 Q When was the last time you read the
13 Blythe I Commission decision?

14 A I think probably last week, Thursday.

15 PRESIDING MEMBER GEESMAN: You know, you
16 may want to handle this offline. I'm not certain
17 that it's helpful to my decision at all.

18 MR. LOOPER: Right.

19 PRESIDING MEMBER GEESMAN: I would note
20 it's my presumption that the electricity generated
21 from any Blythe II Power project is not going to
22 be consumed in Blythe; it will be consumed in Los
23 Angeles or Phoenix or San Diego or perhaps even
24 San Francisco --

25 MR. LOOPER: Right.

1 PRESIDING MEMBER GEESMAN: -- under the
2 right market conditions. So, I don't think this
3 is really taking us anywhere that is helpful.

4 MR. LOOPER: That's all I had to say.

5 MR. GALATI: I have no more rebuttal
6 testimony.

7 MS. DeCARLO: I still have redirect for
8 my staff, and I have a question for Mr. Hemming,
9 so I don't know which --

10 HEARING OFFICER SHEAN: Sure, go ahead.

11 MS. DeCARLO: -- you prefer me to do
12 first.

13 HEARING OFFICER SHEAN: Yeah, let's try
14 to do this.

15 MS. DeCARLO: Okay. For Mr. Hemming,
16 really quick.

17 CROSS-EXAMINATION

18 BY MS. DeCARLO:

19 Q The red line you drew, is that pure ag
20 return water? Pure drain water?

21 A Nothing's pure.

22 (Laughter.)

23 BY MS. DeCARLO:

24 Q At that point it hasn't -- has it been
25 diluted by the canal water at all?

1 A Well, there's farmers irrigating their
2 ground and if they've over-irrigated, they got a
3 spill that runs into that drain, and that water's
4 going into the drain, so it's diluting water.

5 Q Would you say it's diluted as much as
6 further up north in the canal water?

7 A Well, no. The canal water is 100
8 percent canal water, and the drain is maybe 3 cfs,
9 say at the extreme end it might be 3 cfs of
10 farmers' water and 1 cfs of underground water.

11 Q Do you have any numbers taken from --
12 TDS numbers taken from --

13 A No, we don't, --

14 Q -- any portion --

15 A -- not from that stretch of the drain.

16 Q Okay.

17 MS. DeCARLO: Thanks, that's all.

18 HEARING OFFICER SHEAN: Okay, you have
19 some redirect of your staff?

20 MS. DeCARLO: Yes.

21 REDIRECT EXAMINATION

22 BY MS. DeCARLO:

23 Q Richard, is drinking water the only
24 definition included in the definition of fresh
25 inland water under 7558?

1 MR. SAPUDAR: Is drinking water the only
2 beneficial use? Is that --

3 MS. DeCARLO: Yeah, 7558 defines fresh
4 inland water. Is drinking water the only
5 definition included?

6 MR. SAPUDAR: No, it's not.

7 MS. DeCARLO: What are some other uses
8 that are included in the --

9 MR. SAPUDAR: Let me look --

10 MS. DeCARLO: -- definition of fresh
11 inland water?

12 MR. SAPUDAR: -- them up. In the policy
13 it says fresh inland waters, those inland waters
14 which are suitable for use as a source of
15 domestic, municipal or agricultural water supply,
16 and which provide habitat for fish and wildlife.

17 MS. DeCARLO: And is this a water source
18 of domestic and municipal water supply?

19 MR. SAPUDAR: It is. It's currently,
20 it's historically been used for that. It's
21 currently being used for that.

22 MS. DeCARLO: Linda, with regard to your
23 conclusion regarding significant impacts to the
24 aquifer, the groundwater contained therein.

25 Does CEQA require that impacts occur to

1 identified persons before a finding of significant
2 adverse impact, to your knowledge?

3 MS. BOND: To specific persons, not that
4 I know of, no.

5 MS. DeCARLO: So the fact that there may
6 not be any persons impacted currently by the
7 raising of TDS level in the aquifer, does it
8 impact your determination at all, does it --

9 MS. BOND: No.

10 MS. DeCARLO: Now the applicant has
11 claimed that with Mesa Verde presumably stopping
12 to use the groundwater as drinking water at some
13 point, that no one would really be impacted by the
14 rise in the TDS level of the groundwater.

15 Would such a rise impact someone's
16 ability to irrigate? To use this water to
17 irrigate farmlands?

18 MS. BOND: If someone was using
19 groundwater near to the project either during or
20 after the project's operation to irrigate crops,
21 it would -- they would have to dilute the water
22 more because of the degradation.

23 MS. DeCARLO: And as far as you know, is
24 that a possibility that someone at some point in
25 the future would want to go out and farm some land

1 on the mesa?

2 MS. BOND: One of the places where they
3 are irrigating still is just north of Blythe II.
4 Some of those orchards have been taken out, but
5 the ones south of Blythe II are still being grown,
6 and they're planting new orchards north of Blythe
7 II, as far as I remember, the last time I was out
8 there.

9 MS. DeCARLO: Richard, how extensive is
10 the WCOP proposed by applicant? Is it fairly
11 detailed?

12 MR. SAPUDAR: It has some basic
13 requirements, but it doesn't have a lot. If you
14 compare it to, say the Metropolitan/PVID water
15 conservation offset program, they provide a lot of
16 detail on how to qualify lands, how to account for
17 lands, how to determine water use, water savings.

18 They have contracts with the landowners
19 to insure that the landowners participate properly
20 in the fallowing program.

21 There's a lot of monitoring and
22 verification, and the landowners are doing what
23 they're supposed to do and that the program is
24 actually conserving water. That program was
25 specifically designed to conserve water.

1 The applicant's program has a list of
2 some things that they intend to do, but it doesn't
3 have all the type of information for how they're
4 going to implement it, how they're going to manage
5 it over time, how they're going to monitor its
6 effectiveness both as a water conservation program
7 and for erosion control. And how they're going to
8 verify how it's working.

9 So, there's a big difference between a
10 water conservation program that's tens of pages
11 long and a water conservation program that's a
12 page and a half long. There's just -- it's hard
13 to compare the degree of detail.

14 MS. DeCARLO: And with what the
15 applicant has provided so far in terms of the
16 WCOP, is there, in your opinion is there any
17 ability to state that this will definitely
18 conserve the amount of water proposed?

19 MR. SAPUDAR: Not the way it's proposed
20 right now. There's just not enough detail there
21 to be able to see how they're going to run the
22 program and how they're going to manage it, all
23 those things I talked about previously.

24 MS. DeCARLO: And in your opinion does
25 this WCOP satisfy the criteria identified by CRB

1 in their letter?

2 MR. SAPUDAR: The CRB is on record with
3 a letter that says that they're interested in how
4 the program's going to qualify lands for the
5 program. Basically how they're going to provide
6 for water conservation.

7 And the last letter we had from the CRB
8 on that topic was that they recommend that until
9 the applicant provide a detailed plan that shows
10 that it can work, that they recommended that the
11 Commission withhold approval of the license.

12 MS. DeCARLO: And has staff provided a
13 condition that would insure that the Commission
14 received a verifiably effective WCOP from the
15 applicant?

16 MR. SAPUDAR: We have a condition,
17 absolutely.

18 MS. DeCARLO: Does the USBR analyze
19 environmental impacts of a project's water use?

20 MR. SAPUDAR: Not to my knowledge. They
21 have no CEQA responsibility, they have no
22 licensing responsibility for power plants.

23 MS. DeCARLO: And whose responsibility
24 is it to analyze these projects' environmental
25 impacts?

1 MR. SAPUDAR: The Energy Commission.

2 MS. DeCARLO: Now, do you have in front
3 of you the forbearance in fallowing program
4 agreement entered into by PVID and MWD?

5 MR. SAPUDAR: I have a copy.

6 MS. DeCARLO: Docketed July 14, 2005?

7 MR. SAPUDAR: That's correct.

8 MS. DeCARLO: Does this agreement
9 specify at all whether a farmer may use
10 groundwater?

11 MR. SAPUDAR: It does. It disallows the
12 use of groundwater by participating landowners.
13 It says participating landowners shall fallow or
14 cause to be fallowed all land designated for base
15 annual fallowing pursuant to this clause.

16 It has some requirements here. And it
17 says, participating landowners shall comply with
18 their obligations respecting fallowing by not
19 undertaking or committing the following activities
20 on fallowed lands: The growing of agricultural
21 crops or other vegetation. Application of water
22 other than rain that naturally falls to the
23 fallowed land. Extraction of application of
24 groundwater. And the use or collection of surface
25 water provided. However, that water may be

1 utilized for dust control or permitted under the
2 applicable landowner agreement.

3 MS. DeCARLO: And in your opinion why
4 would this agreement prevent the use of
5 groundwater on fallowed lands?

6 MR. SAPUDAR: It goes back to our
7 original discussion we had earlier is that the
8 water is considered the same water, whether they
9 grow crops with surface water diverted from the
10 Colorado River or groundwater derived from the
11 Colorado River.

12 The implication here, without having
13 looked at it any farther, is that it's the same
14 water and they don't want the water used. They're
15 looking at it groundwater as the same source of
16 water.

17 MS. DeCARLO: Now, the applicant keeps
18 bringing up the legal classification of this
19 groundwater, whether it's groundwater or surface
20 water. Does this have any bearing on where the
21 water actually comes from?

22 MR. SAPUDAR: It doesn't have -- again,
23 this is a complex legal issue with regard to
24 federal versus state water law. Under state law
25 all water use in the state has to be reasonable

1 and beneficial to serve the beneficial use without
2 waste or unreasonable use.

3 That applies to whether it's surface
4 water, groundwater or imported water such as
5 Colorado River water. Ultimately the state has a
6 lot of say and without -- again, this might be
7 something for a legal brief, gives a lot of
8 deference to the state on how the state uses its
9 water. So there's that aspect.

10 The USBR has contracts that are supposed
11 to implement the law of the river as they
12 distribute water to Colorado River water
13 contractors. So that's the legal document for
14 their distribution of water.

15 But ultimately the water use in the
16 state has to be consistent with California law.

17 MS. DeCARLO: But just because this
18 water is classified, may be classified as
19 groundwater under some legal framework doesn't
20 necessarily mean that there's no connection to a
21 surface water supply?

22 MR. SAPUDAR: Absolutely not.
23 Absolutely not.

24 MS. BOND: You're asking a physical
25 question?

1 MS. DeCARLO: Right, exactly.

2 MS. BOND: Correct. The California
3 groundwater law does not recognize a relationship
4 between pumping, groundwater pumping and stream
5 flow in a physical sense, unless the wells are
6 located within a few hundred yards of a river.

7 Nevertheless, physically there is an
8 impact and there is a hydrologic connection.

9 MS. DeCARLO: And to your understanding
10 does this legal classification of water affect our
11 obligation to analyze impacts under CEQA?

12 MR. SAPUDAR: Not at all. We still have
13 that obligation as far as I know.

14 MR. SHAW: Now is the extent of the
15 pumping of the Mesa Verde well of the same
16 magnitude as that proposed by Blythe II?

17 MS. BOND: No, it is not. The power
18 plant wells will be pumping at a rate -- have a
19 capacity of more than ten times the Mesa Verde
20 community well.

21 Furthermore, the Mesa Verde community
22 well is primarily providing water for drinking
23 water and indoor water uses. There aren't
24 extensive lawns and vegetation being irrigated
25 which in most situations, in most residential

1 situations, consume 80 to 90 percent of the water
2 used by a household.

3 So the project wells will be pumping ten
4 to a hundred times more than the Mesa Verde well,
5 which is at this point, the well that's number 7,
6 shown on the map.

7 MS. DeCARLO: And is this one reason why
8 the well number 7 shows a little more fresh water
9 than what you would expect at --

10 MS. BOND: Right, I believe that's the
11 primary reason why there has not been saline
12 upwelling. If the pumping is ten to 100 times
13 less than what the project will be pumping, that
14 means that the upwelling, the rate of upwelling
15 would be ten to 100 times slower.

16 MS. DeCARLO: All right, that's all the
17 redirect I have.

18 PRESIDING MEMBER GEESMAN: I'm at a loss
19 to understand in terms of the physical equivalence
20 that staff testimony draws between river water and
21 groundwater, why Metropolitan does not include
22 groundwater irrigated land within their
23 conservation program. Does the staff have any
24 response to that?

25 MR. LINDLEY: May I offer something?

1 MR. SAPUDAR: Yeah, go ahead.

2 MR. LINDLEY: It could be related to the
3 fact that Metropolitan is fallowing land in a
4 given year and they're looking to save water in a
5 given year. And I think the effects that we're
6 talking about happen over time.

