

CONTINUED EVIDENTIARY HEARING  
BEFORE THE  
CALIFORNIA ENERGY RESOURCES CONSERVATION  
AND DEVELOPMENT COMMISSION

<b>DOCKET</b> <b>06-AFC-10</b>	
DATE	NOV 19 2007
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In the Matter of: )

Modification of Certification )  
Starwood-Midway Energy Project )

Docket No.  
06-AFC-10

CALIFORNIA ENERGY COMMISSION  
1516 NINTH STREET  
SACRAMENTO, CALIFORNIA

MONDAY, NOVEMBER 19, 2007

1:03 P.M.

**ORIGINAL**

Reported by:  
Peter Petty  
Contract No. 170-07-001

COMMITTEE MEMBERS PRESENT

Jeffrey D. Byron, Presiding Member

John L. Geesman, Associate Member

HEARING OFFICER AND ADVISORS

Garret Shean, Hearing Officer

Laurie ten Hope, Advisor

STAFF AND CONSULTANTS PRESENT

Jared Babula, Staff Counsel

Che McFarlin, Project Manager

James Adams

Shahab Khoshmashrab

Steve Baker

Richard Anderson

Keith Golden

PUBLIC ADVISER

Nick Bartsch

APPLICANT

Allan J. Thompson, Attorney

Richard H. Weiss, Project Manager  
Starwood Power-Midway, LLC  
Starwood Energy Group

J.J. Fair, General Manager  
Ron Watkins  
CalPeak Power  
Starwood Energy Group

APPLICANT

Angela Leiba  
URS Corporation

ALSO PRESENT

Russ Freeman (via teleconference)  
Westlands Water District

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1 with Starwood; Angela Leiba, who is with URS, and  
2 is the environmental project lead; and J.J. Fair,  
3 on the right-hand side, who is also with CalPeak.  
4 And I think he's Chief Engineer for the project.

5 HEARING OFFICER SHEAN: All right.  
6 Commission Staff.

7 MR. BABULA: I'm Jared Babula, Staff  
8 Counsel. Sitting next to me is Che McFarlin, the  
9 Project Manager for this project.

10 HEARING OFFICER SHEAN: I might just  
11 note we have a representative here from the  
12 Commission's Public Adviser's Office, Mr. Nick  
13 Bartsch. If there are members of the public here  
14 who wish to participate in the hearing today,  
15 please contact him. All I see are familiar faces,  
16 so unless someone else comes in later Nick will  
17 take care of that person.

18 Is there anybody on the phone at this  
19 time? Let me indicate we hear no one on the  
20 phone. But my understanding is it has been set  
21 up. We have -- at least it appears to have been  
22 set up.

23 All right. In addition to the water  
24 resources item, it occurred to me in this interim  
25 period that there were a couple of matters that

1 needed to be taken care of as a housekeeping  
2 matter.

3 The first had to do with the contract  
4 between the applicant and the owner of the  
5 fiveplex with regard to the relocation of tenants,  
6 since we have several conditions that are reliant  
7 upon that. And I wonder if the applicant has  
8 brought that today and can provide it.

9 MR. THOMPSON: We do have a copy with a  
10 cover that indicates that it's a confidential  
11 document. I think it was docketed last November  
12 6th as a confidential document. We have a copy  
13 here today, and Mr. Weiss will swear to that if  
14 you want it as an exhibit.

15 HEARING OFFICER SHEAN: That is November  
16 2006?

17 MR. THOMPSON: Yes.

18 HEARING OFFICER SHEAN: All right.  
19 Well, if it's confidential I don't think we want  
20 to put that on the public record. But if you can  
21 just summarize, perhaps, what we understand to be  
22 the relevant provisions -- or let me say, it  
23 appears, based upon the testimony that we  
24 currently have and conditions that we have, that  
25 the applicant and the owner of the building have



1 entered into a contract whereby the applicant will  
2 pay for the relocation of the current tenants in  
3 the building, at least for the period of  
4 construction of the facility.

5 So let's just start it from appear to be  
6 their grading or site mobilization until the  
7 commercial operation of the facility. And that it  
8 will be at some distance from the facility, but I  
9 guess is as nearby as is convenient or sought by  
10 the tenants?

11 MR. THOMPSON: Yes. I would actually  
12 like Mr. Weiss to respond to that. And I don't  
13 know if you want to put him under oath.

14 HEARING OFFICER SHEAN: Yes, please.  
15 Have you been previously sworn?

16 MR. WEISS: No, sir.

17 HEARING OFFICER SHEAN: Okay.

18 Whereupon,

19 RICHARD WEISS  
20 was called as a witness herein, and after first  
21 having been duly sworn, was examined and testified  
22 as follows:

23 DIRECT EXAMINATION

24 BY MR. THOMPSON:

25 Q Mr. Weiss, for the record, would you

1 please indicate your name and your position with  
2 regard to the Starwood project?

3 A My name is Richard Weiss and I'm the  
4 Project Manager on behalf of Starwood for the  
5 Midway project.

6 With respect to your questions about the  
7 existing lease, or actually it's an option to  
8 lease, the fiveplex unit that's immediately  
9 adjacent to our site, we have that option. And  
10 when we exercise that option the owner of the  
11 property and the owner will move the existing  
12 tenants to existing housing elsewhere in the area.

13 And that's the agreement we have. And  
14 we will pay him rent for the existing fiveplex.  
15 And we have the right to use the fiveplex for  
16 things other than residential purposes.

17 HEARING OFFICER SHEAN: Are there any  
18 incentives granted to the tenants for being  
19 relocated?

20 MR. WEISS: No. There's not an  
21 incentive to them. They are current employees --  
22 the owner of the property owns this fiveplex and  
23 they are employees of his. And, you know, he  
24 likes them nearby because it's convenient to work  
25 on the property. And he'll relocate them to

1 existing housing in the area.

2 HEARING OFFICER SHEAN: Is there a  
3 provision in the agreement that would allow  
4 tenants or other occupants to return to that  
5 building at a certain time that your lease option  
6 would essentially expire at a certain point?

7 MR. WEISS: Our lease coincides with the  
8 length to the PA. So, --

9 HEARING OFFICER SHEAN: All right, the  
10 power purchase agreement with PG&E.

11 MR. WEISS: Power purchase agreement.  
12 We do have the ability to get out of the lease if,  
13 in fact, we show that -- noise is the issue. And  
14 if, in fact, we can show that the noise is not a  
15 problem for the fiveplex then we can, you know,  
16 exit the lease and turn it back to the landowner.

17 HEARING OFFICER SHEAN: All right.  
18 That's sufficient. Do you have any questions from  
19 the staff? Any questions on this issue?

20 MR. BABULA: That's it for -- we're not  
21 clear it's confidential. Was there a  
22 confidentiality was issued for that or was it just  
23 confidential because the --

24 MR. MCFARLIN: My understanding is when  
25 it was originally submitted it was submitted under

1 a confidential header. And that was my  
2 recollection.

3 MR. THOMPSON: That's my understanding,  
4 as well.

5 MR. McFARLIN: I don't believe it was  
6 granted confidentiality, however, but I could be  
7 mistaken on that.

8 MR. THOMPSON: I just looked at the  
9 dockets and it said a confidential filing.

10 MR. McFARLIN: Yeah, they're all  
11 docketed as such, but you, of course, would have  
12 received a letter back from the Commission --  
13 you'd have received a letter back whether or not  
14 it was granted confidentiality. But, of course,  
15 that wasn't my responsibility so I can't speak  
16 directly to that. But I don't know if that's  
17 pertinent to this proceeding, either.

18 HEARING OFFICER SHEAN: Well, this  
19 testimony is sufficient for our purposes. So if  
20 it either has been designated confidential, we do  
21 not need that changed. Based upon the information  
22 we've had, it doesn't seem to have resulted in a  
23 loss of any confidential status. So, for our  
24 purposes, that's fine.

25 And I had another item, but it seems we

1 have several members of staff who are here that  
2 have supplied revised conditions. So what I'd  
3 like you to do, Mr. Thompson, is indicate the  
4 modified condition language that you don't have  
5 any problem with. So that is the staff, who are  
6 present here, wish to leave, they may.

7 MR. BABULA: We would like to just have  
8 them testify to get it into the record so that  
9 it's clear what the change was. It might be  
10 short, but I was kind of hoping that to call each  
11 one of these sections quickly. Have staff come up  
12 and just indicate what the change was, how it's  
13 different. So that somebody, in the future,  
14 looking at the record, can see what happened  
15 between the FSA and the final document.