7 And if you, you know, like Blythe is
8 going to create a large cone of depression, and
9 when they shut down their project well they'll
10 stop using that 3300 acrefeet per year, but it's
11 going to take many years before that cone of
12 depression fills in, and before the effects are
13 then, the savings are then realized by the
14 Colorado River.

15 So, if you've got a groundwater user who
16 is developing this cone of depression, and he
17 shuts down his well, in order for Metropolitan to
18 actually realize that savings it may take several
19 years before that cone of depression fills in.

20 And then after those several years
21 happen then there would be more water at the other
22 end of the spigot. That's just my thought.

23 MS. BOND: My assumption is that it
24 would be a legal battle because of California
25 water laws.

1 HEARING OFFICER SHEAN: Which
2 differentiate between groundwater and surface
3 water, is that correct?

4 MS. BOND: Yes.

5 HEARING OFFICER SHEAN: Okay.

6 MS. BOND: Correct. It makes
7 distinctions.

8 HEARING OFFICER SHEAN: And that's a
9 differentiation which staff is recommending we
10 disregard, is that correct?

11 MS. BOND: I'm --

12 HEARING OFFICER SHEAN: The legal
13 differentiation is one that you seek us to
14 disregard.

15 MS. BOND: I'm not asking you to
16 disregard that, the legal arguments. I'm asking
17 you to consider the physical CEQA-related impacts.

18 HEARING OFFICER SHEAN: Well, isn't it a
19 truism that all groundwater came either from the
20 sky or from a river that got its water from the
21 sky? The hydrologic cycle necessarily means that
22 that's the case.

23 MS. BOND: Certainly, yes.

24 HEARING OFFICER SHEAN: So, --

25 MR. SAPUDAR: I think our point is that

1 we don't want to have --

2 MS. BOND: I'm sorry, so --

3 HEARING OFFICER SHEAN: So it's a
4 truism. All groundwater has either been rainwater
5 or river water. Always.

6 MS. BOND: And how does --

7 HEARING OFFICER SHEAN: But the law --
8 I'm saying the law makes a distinction between the
9 two. And that distinction, you want us to stay
10 with the truism, but the law makes a distinction
11 you don't want us to stay with.

12 MS. DeCARLO: I believe our position is
13 that the law is irrelevant whether it's designated
14 groundwater or surface water. This isn't a water
15 rights issue; this is a CEQA impact issue and a
16 LORS issue.

17 We're not arguing that they don't have
18 the right to pump this water absent our
19 requirement to analyze impacts, and to comply with
20 the water law and policy. If they were just a
21 farmer out there wanting to pump 3300 acrefeet,
22 you know, we'd obviously have no say in it.

23 But we're dictated to analyze CEQA
24 impacts and to insure that we're in compliance
25 with water policy. And those are the two legal

1 issues, I believe, that we're focusing on.

2 HEARING OFFICER SHEAN: Okay. All right
3 we have no recross, so with that, maybe absent a
4 question after dinner from Ms. Garnica, we are
5 through with this.

6 We're going to return with the dry
7 cooling testimony. Now, just before we take a
8 break, is there a member of the public who is here
9 who would like to take this opportunity to offer
10 any comments with regard to any aspect of the
11 proposed project? You get this opportunity now if
12 you want to; you'll get it again before we break
13 for the evening.

14 All right, yes, sir.

15 MR. GALATI: Just one housekeeping item
16 and I apologize. I forgot to move in our project
17 description testimony. Can you please make sure
18 that the project description testimony that I
19 previously filed has been admitted as evidence.

20 HEARING OFFICER SHEAN: I thought we
21 had, but just to cover it, is there objection to
22 the project --

23 MS. DeCARLO: No.

24 HEARING OFFICER SHEAN: -- description
25 testimony? All right, it's either entered or re-

1 entered.

2 MS. DeCARLO: And I was wondering, since
3 the PVID/MWD agreement EIR has become such a focal
4 point, I was wondering if that could be moved into
5 evidence so that we might reference it in briefs
6 if necessary.

7 HEARING OFFICER SHEAN: What do you
8 want? The PVID/--

9 MS. DeCARLO: MWD, whatever Mr. Galati
10 referred to in his assertion that that agreement
11 forbade the use of groundwater --

12 HEARING OFFICER SHEAN: You mean the one
13 you just read from?

14 MS. DeCARLO: -- for the fallowing
15 agreement.

16 HEARING OFFICER SHEAN: The one your
17 witness just read from?

18 MS. DeCARLO: Yeah, I don't know if this
19 was the same document. This is the forbearance in
20 fallowing program agreement.

21 HEARING OFFICER SHEAN: Why don't you
22 check it out among yourselves, and just so we can
23 have a reference to it.

24 MS. DeCARLO: Okay, sure.

25 HEARING OFFICER SHEAN: We'll do that

1 later.

2 All right, I think we're going to take
3 an hour for dinner, is that right? Yeah.

4 (Whereupon, at 5:45 p.m., the hearing
5 was adjourned, to reconvene at 6:45
6 p.m., this same evening.)

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EVENING SESSION

6:57 p.m.

HEARING OFFICER SHEAN: Back on the record, please. Prior to taking the dinner break there was some discussion about a couple items and let me just ask Ms. DeCarlo to identify the two that she has.

MS. DeCARLO: Yes, the final EIR for the proposed Palo Verde Irrigation District land management, crop rotation and water supply program. And the forbearance in fallowing program agreement between PVID and MWD. If those could be entered in the record.

HEARING OFFICER SHEAN: Did you want one or both of those in the record?

MR. SAPUDAR: The draft EIR in there, too, because the final doesn't have all of the information that the draft does.

MR. GALATI: Right.

MR. SAPUDAR: The final --

MS. DeCARLO: Okay, I'm told that we would also like the draft EIR because apparently that contains a lot more information than the final.

1 HEARING OFFICER SHEAN: Now, this is
2 related to the point with regard to groundwater
3 being ineligible for this offset program, is that
4 the idea?

5 MR. GALATI: Yes.

6 HEARING OFFICER SHEAN: Now, knowing
7 that the draft EIR and the final, since that's
8 about an inch thick, have to contain a lot of
9 information not relevant to that, can we maybe in
10 the future here get some people to pull together
11 the cover and then the relevant pages --

12 MR. GALATI: Yeah.

13 HEARING OFFICER SHEAN: -- and then do
14 it like that?

15 MR. GALATI: I will do that, or
16 provide -- the only other way I think I could do
17 it is to have Ed Smith or somebody testify to it.

18 HEARING OFFICER SHEAN: Okay, I don't
19 really care.

20 MR. GALATI: I'll --

21 HEARING OFFICER SHEAN: We can leave the
22 record open for purposes of receiving a covering
23 page and the couple of pages that discuss it. And
24 then the agreement between PVID and the MWD has
25 already been docketed.

1 MR. GALATI: Right. I don't have any
2 problem with the agreement between them coming in.
3 And I will --

4 HEARING OFFICER SHEAN: Okay.

5 MR. GALATI: -- take -- well, I don't
6 know if I have the draft EIR.

7 MS. DeCARLO: Yeah, we don't, either.
8 My main concern is the assertions made by the
9 applicant. I just want an opportunity to respond
10 to those, because we hadn't heard those before,
11 that the agreement prohibits the use of
12 groundwater.

13 So I would be happy to, if maybe we
14 could just say that final and draft are allowed in
15 only as to those areas that discuss --

16 HEARING OFFICER SHEAN: That limited
17 purpose.

18 MS. DeCARLO: Yeah.

19 HEARING OFFICER SHEAN: But does the
20 final -- does the agreement, the other docketed
21 document include a statement that groundwater is
22 ineligible for --

23 MS. DeCARLO: It includes the statement
24 that Mr. Sapudar read on redirect that states that
25 groundwater is not allowed to be used by

1 participants of the fallowing agreement on their
2 lands.

3 HEARING OFFICER SHEAN: Well, --

4 MR. HANSON: She is talking about two
5 different things; she does not know what it --

6 HEARING OFFICER SHEAN: -- okay, you
7 need to identify yourself, if you will, sir. If
8 you want us to know something that you know.

9 MR. HANSON: Quenton Hanson; I work for
10 Palo Verde College Small Business Economic
11 Development Center. And I am not an expert on
12 this fallowing agreement, although I'm on the
13 community fund administering mitigation fund.
14 I've been involved with this and I can see a
15 letter from me in the original EIR and what have
16 you.

17 She's talking about two different
18 things. Number one, there's a restriction as
19 far -- when you fallow land as far as what you can
20 do with it, putting groundwater on it and so
21 forth.

22 What the gentlemen over here are talking
23 about is the fact of who's eligible, in fact, to
24 participate in the program thereby saving Colorado
25 River water for it to be passed on to the junior

1 right holders, MWD specifically.

2 And that's two different issues there.
3 And so you're talking about two different issues.
4 One is the groundwater users were not eligible to
5 participate in the program because all they're
6 talking about savings is the surface water from
7 Colorado River.

8 HEARING OFFICER SHEAN: Right.

9 MR. HANSON: What she is talking about
10 is when you fallow the ground, no, of course, you
11 fallow ground they're not going to let you just
12 take groundwater to do what you were doing in the
13 service water.

14 So there are two different issues here.
15 She's talking about one avenue, and they're
16 talking about a totally different avenue.

17 MS. DeCARLO: Well, my argument would be
18 that if you're not allowed to use groundwater on
19 this fallowed land, then there must be some
20 implied connection between the groundwater and the
21 surface water. And I just would like access to
22 the documents in my brief to further explore this,
23 since this issue wasn't raised previously.

24 HEARING OFFICER SHEAN: Okay, let's --

25 MR. HANSON: And the issue they're

1 making is there is a distinct difference between
2 surface water and groundwater as far as who'd be
3 qualified to participate.

4 HEARING OFFICER SHEAN: I understand.
5 So long as in any reference to the documents we
6 make it very clear what we're talking about.
7 We'll hold the record open for you to find the
8 particular references within the draft EIR and the
9 EIR.

10 MS. DeCARLO: And we can identify those
11 in the brief.

12 HEARING OFFICER SHEAN: Okay.

13 MS. DeCARLO: Okay, great. Thank you.

14 MR. GALATI: I agree to that.

15 HEARING OFFICER SHEAN: All right. Now
16 we're going to move to dry cooling.

17 MR. GALATI: Thank you. The panel is
18 Tom Cameron, who has previously been sworn; Bob
19 Gavahan, who has previously been sworn; and Phil
20 Deen, who has previously been sworn. And, of
21 course, Bob Looper, who has been previously sworn;
22 he's the Project Director.

23 Whereupon,

24 THOMAS CAMERON, ROBERT LOOPER, PHIL DEEN,
25 and ROBERT GAVAHAN

1 MR. GALATI: Mr. Cameron, would you
2 summarize your testimony.

3 MR. CAMERON: Yes, I will. And actually
4 what I'd like to do is kind of summarize the whole
5 discussion on dry cooling, and then defer to a
6 couple of our experts that are on the panel to
7 describe their testimony in some further detail.

8 Dry cooling just so everyone understands
9 the simplistic view of dry cooling versus wet
10 cooling, a plant that is wet cooled uses a cooling
11 tower which uses an evaporative cooling process.
12 And it is a consumptive use of water.

13 In dry cooling you're actually using the
14 ambient air to cool the steam, condense the steam
15 and return it to process after it comes out of the
16 steam turbine.

17 We have reviewed the staff's testimony;
18 we've reviewed the staff's discussion on dry
19 cooling in the FSA. And from the standpoint of
20 looking at the cost analysis, at one time we were
21 reasonably close on costs, but as time has evolved
22 and as prices have also evolved, we've found that
23 there are some pretty significant differences in
24 costs, which I'll talk about a little bit.

25 Dry cooling is technically feasible.

1 It's been proven to be feasible in several
2 applications throughout the world. We just have a
3 problem with using dry cooling in this particular
4 environment because of ambient temperatures that
5 we face and a competitive power market that we're
6 trying to sell our power to.

7 Want to talk a little bit about some of
8 the differences that we see with the staff's
9 discussion on dry cooling and our position on dry
10 cooling. We don't believe that the staff has
11 fully estimated the impacts of dry cooling, so I'm
12 going to talk a little bit about the capital costs
13 that I mentioned has grown significantly in the
14 last couple of years.

15 We also want to talk about the
16 performance impacts to a power plant from dry
17 cooling versus wet cooling. Another important
18 aspect is the operational, and I'll use the term
19 inflexibility of a dry cooled plant versus a wet
20 cooled plant.