16 MR. THOMPSON: Mr. Shean, as for  
17 applicant, we don't have any issues and no cross-  
18 examination and no question for the noise and  
19 vibration, air quality and waste management  
20 conditions of certification.

21 HEARING OFFICER SHEAN: I'm sorry,  
22 noise, air quality --

23 MR. THOMPSON: And waste management.

24 HEARING OFFICER SHEAN: -- waste.

25 MR. THOMPSON: And we'd stipulate to

1 their --

2 HEARING OFFICER SHEAN: And apparently  
3 they've just made some comments on your traffic  
4 and transportation conditions. Have you had an  
5 opportunity to look at those?

6 MR. McFARLIN: I've got those now. I  
7 can --

8 HEARING OFFICER SHEAN: All right, why  
9 don't you give them to them so they can at least  
10 look at it.

11 MR. McFARLIN: Okay.

12 HEARING OFFICER SHEAN: I just got it  
13 because I opened up the emails today.

14 (Pause.)

15 HEARING OFFICER SHEAN: All right,  
16 rather than deal with that, if you want to present  
17 them as witnesses I think what we have to do is  
18 move through what we have to do, and then either  
19 come back to that simply because we want to afford  
20 the parties an opportunity on the matters that  
21 we're scheduled here for today.

22 And the other option is for you to just  
23 describe for each subject what you think the  
24 changes are, because the Committee and the  
25 Commission do not regard conditions as an

1 evidentiary matter. It's not a matter that is  
2 factual for the Commission. They are entirely  
3 within the discretion of the Commission and the  
4 Committee to formulate the Commission's  
5 certification, so that they are not evidentiary in  
6 nature and do not -- in that sense the witness  
7 from the staff would not be stating a fact that is  
8 necessary for the Commission to make a decision.

9 And to a large extent the reason for the  
10 changes that you've made are evident from the face  
11 of the changes. So, anyway, we'll hold that, and  
12 we'll keep moving forward.

13 With respect to another item related to  
14 water and water resources was the matter of the  
15 construction water. I looked through both the FSA  
16 and the AFC with regard to the source and amounts  
17 of construction water to be used and could not  
18 find that.

19 And I asked the parties to provide some  
20 information on that. And do you have that?

21 MR. THOMPSON: We do. If I could ask  
22 Mr. Weiss to respond to that.

23 DIRECT EXAMINATION - Resumed

24 BY MR. THOMPSON:

25 Q Mr. Weiss, would you answer the question

1 of the amount of the construction water that you  
2 would anticipate, and where that would come from?  
3 And also if you could address where the potable  
4 water will come from for the construction.

5 A Yes. The potable water will be bottled  
6 water delivered -- potable water will be bottled  
7 water delivered to the site for the construction  
8 employees.

9 For dust control we don't have a  
10 specific source of that water. We could use  
11 CalPeak's water; we could hire the local  
12 landowner, Barry Baker, to supply water. Or the  
13 EPC contractor may, in fact, have their own supply  
14 of local water to keep the dust down.

15 There are basically two periods when we  
16 would be spraying water to keep the dust down.  
17 One would be during civil works, prior to  
18 installation of foundations. That period is about  
19 eight weeks in length. And during that period  
20 we'd expect to use about 4000 gallons a day for a  
21 total amount of water of about 160,000 gallons.

22 Also during the mechanical and  
23 electrical and erection phase there's some soil  
24 disturbance to put pipes in the ground, to run  
25 wires. That's a little longer period, more like



1 24 weeks. But we would use less water during that  
2 period because there's less soil disturbed. And  
3 we would expect to use about 140,000 gallons of  
4 water during that period.

5 Total consumption for water for dust  
6 control is about 300,000 gallons during the  
7 construction period.

8 HEARING OFFICER SHEAN: All right.  
9 Thank you. Do you have any questions of the  
10 witness on that?

11 MR. BABULA: No questions.

12 HEARING OFFICER SHEAN: All right.  
13 Thank you very much.

14 All right, now we're going to move to  
15 the meat of the hearing which is the water  
16 resource section, and go first with the applicant,  
17 since it bears the burden of proof.

18 And I think at this point what we'd have  
19 you do is identify the documents that you wish to  
20 introduce into the record.

21 MR. THOMPSON: Thank you very much.  
22 Basically we have two documents. One is a  
23 document entitled, alternative water supply  
24 analysis, dated October 18, 2007. The witness for  
25 that will be Ms. Angela Leiba of URS.

1 I don't know if you want me to have her  
2 sworn and testify to that right now.

3 HEARING OFFICER SHEAN: Not yet. We're  
4 just going through an identification of documents.

5 MR. THOMPSON: The second document, and  
6 final document, I believe, is a letter dated  
7 November 9, 2007, that has three attachments to  
8 it.

9 One is a hazardous material information  
10 for the alternative water supply pipeline  
11 alignment. The second are our proposed  
12 transportation conditions of certification. And  
13 the third is a letter from Mr. Barry Baker  
14 regarding PAO investments and option agreements.

15 HEARING OFFICER SHEAN: All right. At  
16 this point why don't we have you bring your  
17 witness up and have her sworn in. She can  
18 indicate her authorship of one of the documents.  
19 And we'll go from there.

20 Whereupon,

21 ANGELA LEIBA  
22 was called as a witness herein, and after first  
23 having been duly sworn, was examined and testified  
24 as follows:

25 THE REPORTER: Please state and spell

1 your full name for the record.

2 THE WITNESS: My name is Angela Leiba.  
3 I'm with URS Corporation, and I am the  
4 environmental consultant hired by Starwood.

5 DIRECT EXAMINATION

6 BY MR. THOMPSON:

7 Q Ms. Leiba, would you please briefly,  
8 very briefly, describe the filing dated October  
9 18th that you are sponsoring today.

10 A Yes. We submitted additional  
11 information that we had identified in the original  
12 AFC. We added additional information to talk  
13 about the pipeline that would be generated, the  
14 approximately two-mile pipeline, that would come  
15 from that pond to our site.

16 So we additionally added in cultural  
17 resource, biological information and other AFC-  
18 related-type information to that regard.

19 Q And is it your conclusion that there are  
20 no significant environmental impacts that would  
21 result from construction and operation of this  
22 pipeline?

23 A That is correct.

24 MR. THOMPSON: Ms. Leiba is tendered for  
25 cross-examination.

1 HEARING OFFICER SHEAN: Let's do one  
2 other thing here. I'm not certain, but I want to  
3 make certain so that we've tied this up, whether  
4 the last time we were together we left out the  
5 portion of your AFC that dealt with water  
6 resources. And I think that may be the case.

7 So, at this point let's go through and  
8 ask with respect to the AFC section on water  
9 resources and the testimony just offered now, is  
10 there objection to its admission into the record?

11 MR. BABULA: No objection.

12 HEARING OFFICER SHEAN: Let's just cover  
13 your other two items. Let me get to them. I  
14 guess since we're in a contested proceedings here  
15 it's probably just appropriate to indicate that  
16 we're going to take a little closer look at the  
17 evidentiary foundations for some of these  
18 documents.

19 Now, your Baker letter. Obviously Mr.  
20 Baker's not here, so the document apparently is  
21 being offered for the truth of the matters that  
22 are stated in the letter, but since there is  
23 otherwise underlying supporting testimony now in  
24 the record, it would be otherwise admissible.

25 So, is there objection to the admission

1 of the packet that includes the Baker letter and  
2 the hazardous materials information and the  
3 offered conditions?

4 MR. BABULA: There's no objection on the  
5 Baker letter for purposes that they have an  
6 agreement for the water.

7 HEARING OFFICER SHEAN: All right.  
8 Then, they're admitted.

9 Do you have any questions of the witness  
10 with respect to her testimony?

11 MR. BABULA: I do have two questions.

12 CROSS-EXAMINATION

13 BY MR. BABULA:

14 Q One being when you did the analysis of  
15 the soils where the pipeline's going to run  
16 through, was there analysis done, first of all?  
17 And were there any findings of toxics, pesticides,  
18 so forth?

19 A No. As we filed in our additional  
20 information for hazardous materials, we had done  
21 an original phase one, actually Kleinfelder had  
22 done the original phase one, which opted out to  
23 cover the entire cultural resource area  
24 surrounding the site.

25 And we concluded that the pipeline would

1 also stretch through that existing agricultural-  
2 type soil information, so we included that in our  
3 submittal to show that in lieu of what had already  
4 been found in that area, that that would likely be  
5 found along the pipeline route, as well.