21 And then lastly a little bit on the
22 market conditions, market requirements, what it
23 takes to successfully sell power to the utilities
24 or bid into a merchant market situation.

25 From a capital cost, I'll talk about

1 capital costs. Our capital costs that we have
2 derived are about approximately \$20 million higher
3 than the staff's estimate. So we see the delta
4 being in the range of \$55- to \$60-million higher
5 than a wet cooled plant. That is because of the
6 difference in cost of equipment. And the
7 difference of erection costs, labor is very
8 expensive here in Blythe, we have to import our
9 labor from kind of the L.A. Basin. A lot of the
10 labor force from Blythe I came from there. And it
11 all has to be constructed union.

12 Siemens Westinghouse is our EPC
13 contractor. We are in discussions with them right
14 now on doing the full turnkey for Blythe Phase II
15 project. They were the turnkey contractor for
16 Blythe Phase I.

17 The equipment that we are using as the
18 power island equipment was manufactured by
19 Siemens, including the two combustion turbines
20 which uses V84 3A technology; the two heat
21 recovery steam generators; and the steam turbine.
22 There's also a condenser that is in storage that
23 was manufactured, as well.

24 There are some things that we would have
25 to do to the equipment that's in storage in order

1 to adapt it to dry cooling. Those would involve
2 basically removing the condenser, since we don't
3 have wet cooling, and plumbing up some big exhaust
4 ducts so that the steam can be distributed into
5 the dry cooling condenser.

6 We also have modifications to process,
7 modifications to pumps. The design that we had
8 anticipating duplicating from Blythe I, which has
9 already gone through the CBO and the plan checking
10 process, we would have to make some pretty
11 significant modifications to it and go through the
12 plan checking process again. That all costs
13 money, as well.

14 And I think the other major contributor
15 to cost is what it would take for noise abatement.
16 The dry cooling condenser that we'd have to erect
17 is a fairly large system. It would have -- how
18 many fans?

19 MR. GAVAHAN: Seventy cells.

20 MR. CAMERON: Seventy cells, so 70 fans,
21 large fans that would be producing noise. And
22 they would have to be -- that noise would have to
23 be abated through lower speed fans or insulation,
24 some type of treatment on the condenser to keep
25 the noise down, so that we can meet our bar --

1 noise requirement that we have at the closest
2 receptor.

3 For a performance standpoint I'm going
4 to turn this over to Phil. And Phil is with
5 Siemens Westinghouse, and heads up the performance
6 group at Siemens Westinghouse, so pretty qualified
7 individual.

8 HEARING OFFICER SHEAN: Before you do
9 that maybe you could just, since I know it's going
10 to be asked, can you differentiate the costs.
11 You've testified to your situation wherein you
12 have already purchased equipment, it's standing by
13 and everything else like that.

14 Now, can you testify as to the
15 hypothetical situation if you hadn't purchased
16 anything what do you think the added incremental
17 costs of using dry cooling under these
18 circumstances would be versus wet cooling if you
19 were essentially in the planning and pre-
20 purchasing stages.

21 MR. CAMERON: I could --

22 HEARING OFFICER SHEAN: Since I know
23 it's going to be asserted that you took the risk.

24 MR. CAMERON: I understand that.

25 HEARING OFFICER SHEAN: So, let's just

1 do that.

2 MR. CAMERON: Let me just run through
3 the different major pieces of equipment. The dry
4 cool condenser has not been purchased, obviously.
5 The wet cooling tower was purchased but canceled.
6 Correct?

7 MR. GAVAHAN: That's correct.

8 MR. CAMERON: Canceled, so there's
9 really no cost impact for that. So we would have
10 to buy a dry cooled condenser and that cost would
11 be, you know, basically whatever it is these days,
12 which is pretty expensive.

13 The steam turbine that we have would
14 have to be sent back to Germany. It would have to
15 be modified. Phil can go through some of the
16 details, he has some slides to show you what all
17 has to be modified. But we estimate \$3 to \$5
18 million to modify just the steam turbine. We've
19 got to send it back to Germany; got to change the
20 whole way it passes steam from the low pressure
21 section. So we would have a \$5 million cost, say,
22 \$3 to \$5 million cost.

23 If we were to buy a steam turbine these
24 days it might also cost \$3 to \$5 million more than
25 we paid for the one that we have. Because prices

1 on all the materials that have any steel component
2 to it at all have gone up 20, 30, 40 percent in
3 the last couple of years.

4 So, I don't know if that answers your
5 question.

6 HEARING OFFICER SHEAN: Well, to the
7 extent you can I guess you have, so.

8 MR. CAMERON: Yeah.

9 HEARING OFFICER SHEAN: Understanding
10 that limitation.

11 MR. CAMERON: Phil, performance.

12 MR. DEEN: Yeah, sure. Could you light
13 the slide up. My name is Phil Deen and I'm with
14 Siemens Westinghouse. One of the things we did
15 was a study for the Blythe II project, and we
16 looked at it across the ambient range, using an
17 air cooled condenser.

18 This slide here, if you'll notice along
19 the bottom axis, it's ambient temperature. And on
20 the left-hand side you'll see that this is the
21 scale for the change in net power. The right-hand
22 side is the change in the scale for net plant heat
23 rate, which is related to plant efficiency. The
24 plant net power is in the blue line.

25 As you can see it's not, of course not a

1 linear relationship. As you get closer to the
2 hottest ambient day the impacts become a lot more
3 significant. Again, looking at the plant net
4 power, you got to kind of direct your eyes back
5 over here, but on a 110 degree day we're somewhere
6 around 27 or so megawatts less with an air cooled
7 condenser compared to a wet cooling tower, wet
8 condenser.

9 The same thing on change in plant heat
10 rate. You can see that on the hottest day we've
11 picked up a little north of 350 Btus per kilowatt
12 hour. Which is equivalent to about 2.5 percent
13 loss of plant efficiency.

14 MR. CAMERON: This is with inlet
15 chilling factored in.

16 MR. DEEN: This is with inlet chilling,
17 that's correct.

18 MR. CAMERON: One of the things that's
19 important to note is we've spent a significant
20 amount of money, will spend a significant amount
21 of money in putting inlet chilling, which helps us
22 reduce our ambient temperature going into a gas
23 turbine. And adds about 50 megawatts of power to
24 the plant at 95 to 100 degrees.

25 Now we're going to lose 27 of that with

1 the dry cooled condenser. So, it's -- we're
2 fighting to keep the plant at its highest
3 production, at its highest efficiency.

4 MR. DEEN: Yeah, if we want to get in
5 percent, I mean that's a -- okay. Again, this is
6 the same slide, it's just related in terms of
7 percentage.

8 And again, looking over here on the
9 hottest day you can see that we're somewhere
10 around a 5.5 percent loss in plant output. And
11 also the same thing, about the same thing in plant
12 heat rate.

13 MR. CAMERON: One of the things I would
14 add to this is power is most valuable to the State
15 of California in June, July and August. And then
16 September and May are also good months where you
17 have a need for power.

18 The average high temperature for the
19 month of June is 105 degrees; for July it's 108
20 degrees; and for August it's 107 degrees. So
21 that's the average high.

22 And the average lows range from 73 in
23 June to 80 in August. So, we only got about a 20
24 to 25 degree band of temperature difference. And
25 so we're always being impacted on performance and

1 efficiency of the plant.

2 Temperatures in those months peak at 120
3 to 125.

4 Anything else on performance? Are you
5 going to talk about the optimization of the system
6 and the flexibility?

7 MR. DEEN: Yeah, I can go ahead and talk
8 about that now.

9 MR. CAMERON: Okay, go ahead.

10 MR. DEEN: The other thing, too, and
11 it's important because it's related to this chart,
12 as well, we based this performance study off of a
13 larger air cooled condenser the staff had
14 described in their report.

15 We did that for the reason that the air
16 cooled condenser that's described in the report is
17 what I would call kind of the minimal size to get
18 the plant to function. And what that means is
19 that, you know, you would be below steam turbine
20 back pressure limits on the hottest day.

21 What it doesn't take into account and
22 what we did take into account in our analysis is
23 that there are transient conditions that can occur
24 on hot days with this plant. For example,
25 starting up the steam turbine. Where it becomes

1 important in the sizing of an air cooled condenser
2 is that under this transient condition when you're
3 bringing the steam turbine online you require a
4 lower back pressure.

5 In order to get the lower back pressure
6 to bring the steam turbine online you require a
7 larger air cooled condenser. So this performance
8 impact here is probably a little bit less --
9 actually it is a little bit less than was
10 described in the staff report.

11 But again, it's done so so that we can
12 have a reasonable chance of being able to bring
13 the plant online on a hot day. The minimal size,
14 again the smaller and less expensive system will
15 not allow you to start the plant when it's 110
16 degrees outside.

17 I think the other thing that's important
18 to note, too, when it comes in to just operation
19 of a plant with an air cooled condenser is, you
20 know, you've gotten it started up; you're running
21 on a 110 degree day. And then you have some event
22 where the plant has to -- the plant trips offline.

23 Under those conditions it is the most
24 severe operating scenario for an air cooled plant.
25 When you're in this hot restart condition after a

1 plant trip on a hot day what you have to do is
2 achieve a high enough load on the gas turbine so
3 you can match the steam turbine rotor metal
4 temperatures.

5 Since you've tripped from baseload your
6 rotor temperatures are at their hottest, so you
7 have to have a very high gas driven load. And
8 then transition the steam turbine from no load to
9 put load onto the system.

10 Under this scenario, and under any air
11 cooled condenser, even the one we've described,
12 it's just not possible to do it when it's 110
13 degrees outside because you have to have your gas
14 turbines up at a very high load, and you can't
15 achieve that with any reasonably sized air cooled
16 condenser.

17 Your only option at that point, if that
18 has occurred to your plant, is essentially to wait
19 for the rotor to cool down, which can be a
20 several-day scenario, two, three, four days. Or
21 you restart the steam turbine overnight, perhaps
22 when temperatures have dropped below 90 F or
23 something, you know, around that range.

24 MR. CAMERON: Emissions.

25 MR. DEEN: Oh, thank you for reminding

1 me. The other thing, too, and this really also
2 ties into it, as well. If you look at this loss
3 in efficiency here that we see on the blue line,
4 we're losing 5.5 percent of heat rate. And that's
5 about 2.5 percent in efficiency.

6 One way to look at this, too, is that if
7 you have to make up those megawatts you're, in
8 effect, on a per-megawatt basis increasing the
9 plant emissions. Because you're making the
10 megawatts at a less efficient rate.

11 So if you were to incrementally add
12 those megawatts you have on a per-megawatt rate in
13 increased emissions from the facility.

14 MR. CAMERON: And emissions during
15 startup, too.

16 MR. DEEN: And emissions during startup,
17 as well. The other characteristic that you find
18 on an air cooled condenser plant is that in order
19 to get a reasonable size on the air cooled
20 condenser you have to hold the gas turbines at a
21 lower load. And that load is below the threshold
22 for where they're in emissions compliance.

23 And you have to hold it there for a
24 longer period of time, so that during a normal
25 startup with an air cooled plant you'll spend

1 roughly twice as long with the gas turbines out of
2 emissions compliance waiting for piping to warm
3 up, waiting for the steam turbine to warm up so
4 you can get it in such a condition that you can
5 start emitting steam to the steam turbine.

6 In terms of minutes it's 20 to 30
7 minutes you spend doing this. But on a per-start
8 basis you can look at it that you've essentially,
9 say you've made your emissions worse by a factor
10 of two during a startup with an air cooled
11 condenser plant.

12 MR. GALATI: Mr. Deen, with respect to
13 when a plant trips, and that the rotors take some
14 time to cool off, --

15 MR. DEEN: Yes.

16 MR. GALATI: -- how's it different for a
17 wet cooled plant?

18 MR. DEEN: Well, with a wet cooled
19 plant, again wet cool condensers, of course,
20 operate differently. The physics are just
21 different between the two, and you're able to
22 achieve a lot lower back pressure on the steam
23 turbine. And so you're below that lower limit
24 that the steam turbine requires in order to
25 restart. So those concerns go away with a plant

1 that has a cooling tower wet condenser.

2 MR. GALATI: And similarly, how does the
3 wet cooled plant operate with respect to startup
4 emissions? Why are they different?

5 MR. DEEN: Again, kind of the opposite
6 situation that you would have on an air cooled
7 condenser. What you can do is ramp your gas
8 turbines up to a much higher load while you're
9 bringing the steam turbine on. You can put them
10 in emissions compliance; you know, you can get
11 them to emissions compliance much quicker. And
12 then roll the steam turbine sooner, you know, from
13 a -- cooling tower wet condenser.