6 Q Okay. And my other question deals with  
7 whether or not you're aware of Westlands Water  
8 District, if they're going to be supporting or  
9 opposing the sale of the water from the backwash  
10 pond to --

11 MR. THOMPSON: I think Mr. Weiss could  
12 address that, if that's appropriate --

13 MR. WEISS: -- not relevant to what  
14 we've submitted here. That's not part of this --

15 MR. BABULA: The letter, I mean the  
16 letter deals with selling water. And so it's --

17 MR. THOMPSON: Okay, I would ask that  
18 Mr. Weiss answer that.

19 MR. WEISS: With respect to Westlands  
20 we'd expect that -- well, actually I was going to  
21 say we'd expect an agreement, but I can't say that  
22 because currently Westlands is saying they have no  
23 opinion on whether they have any right to this  
24 water.

25 Mr. Baker already has rights to the

1 water and has acquired the water. And whether  
2 Westlands has any right to it, they're uncertain.  
3 And so in my conversations with them this morning  
4 they've said they have no opinion.

5 So, they could have said, you know, we  
6 think it's our water and it's under our purview.  
7 Or they could have said, you know, no, we don't  
8 have any rights to this water and therefore it's  
9 totally out of our control.

10 They've elected to take the middle  
11 ground at this point in time and say we don't have  
12 an opinion. So, that's the status of it. I don't  
13 have an answer as to whether they actually have  
14 control or have rights or have an approval. They  
15 may have none. We don't know that.

16 Our opinion, and our legal counsel have  
17 told us they don't think that Westlands has any  
18 rights. But we don't have that confirmed by  
19 Westlands.

20 MR. BABULA: Fair enough. No further  
21 questions.

22 ASSOCIATE MEMBER GEESMAN: I guess I  
23 have a question on that last remark. You  
24 characterized Westlands as saying that they had no  
25 opinion at this point in time. So, does that

1 suggest that either they're going to look at it  
2 further and perhaps provide some more definitive  
3 comment? Or they just don't envision ever having  
4 an opinion on this subject?

5 MR. WEISS: Yeah, I can't answer that.  
6 I don't know whether they will ever come to an  
7 opinion or not. The comment I got was that at  
8 this time we don't have an opinion on it.

9 HEARING OFFICER SHEAN: I have a  
10 question with respect to the project changes that  
11 would result from the use of Baker water. I  
12 understand from your discussion here that one  
13 result of the use of the Baker water would be that  
14 instead of using a lined evaporation pond based  
15 upon the TDS levels of the water, that the project  
16 now could use an unlined evaporation pond, which  
17 would allow the water both to percolate into the  
18 ground, as well as to evaporate into the  
19 atmosphere, is that correct?

20 MR. WEISS: That's -- yes.

21 HEARING OFFICER SHEAN: Okay.

22 MR. WEISS: To clarify that response,  
23 I'm sorry, the local regional water board has  
24 given us that indication. But we haven't  
25 confirmed that with them.



1           They want us to take a sample of a very  
2 shallow aquifer, which is only a couple hundred  
3 feet down, or a hundred feet down, and determine  
4 what the water constituents are at that point.

5           And we expect that to be greater than  
6 the aquifer that CalPeak uses, which is like 3400  
7 TDS. And so we expect it to be greater than that.  
8 And then they want to, the regional water board,  
9 wants to look at that to make sure that the RO  
10 discharge that we would have, which would be on  
11 the order of 1100, 1200 TDS, is less than what's  
12 in that aquifer. And under that criteria they  
13 would allow us not to put in a lined pond.

14           So we expect that as the answer, but we  
15 haven't gone through the steps. We're currently  
16 waiting for a driller to show up to drill the well  
17 so we can determine what the shallow aquifer TDS  
18 water constituents are.

19           HEARING OFFICER SHEAN: Now, if, for any  
20 reason, this Baker water either is not available  
21 to you at the beginning of the project, or  
22 sometime during the life of the project is no  
23 longer available, is there anything about the  
24 design that you currently plan that would  
25 prohibit, for example, a retrofit that would allow

1 the use of the CalPeak water?

2 MR. WEISS: No, --

3 HEARING OFFICER SHEAN: A retrofit of  
4 the evaporation pond.

5 MR. WEISS: Right. If, for some reason,  
6 the Baker water wasn't available and we needed to  
7 flip over to CalPeak, for example, if we didn't  
8 have a lined pond we'd obviously put a liner in  
9 the pond.