14 MR. GALATI: Okay. Any other
15 performance-related testimony you'd like to share
16 with us?

17 MR. DEEN: No.

18 MR. CAMERON: Daily startup with a dry
19 cool condenser, how does that --

20 MR. DEEN: Well, startup times in
21 general are increased. Even if under normal
22 start, not a hot start, the startup time is
23 increased by about 25 percent, which is 20 to 30
24 percent increase in start time.

25 MR. GALATI: Could you, Mr. Deen, please

1 describe for us what modifications would need to
2 be done to the equipment that --

3 MR. DEEN: Sure.

4 MR. GALATI: -- Caithness Blythe II
5 already owns?

6 MR. DEEN: Yeah, this slide is a
7 computer model of what the Blythe II steam turbine
8 looks like. I'm using it in lieu of actual
9 photographs because crates don't always look so
10 good on the photograph. But it gives you some
11 idea.

12 Also to get an idea on the scale of what
13 we're talking about, you can see this gentleman
14 here working on the rotor. You can see that the
15 rotor fits inside the steam turbine here. This is
16 the low pressure rotor. That rotor is then housed
17 by an inner cylinder and an outer cylinder. And
18 the entire steam turbine is represented in this
19 section here. All of this equipment, of course,
20 has been manufactured and currently exists.

21 In the case of an air cooled condenser,
22 the thing that you have to do is you have to bring
23 the steam from the steam turbine to the air cooled
24 condenser through a steam duct. It's impractical
25 to do it off both sides of the condenser -- or

1 both sides of the steam turbine, rather, because
2 in doing so you would end up limiting access to
3 the steam turbine and the generator if you were to
4 kind of pipe it from both sides of the steam
5 turbine.

6 So what we would have to do is modify it
7 into what we would call a single-side exhaust.
8 Currently this being a double-flow exhaust. That
9 modification would entail essentially strapping
10 these two condenser boxes that you see here, and I
11 have another slide that I'll show in a minute and
12 it shows what the condenser looks like. But you
13 essentially strap both of these. You replace one
14 of the sides with essentially a plenum that
15 directs the flow back to this side of the
16 condenser and pull everything off of here.

17 That requires shipping essentially this
18 entire LP section back to the factory in Germany
19 to be retooled. And it would encompass
20 modifications, again, to the outer cylinder, the
21 inner cylinder. And the thing that we don't know
22 at this time, because we haven't completed the
23 engineering studies, is if we'd have to modify
24 anything on the rotor and do anything with the
25 last row of blades.

1 The next slide, too, -- and this gives
2 you some idea, too, of what the condenser we're
3 talking about. Here, just to get an idea of the
4 scale you can see the individual standing next to
5 the condenser. This is the wet condenser that
6 will essentially be discarded on this project.
7 And here again is the LP outer cylinder with the
8 condenser removed from it. And not pictured is
9 the modification with the half clam shell to
10 direct the flow off and over the duct that will
11 come up at this side.

12 MR. GALATI: Any other modifications to
13 existing equipment?

14 MR. DEEN: Yeah, there are. And we
15 submitted a kind of a list that we went through.
16 This is probably the most -- it's the most
17 significant.

18 MR. GALATI: That list is attached to
19 your testimony?

20 MR. DEEN: I believe so, yes.

21 MR. GALATI: It's called the ACC impact
22 document, is that correct?

23 MR. DEEN: Yes, that is it.

24 MR. GALATI: There's no need to
25 summarize that. It's in the record.

1 MR. DEEN: Okay.

2 MR. GALATI: How about could you
3 describe for us anything -- do you think that
4 noise impact mitigation would be necessary?

5 MR. DEEN: Well, yeah, I mean the air
6 cooled condenser, of course, would have to be
7 designed with the site noise requirements in mind,
8 and I think Tom touched on that in his testimony
9 which indicated that you'd have to just have it
10 considered use lower speed fans, for examples.
11 There could be other things that could be
12 considered.

13 I don't know the specifics of it. We
14 included it in the dollar estimate, the air cooled
15 condenser, but I don't know the specifics of all
16 the modifications.

17 MR. GALATI: What is the physical size
18 of this air cooled condenser?

19 MR. DEEN: Just a minute.

20 MR. GALATI: How about just describing
21 it in relation to the wet cooled plant.

22 MR. DEEN: Yeah, I have the exact
23 dimensions here and I'll find them in a minute.
24 But if you were to just compare the physical size
25 of the air cooled condenser to the existing

1 cooling tower, it would be about three and a half
2 times the overall footprint of the wet cooling
3 tower.

4 And the dimensions, which also are in
5 the -- 537 feet by 192 feet by 130 feet.

6 MR. GALATI: Waiting for the next slide,
7 and, Mr. Looper, would you please describe what
8 effect this has on the economics of selling the
9 power.

10 MR. LOOPER: Staff had asked earlier,
11 you know, what the differences were where we may
12 have been in Blythe I and where we are today.

13 Obviously on Blythe I we were a merchant
14 opportunity in selling what we thought was into a
15 baseload market. And Blythe I today operates not
16 in that fashion.

17 We also are -- what we have in front of
18 you right here is a table that was pulled from the
19 Edison RFO, which is basically their longest term
20 request for resources, which is a ten-year term
21 that they've ever done in the last five years.

22 This table here represents the shape of
23 how they price their capacity payments to the
24 project. And the reason that I put this up here
25 because it's important to note that we've

1 transitioned from this being a baseload plant to
2 this really being a plant that will have multiple
3 starts to meet summer peak.

4 And I think for demonstration there's a
5 pointer here that you had. What we have here
6 is --

7 MR. GALATI: Why don't you go stand at
8 the microphone, thank you.

9 MR. LOOPER: What we have here is the
10 months of the year, and here you can't see that
11 very well, but that's really 7 to 9. These are
12 actually hours in the 24-hour block period.

13 So 7:00 to 9:00 a.m., 9:00 to 11:00 a.m.
14 11:00, obviously the 24-hour clock, to 2:00 p.m.
15 2:00 to 6:00, and 6:00 to 10:00. And you see
16 nothing in here from 11:00 to 6:00 a.m.

17 And what this is is a monthly capacity
18 price shape table. And this is basically the
19 basis on which Southern Cal Edison will pay us for
20 the power. And what I want to note with this dry
21 cooled system that we've just talked about that
22 costs more and really reduces our operational
23 flexibility, that they are waiting in the month of
24 August, July as you can see, during the period
25 such as now, you know, 6:00, 7:00, 8:00 p.m. our

1 capacity payments at the 370 percent of what the
2 average capacity payment for the year would be.
3 And you can see they're not valuing at all
4 capacity in the period of time from 11:00 to 6:00
5 a.m.

6 This is their model. If they had the
7 perfect power plant this is what they're telling
8 you they would buy. They would buy the plant that
9 would do this in this shape, and they'd love it to
10 ramp up if you had, you know, 1 megawatt and it
11 would go up and it would deliver power in the peak
12 periods of time.

13 The most significant piece of this table
14 for us is that if we fail to perform in these
15 periods of time, these periods of the hot summer
16 periods, and for example, if we were to trip in
17 the month of August during a period at 6:00 or
18 7:00 p.m., and we could not put the plant back
19 online very quickly like we could with a water
20 cooled plant, we would be subject to damages. Not
21 only would we not be receiving our capacity
22 payment for that period of time, which is 370
23 percent of the average capacity payment, but in
24 addition we'd have to pay damages on the ability
25 of Southern Cal Edison at this time of the year,

1 at this time of the day, to go into the spot
2 market and purchase that power.

3 And our exposure from a credit
4 standpoint on financing this project really comes
5 down to our ability to cover our defaults. And in
6 this particular case, in a dry cooled plant, the
7 reliability and the operational flexibility of it
8 doubles, triples, quadruples that number relative
9 to what we would have to do in a wet cooled power
10 plant. It's a significant hit to the project.

11 So, I think what's important from this
12 table and we have other economic impacts is that
13 this is a project that will be started up and shut
14 down numerous times. It is a project where
15 startup time is critical. Emissions during
16 startup is critical. The ability to take the
17 plant back online after a trip is critical.

18 And dry cooling, not only does it go
19 against us in the performance time, during the
20 peak day, the hot summer period of time when we
21 need the performance the most, but it also gives
22 us the -- it takes away our flexibility to operate
23 and limit our damages and exposure during those
24 down times.

25 PRESIDING MEMBER GEESMAN: I wonder if

1 you would elaborate on how you got to doubles,
2 triples and quadruples based on what I took to be
3 both reliability and restart.

4 MR. LOOPER: The reliability issue is
5 one where we may not even be able to startup at
6 all, so if we tripped on the afternoon at 2:00
7 today, with a dry cooled plant, it's unlikely
8 today we would not have been able to restart until
9 the next morning.

10 So, with a trip such as that we would
11 have been exposed in the remaining hours of the
12 day to damages every day for 520 megawatts at the
13 tune of probably what the spot market would be,
14 greater than 10 cents per megawatt hour. It would
15 be millions of dollars for that trip alone.

16 PRESIDING MEMBER GEESMAN: And the
17 incidence of trips for a dry cooled facility
18 compared to a wet cooled facility are --

19 MR. LOOPER: About the same, we think.
20 We don't have a lot of history on dry cooled
21 plants, so we don't think there's much difference.
22 We just know that when we're trying to put the
23 plant back online with the wet cooled plant we can
24 put it online from 20 to 90 minutes later.
25 Whereas with the dry cooled plant we may not even

1 be able to get it on till the next day.

2 PRESIDING MEMBER GEESMAN: Okay.

3 MR. LOOPER: And the startup question,
4 we know that we have faster startup times, so when
5 they're scheduling dispatching the plant we know
6 we can put the plant on quicker when they ask for
7 it, so we schedule it quicker.

8 We also know we have an emissions issue
9 with the dry cooling startup, because startup
10 emissions has become a very contentious issue with
11 EPA and CARB. And we had some issues with Blythe
12 I; we've solved those issues. Dry cooling puts us
13 back in the boat where we're really out of
14 compliance for twice the amount of time on our
15 startup emissions.

16 MR. GALATI: Mr. Looper, can you comment
17 at all on how you think that the financial
18 community would view that shape table in a dry
19 cooled plant?

20 MR. LOOPER: The financial community
21 does not like the exposure that Edison has in
22 their contract for default in the case of going to
23 the spot merchant or to market, as they refer to
24 it in the contract, for replacement cost of that
25 power.

1 So, we have a tough story to tell even
2 with the wet cooling. They don't like the
3 unlimited exposure even for the 20 to 90 minutes.
4 To have the dry cooling exposure it might be a
5 very difficult, maybe unfinance-able, but I
6 wouldn't go to that point. I'd just say it would
7 be very difficult and more expensive.

8 PRESIDING MEMBER GEESMAN: Are you aware
9 of any plant that has ever been financed as a
10 result of an Edison solicitation?

11 MR. LOOPER: I don't think I can answer
12 that question. Tom, do you know?

13 MR. CAMERON: No, I don't know. Just,
14 Sutter is an important one to talk about, though.

15 MR. LOOPER: Yeah, it is. But I'm not
16 aware of the -- because all the early contracts
17 for SO4 type contract structures, some SO1 type
18 contract structures, that's a whole different
19 deal. There were some DWR type of contracts, but
20 not Edison, of that nature.

21 This is really the first long-term,
22 longer than five years term that they've been
23 willing to commit to in recent history.

24 MR. GALATI: Mr. Looper, can you comment
25 on why the Sutter project both can operate and got

1 financing?

2 MR. LOOPER: Well, the Sutter contract
3 was a DWR contract. And so it locked into a ten-
4 year deal, and it was a pretty healthy deal. So,
5 I don't think they have any issues -- we don't
6 have any issues financing a dry cooled plant in a
7 variety of locations. And, in fact, Caithness is
8 building a dry cooled plant in Bellport on Long
9 Island. And we've analyzed the technology; we
10 know the technology very well. We understand
11 where it's best used.

12 It's just it's not very useful in a
13 plant that's going to be operated much more as an
14 intermediate peak load project in a very hot
15 climate such as this with the types of contract
16 terms and conditions we're facing.

17 PRESIDING MEMBER GEESMAN: The Otay Mesa
18 project is a dry cooled project, is it not?

19 MR. LOOPER: Yes, it is.

20 PRESIDING MEMBER GEESMAN: Do you know
21 how the contractual terms there between San Diego
22 Gas and Electric and Calpine differ from what
23 Edison is soliciting?

24 MR. LOOPER: We're not privy to that
25 contract except for that contract has been around

1 for a little while.

2 PRESIDING MEMBER GEESMAN: Any comment
3 as to the difference in climate regimes where that
4 plant operates?

5 MR. LOOPER: Well, I think they'd be
6 facing very similar circumstances. I'm sure the
7 temperature profile, I don't know if it's extreme
8 because it's more coastal than ours. But I'm sure
9 they have some of the same issues. They also
10 didn't have a water source there, but, yeah, I'm
11 sure they're facing some of these same issues.

12 MR. GALATI: The witnesses are available
13 for cross-examination.

14 HEARING OFFICER SHEAN: Ms. DeCarlo.

15 MS. DeCARLO: Just a few clarifying
16 questions.

17 CROSS-EXAMINATION

18 BY MS. DeCARLO:

19 Q You say that the plant will incur a
20 penalty if it's not on line very quickly after a
21 trip. What's defined as very quickly? Is there a
22 set time?

23 MR. LOOPER: We're actually fully
24 exposed to every minute that we're offline that
25 we've been scheduled. If we've declared the plant

1 available, which you would do, for example, in the
2 morning, so if we declared 500, just to make it
3 simple, if we declared megawatts available at 7:00
4 in the morning for this time period, then we're
5 exposed for every minute of that period until
6 10:00 p.m. that we're offline.

7 And their proposed basis is a market-to-
8 market basis where they would go into the market,
9 purchase that power, and then assess us damages on
10 the basis of their purchase price.

11 MS. DeCARLO: And what would your
12 turnaround time be if you had your proposed
13 project, the wet cooling?

14 MR. LOOPER: Depending on the conditions
15 -- I should let you answer that question.

16 MR. DEEN: Yeah, I think you summarized
17 it nicely earlier, 20 to 90 minutes is a good
18 number.

19 MS. DeCARLO: Now with regard to the
20 noise analysis, the \$2 to \$6 million. What noise
21 measurement was that based on? What are you
22 trying to obtain?

23 MR. DEEN: We weren't trying to hit it
24 exactly; we think one that was lower.

25 Yeah, the noise rating, and I have to

1 give it to you at 400 feet, that we did, was 62.5
2 dba at 400 feet for the air cooled condenser. We
3 felt that one would not exceed what we understood
4 of the Blythe I noise requirements.

5 MS. DeCARLO: And do you know what that
6 equates to at the nearest residence?

7 MR. DEEN: No, I don't.

8 MS. DeCARLO: So you don't know if
9 that's more stringent than the 49 dba at the
10 nearest residence, as the staff has required of
11 this project, the proposed project?

12 MR. DEEN: No, I don't.

13 MS. DeCARLO: So this could be an over-
14 estimation, this could be too conservative?

15 MR. DEEN: It also could be under, as
16 mentioned. But we included in the evaluation, you
17 know, a range, as well. So in the difference in -
18 - the difference in sound options that we
19 included, you know, it was a difference of about
20 \$2 million between the highest sound and the one
21 we selected. And that was kind of small compared
22 to the overall cost of the air cooled condenser.

23 MS. DeCARLO: And the highest sound is
24 67.4 dba. Do you know what that would be at the
25 nearest residence?

1 MR. DEEN: No, I'm not a noise expert.

2 MR. GAVAHAN: I don't think the option 2
3 of 62.5 dba will over-estimate the amount of
4 silencing, because the plant is designed for 60 at
5 400 feet. And this is a contribution of 62.5 of
6 only one component of the plant.

7 So I don't think that putting in 62.5
8 for the ACC is putting in more noise reduction
9 than would be necessary to meet, compared to the
10 cooling tower, the wet tower.

11 MS. DeCARLO: Now you obviously proposed
12 this project before the Edison RFO. If you had
13 knowledge of the RFO when you designed the
14 proposal would you have designed it exactly the
15 same to handle this intermediate load? Or is
16 there a better way to design for the purposes of
17 satisfying the Edison RFO?

18 MR. LOOPER: I think the, I think with
19 the wet cooling, I think the wet cooling and,
20 yeah, I think Blythe I, actually Chris Allen is
21 here, I see he snuck in; our operator in charge of
22 the Blythe I operations, I think they've adapted
23 the Blythe I design to this type of market.

24 And so with the wet cooled plant,
25 they've adapted the flexibility to start up and

1 shut down the plant every day as they've had to
2 do. I think they've modified their water
3 treatment system. As you know, I think there's an
4 amendment -- hope there's an amendment, Chris --
5 to do that. They're adding some demin capability
6 into it. They added more demin water, things that
7 we've done, as well.

8 But basically they've taken the wet
9 cooled plant and they're operationally managing it
10 inside this daily start-and-stop type of a market.

11 MS. DeCARLO: Now how many start-and-
12 stops did you include in your permit application?

13 MR. LOOPER: Two hundred, I think it's
14 205 roughly.

15 MS. DeCARLO: So it wouldn't necessarily
16 be daily?

17 MR. LOOPER: Yeah, it almost would be
18 daily. And we're anticipating evolving it on this
19 type of a cycle that they might start up the plant
20 at 7:00 and shut it down at 10:00 during the
21 summer periods, and every day, five to six days a
22 week.

23 MS. DeCARLO: Okay, that's all. Thank
24 you.

25 HEARING OFFICER SHEAN: Any redirect?

1 MR. GALATI: No redirect.

2 HEARING OFFICER SHEAN: Any questions
3 from the other intervenors?

4 All right, gentlemen, thank you, you are
5 excused.

6 And we'll go to the Commission Staff.

7 MS. DeCARLO: Jim Schoonmaker and John
8 Kessler are the staff witnesses, and they've
9 already been sworn in.

10 Whereupon,

11 JAMES SCHOONMAKER and JOHN KESSLER
12 were called as witnesses herein, and having been
13 previously duly sworn, were examined and testified
14 further as follows:

15 DIRECT EXAMINATION

16 BY MS. DeCARLO:

17 Q Can you please explain how you reached
18 the conclusion that dry cooling is technically
19 feasible?

20 MR. SCHOONMAKER: Technically feasible.
21 Sorry, I'm going to use all the microphones here.

22 We put a brief history in appendix A of
23 our FSA showing all the different plants that
24 we've seen that have been successful using dry
25 cooling.

1 And we referenced the Sutter and
2 Crockett Plants in operation, and the Otay Mesa
3 Plant in some form of completion.

4 We noted in the very hot dry climate of
5 southern Nevada there are plants with dry cooling.
6 The 480 megawatt Eldorado comes to mind. That's
7 been commercial for several years. There's also a
8 Moapa, Big Horn, PRIM, Apex, Arrow Canyon, Copper
9 Mountain have all been proposed and in some phases
10 of completion or hold. And all are dry cooling.

11 We reference in appendix A several
12 places, such as 4000 megawatts in South Africa
13 that have been operating since the '90s.

14 We've also referenced that the CEC and
15 EPRI, in combination, made a substantial study,
16 published results in 2002, February 2002,
17 comparing alternative cooling technologies. And
18 they came to the conclusion that even in the
19 southern California desert that dry cooling looked
20 to be technically feasible.

21 Finally, we did receive a proposal from
22 a vendor of ACC giving us cost and performance of
23 an ACC system located at this specific site. So
24 we believe from those pieces of evidence that it
25 is a technically feasible alternative, even at

1 this site.

2 MS. DeCARLO: Can you please describe
3 how you reached the conclusion that dry cooling is
4 environmentally desirable?

5 MR. KESSLER: We evaluated the
6 environmental desirability with respect to CEQA
7 and the Commission's own IEPR water conservation
8 policy. That policy interprets environmentally
9 desirable as being without significant adverse
10 environmental impact.

11 With respect to dry cooling the primary
12 potential environmental impact for significant, in
13 fact, is with respect to aircraft safety. The
14 applicant has also raised issues with regard to
15 noise and air quality, in particular, just to
16 touch on those. Our technical staff has included
17 that.

18 With respect to air quality an ACC
19 configured plant would operate within the air
20 emission limits. With respect to noise that the
21 plant would also operate within the 49 dba
22 threshold that is recommended as applicable to all
23 residences.

24 As to whether there would need to be any
25 noise mitigation we feel that that's a minor

1 component and may be something on the order of 1
2 million, 1.2 million. Not something that's on the
3 order of 6 to 8 million.

4 Just to compare the proposed project and
5 those environmental potentially significant
6 impacts, there's aircraft safety; land use with
7 respect to potential loss of ag lands if
8 retirement is chosen under the WCOP, but that can
9 be mitigated through purchase of ag land.

10 The groundwater quality, as discussed by
11 Ms. Bond. And the potential degradation of the
12 aquifer. Surface water supplies, effects to other
13 Colorado River water users. And lastly, in
14 comparing the water conservation policies that
15 help guide the Commission decisions, dry cooling
16 would achieve the maximum water conservation,
17 whereas the proposed project would not.

18 MS. DeCARLO: Can you please explain how
19 you reached the conclusion that dry cooling is
20 economically sound?

21 MR. KESSLER: Again, we looked to the
22 Commission's IEPR water conservation policy where
23 economically sound is defined as economically or
24 otherwise feasible.

25 In order to compare the economics of the

1 proposed project with alternatives, we estimated
2 the costs associated with water supply, cooling,
3 and the water treatment.

4 And to try to compare the cost effects
5 in relative terms we evaluated the effects to
6 Blythe II stated cost of production which the
7 applicant had stated ranges from 3.5 to 5 cents a
8 kilowatt hour.

9 The overall summary of the costs is when
10 we looked at the present value of all costs before
11 we consider loss or gained power. The proposed
12 project had a present value of about 48 million.
13 Rannels Drain, with the wet cooling, was about 52
14 million. Rannels Drain with the hybrid cooling
15 was about 51 million. Dry cooling was about 48
16 million. About the same as the proposed project.
17 And the dry cooling with the peaker was 68
18 million.

19 The bottomline result with respect to
20 the increase in the cost of production
21 attributable to the water supply cooling and
22 treatment was, of course, the proposed project was
23 the basecase. With the Rannels Drain and wet
24 cooling there would be up to a point, 0.3 percent
25 increase. With Rannels Drain and hybrid cooling

1 up to a 2.5 percent increase. With dry cooling up
2 to a 3.5 percent increase. And dry cooling with a
3 peaker up to 1 percent increase.

4 The primary differences between ours and
5 the applicant's economic analysis, just to touch
6 on those. One was they considered a discount rate
7 of 10 percent, where we used 7 percent.

8 Energy costs they used a flat \$47 per
9 megawatt hour. We used 30 to 60. Escalation they
10 considered 2.5 percent; we considered none.

11 Capital cost of ACC, they considered 52 million.
12 And I'll just note that their initial estimate in
13 the appendix to the AFC was on the order of 32.9
14 million, if I recall. We used 33.5 million.

15 They've concluded an increase in the
16 cost of production of 4.5 percent. We've
17 concluded 3.5 percent. And that reflects their
18 current position based on a \$53 million capital
19 cost for ACC.

20 And power values they didn't consider
21 any, where we looked at three viable scenarios.
22 On the escalation issue we don't feel that really
23 affects the results and analysis by the results,
24 themselves; 4.5 percent versus our 3.5 percent.

25 In our position that it's really not relevant to

1 consider escalation unless you're going to apply
2 it both to the cost side of the picture as well as
3 the revenue side.

4 The capital costs, our estimate for an
5 ACC is based on an actual budgetary quote from GEA
6 Power Cooling Systems. And also affecting the
7 noise mitigation we don't agree with the need to
8 spend an additional \$6 to \$8 million to maintain
9 the 49 dba limit on all residences. We don't
10 agree that some costs for wet cooling should be
11 included in that analysis for comparison.

12 In terms of looking at power values in
13 the economic soundness or feasibility, making that
14 determination, we feel that a determination as to
15 whether an alternative can be as economically
16 sound cannot be made based solely on costs.

17 The applicant has not provided any power
18 sale revenue estimates, whereas we presented four
19 scenarios, three of which are viable today. The
20 first of those viable ones is the purchase by
21 utility, the RFO as an example from SCE. PG&E has
22 also circulated a similar RFO. The two of those,
23 SCE for 1500 megawatts, I believe; and PG&E's is
24 2500 megawatts.