10 The pond will be there. It's just a  
11 question of whether it's going to be lined or not.  
12 And so we would, at that point, have to line the  
13 pond, and we'd have to install some monitoring  
14 wells. Those would be the steps we'd have to  
15 take.

16 HEARING OFFICER SHEAN: Is there a  
17 difference in the reverse osmosis and  
18 demineralizing facilities for either Baker or  
19 CalPeak water?

20 MR. WEISS: No, no.

21 HEARING OFFICER SHEAN: I have nothing  
22 further. Do you have redirect?

23 MR. THOMPSON: No, we don't, thank you.

24 HEARING OFFICER SHEAN: All right, thank  
25 you. All right, with that we'll go to the

1 Commission Staff.

2 (Pause.)

3 HEARING OFFICER SHEAN: All right. I'll  
4 ask you to sort of go through the same exercise of  
5 indicating what it is you want to introduce into  
6 the record here today.

7 MR. BABULA: Okay. First I would like  
8 to comment, address Commissioner Geesman's  
9 question about what Westlands may or may not  
10 determine what their policy is going to be.

11 My understanding was Westlands is  
12 actually meeting today in a meeting to -- and one  
13 of the topics of that meeting is to come up with  
14 an opinion about their view on the use of the  
15 backwash water for this power plant. So that  
16 question may be answered sooner than later.

17 As for the documents to admit here, I  
18 would like to have two --

19 HEARING OFFICER SHEAN: Before you  
20 continue on that theme, is it that they're going  
21 to meet and discuss this and inform the Commission  
22 of this? I assume, since your testimony is  
23 obviously include contact with the Westlands Water  
24 District, that you are in continuing contact with  
25 them. Do you know what they're going to do? Are

1 they going to provide the Committee a letter, or  
2 the staff, or what's coming?

3 MR. BABULA: Well, as of now, I was  
4 originally, as I had indicated in the email, that  
5 we were going to have a Westlands representative  
6 speak on the conservation program. It's very  
7 narrow, just the conservation program that we are  
8 promoting. But they were not able to provide  
9 anyone for that.

10 As for a letter, I was indicated a  
11 letter would be provided to the Commission once  
12 they've gone through their process there. So I  
13 would anticipate that a letter would be  
14 forthcoming. And it's possible someone could call  
15 in today. They do have the information, so I  
16 don't have specific knowledge of whether or not  
17 someone from Westlands will call in. And I know  
18 they're not going to be calling in regarding  
19 anything that I was going to have them testify  
20 about. So that's all I know right now.

21 HEARING OFFICER SHEAN: Has the staff  
22 provided Westlands any of the documentation of the  
23 proceeding, either the AFC or any of your  
24 testimony?

25 MR. BABULA: They were provided with the

1 testimony that we're going to be -- the  
2 supplemental testimony that was submitted  
3 regarding the use of the backwash water. They  
4 were given that as part of the process to testify  
5 about the program.

6 I don't know if they have had a copy of  
7 the AFC or the FSA.

8 HEARING OFFICER SHEAN: All right. Why  
9 don't you go ahead then and --

10 MR. BABULA: Okay.

11 HEARING OFFICER SHEAN: -- indicate your  
12 items.

13 MR. BABULA: All right. Well, before  
14 introducing the witnesses regarding water, I just  
15 want to give the Committee sort of a roadmap, an  
16 overview, just to keep in mind while the staff  
17 will be testifying on the more technical aspects.

18 This really has to do with what is state  
19 water policy. Because as you'll notice in the  
20 applicant's brief, our statements, there's a lot  
21 of discussion about resolution 7558. And it's  
22 important to remember that this is not a rule, a  
23 law or a statute. It's a compass to provide  
24 guidance for the management of the scarce water  
25 resources in California.

1           And as with all policies and guidelines,  
2 7558 is not a substitute for common sense, case-  
3 specific analysis or creative problem solving.

4           In this case we're going to have  
5 staff -- we'll be presenting evidence about inlet  
6 fogging, that inlet fogging is cooling under the  
7 laws of physics and under State Water Policy 7558.  
8 The water issue in this case, the backwash water,  
9 it's important to remember this is high-quality  
10 water originating from the San Joaquin Delta,  
11 which can be used for agricultural irrigation.  
12 Bear in mind that in this case there's no such  
13 thing as wastewater, only water that is wasted.