25 We don't know, it's confidential

1 information as to what those bids are. But we do
2 believe that combined cycle plants are going to be
3 very competitive in that bidding. We know that we
4 believe they'll be able to earn profit over the
5 ten-year term. And that also provides them long-
6 term certainty

7 We also looked at the ISO and balanced
8 energy market, and just to look at historical
9 tracking on that during 2003 and '4, the monthly
10 average incremental values range from 6 to 8 cents
11 a kilowatt hour. And we looked at the spot energy
12 market where monthly average values during 2003
13 and 2004 varied from 3.7 to 5.2 cents a kilowatt
14 hour.

15 Our conclusion on the economic analysis
16 is that Blythe II's cost of production is expected
17 to be lower when natural gas prices are lower, and
18 similarly higher when natural gas prices are
19 higher. And so we're basically saying the stated
20 range from 3.5 to 5 is largely reflected by those
21 natural gas prices.

22 The applicant and ourselves generally
23 reached the same conclusion. They concluded a 4.5
24 percent increase in the cost production. We had
25 3.5 percent. We also concluded a 0.3 percent

1 increase for the alternative of Rannels Drain with
2 wet cooling.

3 The power values and the revenues of
4 Blythe II would follow a similar trend as the cost
5 of production. And we considered the extent of
6 the state's generation resources that will and are
7 depending on natural gas as their fuel. And we
8 concluded that the Blythe II, configured with dry
9 cooling, would be economically sound and feasible.

10 MS. DeCARLO: Now the applicant claims
11 that dry cooling would be very expensive to
12 install, and that its use would prevent the
13 project from responding to market needs, thus
14 jeopardizing its ability to compete. Do you
15 agree?

16 MR. SCHOONMAKER: That's a little
17 different question than I was kind of expecting.

18 MS. DeCARLO: Actually I think John was
19 the --

20 MR. KESSLER: In our view, increasing
21 the cost of production on the order of 3.5 percent
22 or even 4.5 percent would not jeopardize the
23 applicant's ability to compete in the sale of its
24 power.

25 If we look at the effects of 4.5 percent

1 increase in the cost of production, their stated
2 range of 3.5 to 5 would increase to 3.7 to 5.2.
3 There's really many factors that affect the
4 individual power plant's makeup in a cost of
5 production. Some of which are generic, all gas-
6 fired plants, and some that are more unique.

7 One of the most generic factors would be
8 the cost of natural gas that would affect them
9 similarly. Some of the more unique factors would
10 be in the development in terms of their cost of
11 the transmission and the water, the other linears,
12 the land acquisition, and so on.

13 And all those factors really in the
14 market lead to a range as to what the cost of
15 production is for each individual plant. If you
16 compare Otay Mesa to the Blythe II plant
17 ultimately if it would be configured with dry
18 cooling, they're most likely not going to be the
19 same. They're going to be in the same ballpark,
20 but every plant has its unique set of conditions.

21 And our point is that we believe the
22 Blythe II plant is going to be well within the
23 range of what's competitive in the market because
24 of that. They have some things working to their
25 advantage, in some cases other things that are

1 more extensive.

2 I'm done.

3 MS. DeCARLO: The applicant has also
4 offered up several arguments claiming that the
5 operation of the project would be compromised if
6 dry cooling were required. In your opinion can a
7 power plant operate reliably with dry cooling in a
8 desert environment?

9 MR. SCHOONMAKER: Yes. We have clear
10 evidence that power plants with ACC have been
11 operated successfully in desert environments.

12 The applicant's testimony, Mr. Cameron,
13 Gavahan, Deen, for the first time to the best of
14 my knowledge, in that testimony said that they'd
15 already bought the equipment.

16 So I'd like to make a response in two
17 ways. One is a clean slate, I'm calling it. If
18 we did not have that equipment already purchased
19 and the design was going from scratch, I think
20 there's very little argument that an ACC plant in
21 a desert environment can work. It's worked in
22 California; it's worked in Nevada.

23 We've already testified to what we
24 believe the economic impacts would be, the capital
25 costs, applicant agreed with us. There are

1 obviously engineering tradeoffs that can be made
2 between air quality, noise, visual impact, water
3 consumption, efficiency and cost. And when you're
4 starting from a clean slate you can design a power
5 plant around those.

6 Specific arguments about two by one
7 inability to make a restart, for instance, if you
8 have a power plant that operates at baseload,
9 that's a fairly small issue. If you have a power
10 plant that operates on daily start and stop it
11 becomes more significant issue.

12 Had we known, or had the applicant known
13 that it was going to be that kind of a power
14 plant, he may well have chosen a different turbine
15 that wasn't quite so sensitive to these issues of
16 matching the HRSG steam to the turbine inlet
17 requirements. Maybe, maybe not have. But that's
18 an engineering capacity he would have had.

19 If then we look at the retrofitting,
20 forgetting that clean slate argument, and say,
21 well, he has what he has, then it's going to
22 require obviously a lot of retrofit work.

23 The easiest things, I suppose, to talk
24 about are the visual impact. An ACC is clearly a
25 lot bigger than a wet condenser cooling tower.

1 From what we have seen when we looked at visual
2 impact in the past, this was not an issue that had
3 a significant impact on the community. So we
4 don't believe the visual impact is going to be a
5 difficult problem to overcome.

6 Regarding noise, certainly an ACC is
7 noisier and has a lot larger source of fan noise
8 than a cooling tower does. And particularly I
9 think we just heard that it is a 70 cell ACC
10 that's being presumed. Very big.

11 But the nearest sensitive receptor is
12 about a half a mile away. And he's located right
13 next to the freeway. So from a practical matter,
14 as well as from a legal matter, it would not
15 appear that we're going to have any great
16 difficulty in meeting sound requirements.
17 Depending, again, on where the ACC is located and
18 how much blocking of the sound occurs from the
19 other things around it. But with the nearest
20 sensitive receptor a half mile away, that doesn't
21 look like a problem.

22 Emissions get to be a much more
23 difficult problem, air emissions. In my mind I
24 break those into two different aspects. One would
25 be an aspect related to the efficiency. We know

1 and accept as the applicant has stated, that there
2 is a negative efficiency impact of using an ACC
3 instead of the wet cooling.

4 If we operate the gas turbines as they
5 would before, then there's no absolute impact.
6 You still put out the same amount of gas, same
7 amount of emissions. On a per-kilowatt basis then
8 there is anywhere from a zero to 6 percent impact.
9 And I don't think we disagree with that.

10 On the starting relationship, the
11 emissions that occur during startup, when this was
12 a baseloaded plant that wasn't a problem. When we
13 calculated the water requirement, the 3300
14 acrefeet a year requirement, that was based on a
15 baseloaded plant. I think we all presumed that
16 this was a baseloaded plant. And that wasn't a
17 problem.

18 It becomes a problem because of the
19 frequent startup. I don't know whether this
20 frequent starting is something that's going to
21 happen for a year or two years until the Devers-
22 Palo Verde line is finished, or for the life of
23 the plant.

24 If it lasts for a short time, it's a
25 short-term problem. If it lasts for a long time,

1 it's a long-term problem. Since we don't know how
2 the plant is going to be operated in the long run,
3 we really can't come up with convincing answers of
4 what the total impact of that's going to be.

5 MR. KESSLER: If I could just add on the
6 starting time issue is that in reference to the
7 SCE RFO the quick start requirement, which is a
8 preference for bidders, is ten minutes. It's a
9 black-and-white threshold in terms of either a
10 project qualifies for that or it doesn't.

11 And our understanding is that, as we
12 heard tonight, that we're looking at 20 to 90
13 minutes for a start, sometimes longer if it's a
14 warm or cold start.

15 So while it's desirable from the market
16 from SCE's standpoint to have quick starting
17 machines, that doesn't preclude Blythe II from
18 qualifying and being the successful bidder, as we
19 hope they will be.

20 But in terms of additional benefit of
21 preference being considered for Blythe II because
22 of its capability our understanding is it won't
23 qualify.

24 MS. DeCARLO: And that's either wet
25 cooling or dry cooling, is that correct?

1 MR. KESSLER: Yes.

2 MR. SCHOONMAKER: Given that there's a
3 lot of starts, frequent starting, one of the
4 problems discussed in the rebuttal testimony, the
5 testimony of the three fine gentlemen here, was
6 complexity will tend to lead to longer start
7 times.

8 I believe that complexity lends itself
9 to more training of people. I don't want to get
10 real complex here, but if the steam turbine has
11 got to go back to Germany for modification, it
12 also could obviously be modified so that it's a
13 little less sensitive to these starting times, as
14 well.

15 So there's the possibility, should they
16 choose to do it, to take away some of the
17 sensitive there.

18 Finally, this startup sensitivity, this
19 difficulty in starting, is related to the pressure
20 that's achieved by in the air cooled condenser,
21 and the pressures that they gave there would
22 indicate 7 inches of mercury -- I'm sorry, 7
23 inches of mercury absolute condenser pressure at
24 120 degrees, which seems a bit high compared to
25 the estimates that we had, which were 5 inches of

1 mercury. We were coming up with the same answers
2 using the same -- different answers using the same
3 numbers. So I have a difficult time explaining
4 that.

5 But if a ACC were to achieve the better
6 absolute condenser exhaust pressure, then that
7 mismatch that was shown in the applicant's
8 testimony, and we got -- curve on the other day,
9 would be less onerous.

10 Without trying to get into a bunch of
11 those things, and I think that should conclude.

12 MS. DeCARLO: Okay. Do you have any
13 opinion as to how frequently a plant is likely to
14 trip?

15 MR. SCHOONMAKER: We're more used to a
16 baseloaded plant where if we hit two or three
17 trips a year that would be unusual. Where we have
18 what was apparently a baseloaded plant, now being
19 operated in intermediate load, it's a little hard
20 to predict exactly what that's going to be.

21 But I would expect it not to be real
22 frequent. I mean if you have a successful
23 operation you might go years without an unexpected
24 trip. And you might have several a year.

25 MS. DeCARLO: Does that conclude both of

1 your testimonies?

2 MR. KESSLER: Yes, thank you.

3 MR. SCHOONMAKER: Yes.

4 MS. DeCARLO: The witnesses are
5 available for cross.

6 HEARING OFFICER SHEAN: Okay, let's do
7 this, because when we have this extensive direct
8 what tends to happen is what did, you have written
9 testimony that you want admitted to the record.
10 And so is there objection to admission of their
11 testimony?

12 MR. GALATI: No. I'd also like to move
13 mine in.

14 HEARING OFFICER SHEAN: Yes.

15 MR. GALATI: As well as the slides that
16 were presented here. I have hard copies. I'd
17 like those to be admitted, as well.

18 HEARING OFFICER SHEAN: All right.
19 Without objection, they're admitted.

20 MR. GALATI: Okay.

21 CROSS-EXAMINATION

22 BY MR. GALATI:

23 Q Mr. Kessler, you're relying on the GEA
24 Power Cooling System bid?

25 MR. KESSLER: That looks like it, yes.

1 MR. GALATI: Is it correct that this is
2 over two years old?

3 MR. KESSLER: Yes.

4 MR. GALATI: Is it also based on inlet
5 dry bulb temperature of 105 degrees?

6 MR. SCHOONMAKER: Yes.

7 MR. GALATI: Would using an inlet dry
8 bulb temperature of 110 degrees increase the size
9 of the condenser?

10 MR. SCHOONMAKER: Not necessarily. It
11 would either decrease the performance or cause an
12 increase in size.

13 MR. GALATI: Do you believe that this
14 air cooled condenser can actually start up on a
15 day as hot as today?

16 MR. SCHOONMAKER: Yes.

17 MR. GALATI: What do you base that
18 belief on?

19 MR. SCHOONMAKER: Discussion with the
20 ACC manufacturer and watching limited experience
21 on other plants. I would not claim to be an
22 operations expert on ACC, but I did talk with the
23 manufacturer and he said he's going to -- would
24 have substantial -- jets so that he could pull a
25 vacuum on a huge ACC in still a relatively short

1 time.

2 And, you know, if you have a cold plant,
3 you could start it up readily. If you had a hot
4 plant, then you'd have to, you know, depends on
5 the situation.

6 MR. GALATI: Did you hear the testimony
7 of Mr. Deen from Siemens about why it would be
8 difficult to start an air cooled plant on a real
9 hot day?

10 MR. SCHOONMAKER: I heard his testimony,
11 and I believe that that relates to the existing
12 turbine without any changes to it.

13 MR. GALATI: Okay. Do you know of a
14 less sensitive turbine, steam turbine that is less
15 sensitive to heat or operating on a hot day?

16 MR. SCHOONMAKER: Yes.

17 MR. GALATI: What kind of turbine would
18 that be?

19 MR. SCHOONMAKER: Siemens makes very
20 fine ones that are designed for intermediate
21 operation. They're made with smaller last stage
22 blades so that they're less sensitive. They're
23 less efficient. And if one were designing with a
24 clean slate, one may well decide to take a steam
25 turbine that was less efficient but more robust in

1 order to make that compromise.

2 It's an engineering compromise that
3 might have been made on a clean slate. And it's
4 a, by the way, a compromise -- I would not want to
5 put words in Siemens' mouth, they're fully
6 obviously capable of speaking for themselves, but
7 I have seen turbines modified so that they're less
8 sensitive to exhaust pressure problems.

9 MR. GALATI: Mr. Kessler, I believe that
10 you testified that based on the range of power
11 prices, and correct me if I'm summarizing this
12 incorrectly, that you believe the project can
13 compete in the market because it can sell or make
14 its power at a profit within those ranges, is that
15 correct?

16 MR. KESSLER: Yes.

17 MR. GALATI: What about competing with
18 Blythe I? Would the Blythe II project have the
19 same ability to compete for sale of power with
20 Blythe I?

21 MR. KESSLER: Certainly Blythe I would
22 have, as we're acknowledging, if you assume that
23 the proposed Blythe II project is about a mirror
24 image of Blythe I, we're acknowledging that the
25 cost of production would be 3.5 percent higher for

1 Blythe II.

2 So, certainly we don't feel that it
3 would affect its ability to sell its power in the
4 market. We feel that it would affect it very
5 slightly its ability to earn as much profit.

6 MR. GALATI: Don't you think that really
7 what would happen is Blythe I would be dispatched
8 before Blythe II got dispatched?

9 MR. KESSLER: My opinion is there would
10 be opportunities for both plants. If the margin
11 of supply was so limited there could be a
12 circumstance where that could be the case. But in
13 general, the six months of the year the 6-by-16
14 scheduling that Mr. Looper referred to is the
15 current vision for the plant, I don't feel that it
16 would be affected.

17 MR. GALATI: So if Blythe I were bidding
18 in its power exactly as Blythe II, using the same
19 return on investment, the same profit margin,
20 which plant is likely to get a contract with
21 Edison?

22 MR. KESSLER: Well, again, the Edison
23 contract is -- for the ten-year term is looking
24 for up to 1500 megawatts. So there's, you know,
25 feasibly room for both plants, except Blythe I,

1 because it's an existing plant, is not eligible to
2 bid into that.

3 You know, again the margin of
4 competitiveness really I don't see Blythe II being
5 displaced by Blythe I. I see there being
6 opportunity, particularly as the current demands
7 and supplies are forecasted, for both plants to
8 operate.

9 MR. GALATI: And what do you base that
10 on? The Edison RFO asking for 1500 megawatts?

11 MR. KESSLER: No. I base that on just
12 my general knowledge of the market conditions in
13 California.

14 MR. GALATI: But aren't the market
15 conditions really reflected by Edison seeking an
16 RFO of 1500 megawatts? Doesn't that represent
17 what the demand is in the next ten years?

18 MR. KESSLER: It's not the entire demand
19 for the state. It's a snapshot that focuses on
20 Edison's planning area. But it's not, as Chairman
21 Geesman alluded to, the power could be sold to San
22 Francisco; the power could go elsewhere in the
23 state.

24 MR. GALATI: Do you know how many
25 megawatts bid into the SCE RFO?

1 MR. KESSLER: I don't know.

2 MR. GALATI: What's a typical return on
3 investment for a power plant?

4 MR. KESSLER: I'm not familiar with
5 that.

6 MR. GALATI: Would it surprise you if
7 it's in the range of 8 to 10 percent?

8 MR. KESSLER: I understand that that's
9 what you stated in your testimony. Again, I'm not
10 particularly surprised or moved or -- as to what
11 that figure is.

12 MR. GALATI: Well, the costs that you
13 estimate is a 3.5 percent hit, correct?

14 MR. KESSLER: To the cost of production.

15 MR. GALATI: How will that affect the
16 return on investment?

17 MR. KESSLER: I don't have an answer for
18 that, because I've not looked at that.

19 MR. GALATI: But do you think that it
20 would?

21 MR. KESSLER: I think it would have a
22 slight affect on the return of investment is my
23 instinct, but again, I've not looked at it.

24 MR. GALATI: Mr. Schoonmaker, you
25 mentioned that there were dry cooled plants

1 operating. I think you mentioned some in desert
2 climates.

3 Can you name an operating plant in the
4 desert climate right now? Not one that's been
5 licensed, permitted or under construction, one
6 that's actually operating now.

7 MR. SCHOONMAKER: The Eldorado Plant in
8 Nevada is one.

9 MR. GALATI: Who owns that plant?

10 MR. SCHOONMAKER: Sorry, my memory's
11 not -- it's a private developer.

12 MR. GALATI: Do you know if they have a
13 contract for a utility?

14 MR. SCHOONMAKER: I don't know how they
15 sell the power. I am sorry. I should have said
16 in addition to that that it does say on there, the
17 limited information I had from them, that some of
18 their product is being sold into California.

19 MR. GALATI: Mr. Kessler, did your cost
20 of production take into account multiple daily
21 starts on hot summer days?

22 MR. KESSLER: The cost of production
23 takes into account a penalty that would be
24 reflected with dry cooling in terms of being less
25 efficient, unable to produce the same capacity.

1 MR. GALATI: But not the same penalty
2 that Mr. Looper testified about on the SCE RFO,
3 right? Not the liquidated damages penalty,
4 correct?

5 MR. KESSLER: It does not include
6 liquidated damages. However, I will say that now
7 that I better understand the latest information
8 on the operation of the plant, I think we've over-
9 estimated the financial component of that penalty.
10 It boils down to being about a \$3.5 million hit
11 annually.

12 And just in reference to another
13 EPRI/CEC study, the range that was found in that
14 study was about .8 to 2 million a year. And we're
15 looking at potentially 3.5 million a year. And my
16 belief is that's excessive. It's overstated and
17 it wouldn't be as significant.

18 So I believe in our estimate there's
19 room to accommodate those other kind of
20 liabilities and penalties for the sake of should
21 the plant be subjected to that.

22 MR. GALATI: And that does not take into
23 account the SCE table that Mr. Looper testified
24 to, though, does it?

25 MR. KESSLER: The capacity shaping

1 factor table?

2 MR. GALATI: That's correct.

3 MR. KESSLER: In general, I believe it
4 would, to the extent that the plant was subjected
5 to those types of penalties, I believe that our
6 estimate would likely include those costs.

7 MR. GALATI: I'm sorry, I missed that
8 last part --

9 MR. KESSLER: By the fact that how I
10 understand the plant would be operated now, on the
11 6 by 16, six months of the year primarily, that I
12 believe we've over-estimated the penalty in terms
13 of fewer revenues to the project. And that by
14 doing so that we probably have taken into
15 consideration for the allowance in that over-
16 estimate would likely cover the penalties that the
17 plant could be subjected to for outages and not
18 being able to supply power.

19 MR. GALATI: And being able to purchase
20 power during those times, I think Mr. Looper
21 talked about millions of dollars. Do you believe
22 that you're still over-estimated, with that
23 testimony?

24 MR. KESSLER: There's different
25 conditions for being liable for power during those

1 outages. So you need to distinguish between force
2 majeure versus something that was avoidable in
3 terms of delivering the power.

4 MR. GALATI: We're getting into contract
5 terms now, I think that -- have you seen the
6 Edison proposed contract?

7 MR. KESSLER: I've scanned most of the
8 sections that are available on the web.

9 MR. GALATI: Do you know if there's a
10 force majeure provision that would eliminate the
11 penalties?

12 MR. KESSLER: I don't know that for
13 certain, but I believe I saw that.

14 MR. GALATI: No further cross-
15 examination.

16 HEARING OFFICER SHEAN: Any questions
17 from the other intervenors?

18 MR. WOLFE: Yes, I do. I've got a
19 question you can answer actually.

20 CROSS-EXAMINATION

21 BY MR. WOLFE:

22 Q What would be the difference between the
23 wet and dry plume as far as temperature coming out
24 and volume? Which is going to be the most?

25 I'm concerned about aircraft flying over

1 the top, so I need to know which one's going to go
2 up the fastest and the highest. The dry one or
3 the wet one?

4 MR. SCHOONMAKER: The answer is a little
5 bit more complex.

6 MR. WOLFE: Which one is going to come
7 up with the hottest air?

8 MR. SCHOONMAKER: The gas turbines. Not
9 being changed.

10 MR. WOLFE: Won't be any change between
11 the wet and the dry? They're both come out of the
12 cooling towers?

13 MR. SCHOONMAKER: You have plumes coming
14 from gas turbine A, gas turbine B, and the cooling
15 system.

16 MR. WOLFE: The cooling system is what
17 I'm talking about.

18 MR. SCHOONMAKER: Yes, I understand.
19 But you need to understand that the serious plumes
20 are going to be -- the high temperature plumes
21 will be coming from the gas turbines.

22 MR. WOLFE: I don't care about the gas
23 turbines. They don't affect an airplane.

24 MR. SCHOONMAKER: The cooling system, --

25 MR. WOLFE: The cooling system.

1 MR. SCHOONMAKER: -- the ACC would have
2 larger volume and lower temperature.

3 MR. WOLFE: Larger volume, and so it
4 will be a trade then, would you say?

5 MR. SCHOONMAKER: You're looking at wind
6 sheer in reality.

7 MR. WOLFE: Correct.

8 MR. SCHOONMAKER: And I'm sorry, I can't
9 answer that question.

10 MR. WOLFE: Okay.

11 MR. SCHOONMAKER: I'm not smart enough.
12 I can just tell you about the volume of air going
13 up and the temperatures.

14 MS. DeCARLO: Staff will have a witness
15 tomorrow that can discuss --

16 MR. WOLFE: That can answer that?

17 MS. DeCARLO: Yeah.

18 MR. WOLFE: Oh, okay. Thank you.

19 HEARING OFFICER SHEAN: I'll just refer
20 you, Mr. Wolfe, to their appendix A of this
21 testimony, page 4.9.A-44, that discusses the air
22 safety issues related to dry cooling.

23 MR. WOLFE: Okay.

24 HEARING OFFICER SHEAN: Okay, do you
25 have any redirect?

1 MS. DeCARLO: Redirect, yes.

2 REDIRECT EXAMINATION

3 BY MS. DeCARLO:

4 Q Mr. Schoonmaker, you identified several
5 power plants in the desert, and I believe you
6 stated that at least one of them was currently
7 operating.

8 Is it operating in an area that
9 experiences similar temperatures as currently in
10 Blythe?

11 MR. SCHOONMAKER: Yes. It's in an area
12 just south of Las Vegas.

13 MS. DeCARLO: And is it operating in the
14 summer months?

15 MR. SCHOONMAKER: As best I know it's a
16 baseloaded plant. So it was operating the year
17 round.

18 MS. DeCARLO: Thank you. That's all.

19 HEARING OFFICER SHEAN: Any recross?

20 MR. GALATI: No recross, but I do have
21 some rebuttal.

22 HEARING OFFICER SHEAN: All right. The
23 witnesses then are excused.

24 All right, quickly, sure.

25 MR. GALATI: Okay.

1 Whereupon,

2 PHIL DEEN

3 was recalled as a witness herein, and having been
4 previously duly sworn, was examined and testified
5 further as follows:

6 DIRECT EXAMINATION

7 BY MR. GALATI:

8 Q Mr. Deen, you heard the testimony about
9 the less sensitive turbine --

10 MR. DEEN: Yes.

11 MR. GALATI: -- Siemens make?

12 MR. DEEN: Yes.

13 MR. GALATI: Do you have any comments
14 about that?

15 MR. DEEN: Yes, I do. Essentially the
16 steam turbine is selected based on its ability to
17 pass the amount of flow. The amount of flow is
18 going to be determined by the gas turbines that
19 are in the plant.

20 So basically for this type of plant
21 you're limited in the type of steam turbine you
22 can select. This is the steam turbine that fits
23 this plant.

24 //

25 //

1 I believe there was some discussion
2 about the possibility of shortening last row of
3 blades. That can be done. You could remove the
4 last row of blades, but that would have a
5 tremendous impact on the efficiency, far greater
6 than anything that you've estimated here.

7 It's hard to even hazard a guess, but it
8 could easily be a 10 percent impact on the output
9 of the plant.

10 So, it -- just saying that it's a matter
11 of sending the steam turbine back to Germany and
12 making it less sensitive to an air cooled
13 condenser is not, in my opinion, something that
14 can be done. We can't go and put kind of a magic
15 blade in there that doesn't have these issues.
16 Unless it's a shorter one that's very inefficient.

17 MR. GALATI: Staff's GEA proposal.

18 MR. DEEN: Yes.

19 MR. GALATI: Is that air cooled
20 condenser sized appropriately so you could start
21 on a hot day?

22 MR. DEEN: No. The issue at hand is
23 that when a combined cycle starts up, particularly
24 when you are bringing the steam turbine up, you
25 start with the -- in a mode called steam turbine

1 bypass, where essentially you're taking all the
2 steam that's generated from the HRSGs by the
3 combustion turbine and dumping that to the
4 condenser.

5 This is a -- if you look at it this way
6 your steam turbine's making normally 180 megawatts
7 let's say of output, you're essentially going to
8 take 108 megawatts of steam, dump it to the
9 condenser while you're getting ready to start the
10 steam turbine.

11 That is the design criteria that you
12 have to consider when sizing an air cooled
13 condenser. You couple that also with the
14 limitations that are on the L-0 blade of the steam
15 turbine which requires that you have a certain low
16 back pressure, because last row blades like low
17 back pressure, and that's how you arrive at a
18 size.

19 This particular condenser, I do not
20 believe, could start a steam turbine that can pass
21 this much flow on a hot day.

22 MR. GALATI: Mr. Deen, how did you
23 prepare your estimate of what a air cooled
24 condenser costs? Did you speak to any vendors?

25 MR. DEEN: Yes, we did. As a matter of

1 fact we used GEA as the vendor to arrive at the
2 cost that we turned in.

3 MR. GALATI: No further.

4 HEARING OFFICER SHEAN: Any cross?

5 MS. DeCARLO: No cross.

6 HEARING OFFICER SHEAN: All right. Were
7 there any questions from the other intervenors of
8 this witness? Okay.

9 Hearing none, then we'll excuse the
10 witness. And that concludes our testimony on the
11 dry cooling alternative.

12 I guess the real question is how much of
13 water quality did we accomplish in our prior --

14 MR. GALATI: Almost all of it.

15 UNIDENTIFIED SPEAKER: Don't ask.

16 MR. GALATI: Almost all of it. There
17 are two conditions that the applicant, in our
18 testimony, that deal with runoff and its effects
19 on water quality.

20 One of the conditions that we
21 recommended be deleted was soil and water-1. We
22 have now agreed to accept soil and water-1 with
23 the modification that says you only have to comply
24 with it if it's required. This is whether or not
25 you have to get a permit. We believe we don't

1 have to get one. Staff thinks we might. So we
2 have come to the compromise that was reached in
3 other cases that says if it's required you need
4 it. If it's not required, get a letter in saying
5 it's not needed.

6 So I think that we can -- soil and
7 water-1, with those modifications, which we can
8 provide to you in our briefs, we no longer have a
9 dispute.

10 That leads us to the only dispute that
11 we have in water quality and soils, and that is
12 the actual wording of soil and water-2. And we've
13 been working with staff. We have submitted a
14 latest revision that staff likes the direction,
15 but we'd like to engage in further conversations
16 so that we can work out the specific language
17 which we remain confident that we'll be able to do
18 so.

19 So I don't know if we want to table
20 this, do that now, get it on the record; or just
21 have us describe that condition.

22 HEARING OFFICER SHEAN: If we go into
23 your document here, what are we going to -- are we
24 going to find the specifics of your issue on this
25 water --

1 MR. GALATI: You will not because it was
2 created after testimony was filed. So not our
3 filed testimony.

4 We recommended soil and water-2 be
5 deleted. We now made changes to staff's soil and
6 water-2, and they have the latest revision.

7 HEARING OFFICER SHEAN: Where are you on
8 this, Ms. DeCarlo?

9 MS. DeCARLO: I can let Mr. Lindley
10 discuss our pleasure at seeing the applicant
11 moving towards the direction of at least accepting
12 provisions --

13 HEARING OFFICER SHEAN: Well, let's --

14 MS. DeCARLO: -- of soil and water-2.

15 HEARING OFFICER SHEAN: -- briefly
16 summarize where we are, because the question is
17 whether we go forward now or not.

18 MR. LINDLEY: Soil and water-2, I got
19 some new language from the applicant last Friday.
20 And it comes quite a bit of the way towards
21 totally agreeing with our condition, which I'm
22 very pleased with.

23 The differences right now are related to
24 maintenance of the retention basin. And basically
25 providing a real basic vicinity map. Maintenance

1 of the retention basin is an important issue that
2 I'd like to have addressed.

3 We added a specific provision in our
4 condition of certification to require BEP II to
5 monitor accumulated sediment and remove it on a
6 regular basis.

7 And we did this to address a small error
8 in the Blythe I storm drainage calculations. And
9 this error led the Blythe I group to under-
10 estimate the required flood storage capacity for a
11 100-year storm. And then as a result, it caused
12 them to over-estimate how much sediment they could
13 allow to accumulate in the basin.

14 And the basic difference is the
15 applicant has asked to -- or the Blythe I plan
16 calls for removing sediment when about 22 acrefeet
17 or 24.2 acrefeet of sediment accumulate in the
18 basin. That's like 2218 yard trucks. And I would
19 like to see them remove sediment a little more
20 frequently when say 2 acrefeet of sediment
21 accumulate in the basin, which is about 90 trucks.

22 Seems like we could be able to come to
23 terms on that.

24 MR. GALATI: I think we might be able to
25 work something out, although you do need to

1 understand we don't own the retention basin.

2 MR. LINDLEY: You're going to discharge
3 water to it, right?

4 MR. GALATI: Yeah, we have a common
5 facilities agreement in which we're going to
6 discharge water to it. Also, I think the dispute,
7 so that you understand where we're from, the
8 dispute is that Energy Commission Staff approved
9 this retention basin during the compliance
10 process, and now -- no offense to Mr. Lindley, he
11 has a different opinion than the staff who
12 approved and the CBO who approved the actual size
13 of Blythe I.

14 MS. DeCARLO: It was approved solely for
15 Blythe I, though.

16 MR. GALATI: It was not. It was
17 approved for the 152 acres and the 1000-acre
18 watershed above it to take all that water.

19 And so that's our sole remaining
20 dispute.

21 HEARING OFFICER SHEAN: So is there a
22 factual issue associated with that? And what is
23 that?

24 MR. GALATI: I don't think there really
25 is a factual issue associated with it. Actually,

1 I should -- in our testimony --

2 HEARING OFFICER SHEAN: You better
3 consult --

4 MR. GALATI: -- we addressed -- it's
5 addressed in our testimony, which is what happened
6 in Blythe I. That's the only factual issue.

7 HEARING OFFICER SHEAN: That's in the
8 testimony you filed here?

9 MR. GALATI: Correct.

10 HEARING OFFICER SHEAN: Well, do you
11 want to try to talk this out, or do you want to
12 give it to the Committee?

13 MS. DeCARLO: I think we can try and
14 hammer it out.

15 HEARING OFFICER SHEAN: All right.

16 MS. DeCARLO: Save the Committee one
17 decision.

18 HEARING OFFICER SHEAN: We don't want to
19 hear it if you're going to do that.

20 MS. DeCARLO: Right.

21 HEARING OFFICER SHEAN: If you're going
22 to give it to us, we'll do it. But otherwise, you
23 do it, or attempt it.

24 MR. GALATI: We'll attempt it.

25 HEARING OFFICER SHEAN: All right. How

1 about alternatives, then, we'll go to that.

2 MR. GALATI: We have agreed to take this
3 on declaration. Our sole dispute is whether or
4 not the existing project, as configured, results
5 in a significant unmitigated impacts.

6 Staff believes that there are, and
7 therefore has looked at alternative sites. We
8 believe there are no impacts, therefore not
9 requiring the Commission to look at alternative
10 sites.

11 We believe that we can leave that on
12 declaration in the testimony, on affidavit.

13 HEARING OFFICER SHEAN: Do you concur?

14 MS. DeCARLO: Yes. Not with their
15 testimony, but with the fact that we can enter it
16 by declaration.

17 HEARING OFFICER SHEAN: Yes. Can do it
18 in that manner.

19 All right, well, why don't we just, so
20 that we don't forget it when we get to these
21 uncontested areas, just do you have in mind the
22 applicant's presentation on alternatives that you
23 would like admitted to the record?

24 MR. GALATI: Yes, the testimony that was
25 filed last week on alternatives. This is

1 specifically the testimony of Jeff Harvey filed on
2 the 15th of July. We'd like that moved into the
3 record.

4 HEARING OFFICER SHEAN: Is there
5 objection from the staff?

6 MS. DeCARLO: No.

7 HEARING OFFICER SHEAN: Okay. It's
8 done.

9 And then yours?

10 MS. DeCARLO: Staff's alternative
11 analysis is included in the FSA, final staff
12 assessment. I believe that was already moved in,
13 or are you intending to move it in piece-by-piece,
14 or the FSA in its entirety?

15 HEARING OFFICER SHEAN: We'll go --
16 well, at least let's make sure we get it, so --

17 MS. DeCARLO: Okay.

18 HEARING OFFICER SHEAN: -- do you have
19 objection to the admission of the staff's
20 alternative section in the FSA?

21 MR. GALATI: No objection.

22 HEARING OFFICER SHEAN: All right, it is
23 admitted then.

24 So for what we have scheduled today do
25 both the staff and the applicant believe that

1 everything that you had desired to submit on the
2 topics listed for today you have done, and there
3 is nothing further that needs to be done on them
4 other than this EIR business that you were going
5 to work on?

6 MR. GALATI: I would agree except for
7 water quality and soils. Hopefully tomorrow
8 during the undisputed topics we can bring you an
9 undisputed topic.

10 HEARING OFFICER SHEAN: Okay.

11 MS. DeCARLO: Actually, I believe water
12 staff will be leaving tonight, so if there is the
13 opportunity just to adjourn or break for ten
14 minutes, if the applicant is willing to discuss
15 this issue now to see if we can really just get to
16 the heart of it right now.

17 HEARING OFFICER SHEAN: It's okay with
18 us.

19 PRESIDING MEMBER GEESMAN: Nowhere else
20 to go.

21 (Laughter.)

22 MR. GALATI: Speaking of the water staff
23 there's no way you're going to make a plane.

24 HEARING OFFICER SHEAN: All right, well,
25 then absent our comment period for the public,

1 we're prepared to close this portion of the
2 proceedings for the admission of testimony.

3 So, is there a member of the public who
4 is present who would like to say anything with
5 regard to the proposed project?

6 All right, hearing none then let's just
7 line this up for tomorrow morning. What we
8 propose to do is to begin at 9:00 with the
9 uncontested topics, which is basically going to be
10 everything essentially other than traffic and
11 transportation related to aviation safety.

12 Visual resources, are we going to be
13 doing something in that, or has that been
14 resolved?

15 MS. DeCARLO: We still have some minor
16 discussion over the conditions.

17 HEARING OFFICER SHEAN: Okay.
18 Socioeconomics, that would be any labor impacts
19 from the WCOP, is that still a live item?

20 MR. GALATI: Yes.

21 HEARING OFFICER SHEAN: And then, Ms.
22 Garnica, we have time reserved for you that will
23 be shortly after lunch. So shortly after 1:00.

24 Then if there are any other
25 modifications of conditions that need to be

1 discussed, we'll do that. And then public comment
2 and close the record.

3 MR. GALATI: I understand that Mr.
4 Wyswell from Caltrans will be available by
5 telephone. And our expert will be available by
6 telephone at 10:00 for traffic and transportation.

7 HEARING OFFICER SHEAN: You timed that
8 pretty well. We may actually be on it a little
9 bit prior to that, but we'll see.

10 MR. GALATI: That's okay, I have a
11 witness that can go first.

12 HEARING OFFICER SHEAN: Okay. All
13 right, is there any other business that needs to
14 be brought before us today?

15 Hearing none, we are adjourned until
16 9:00 a.m. tomorrow; and thank you all.

17 (Whereupon, at 8:40 p.m., the hearing
18 was adjourned, to reconvene at 9:00
19 a.m., Tuesday, August 3, 2005, at this
20 same location.)

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CERTIFICATE OF REPORTER

I, CHRISTOPHER LOVERRO, an Electronic Reporter, do hereby certify that I am a disinterested person herein; that I recorded the foregoing California Energy Commission Hearing; that it was thereafter transcribed into typewriting.

I further certify that I am not of counsel or attorney for any of the parties to said hearing, nor in any way interested in outcome of said hearing.

IN WITNESS WHEREOF, I have hereunto set my hand this 8th day of August, 2005.

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