14           Finally, although the lower quality  
15 water is available, staff is not opposed to the  
16 use of this backwash water for the Starwood  
17 project, in conjunction with an appropriate  
18 conservation program. This will insure that high-  
19 quality water is conserved for future use, while  
20 allowing the Starwood project to use a cleaner  
21 source of water, which saves the project money.

22           So first I would like to introduce our  
23 power plant cooling panel, which will be made up  
24 of Steve Baker and Richard Anderson. And their  
25 testimony has been already filed, and I'd like to

1 enter that into the record at this time.

2 And we do have, as part of Mr. Baker's  
3 testimony, there's going to be a short PowerPoint  
4 presentation. And we have copies of that here.  
5 We can pass that out now, if you'd like.

6 HEARING OFFICER SHEAN: Yes.

7 MR. BABULA: Okay.

8 HEARING OFFICER SHEAN: All right, so  
9 this is going to be the supplemental testimony of  
10 Steve Baker and Dick Anderson, is that correct?

11 MR. BABULA: Correct. And we'll need to  
12 have the witnesses sworn in.

13 HEARING OFFICER SHEAN: All right.

14 Whereupon,

15 STEVE BAKER and RICHARD ANDERSON  
16 were called as witnesses herein, and after first  
17 having been duly sworn, were examined and  
18 testified as follows:

19 HEARING OFFICER SHEAN: Before you  
20 proceed, let's just make it clear what it is that  
21 testimony includes. You've indicated, actually  
22 within the testimony, itself, that exhibit A is  
23 the resolution, the State Water Board resolution  
24 7558, correct?

25 MR. BABULA: Correct.

1 HEARING OFFICER SHEAN: All right. And  
2 you've also appended, even though you haven't  
3 identified it as an exhibit, B, a letter from  
4 Arthur Baggett dated May 23, 2002.

5 MR. BABULA: That's correct.

6 HEARING OFFICER SHEAN: All right. And  
7 is it your proposal to include -- well, first of  
8 all, we can take notice of the state policy,  
9 that's not a problem.

10 Is it your intention to seek to  
11 introduce this letter into evidence?

12 MR. BABULA: As an attachment to the  
13 testimony, yes.

14 HEARING OFFICER SHEAN: Okay. And  
15 what's the evidentiary purpose of the letter?

16 MR. BABULA: The evidentiary purpose of  
17 the letter is to just demonstrate the evolution of  
18 a policy; that a policy isn't a specific threshold  
19 limit, 2 parts per million, so forth. It's not a  
20 specific thing, it's a policy that shifts and  
21 changes along with technology, along with the  
22 current state of the facts.

23 So the letter, itself, isn't evidence  
24 that something is or isn't cooling water, as the  
25 technical staff will testify to. It's just a



1 demonstration that policy isn't locked and rigid.  
2 And that's the purpose of the letter.

3 HEARING OFFICER SHEAN: I'm trying to  
4 understand. Your representation of what it  
5 represents, it includes -- or I mean the purpose  
6 of this is that policy matters are not locked in,  
7 is that a fair characterization of what you just  
8 said?

9 MR. BABULA: Right. When I initially  
10 began this section, remember that these are  
11 guidelines, the policy's a guideline, and it's not  
12 a substitution for common sense or for specific  
13 analysis. And the letter just indicates that,  
14 really. It just shows that the original policy  
15 came out in the '70s. This letter came out in  
16 2002. And it shows that things have changed,  
17 technology has changed. But that's really  
18 technical testimony from the staff here. And I'd  
19 like them to speak to the --

20 HEARING OFFICER SHEAN: Well, but before  
21 we're going to admit the letter -- first of all,  
22 clearly it's hearsay, all right?

23 MR. BABULA: Right.

24 HEARING OFFICER SHEAN: Secondly, the  
25 question is are you attempting to have it admitted

1 to state the truth of some matter within the  
2 letter?

3 And you've indicated in your opening  
4 here that you are not using this letter for the  
5 purpose of indicating what is or isn't cooling  
6 water as your witnesses will testify to.

7 MR. BABULA: That's correct, --

8 HEARING OFFICER SHEAN: Right?

9 MR. BABULA: -- the letter is hearsay  
10 for the specific text of it regarding cooling  
11 water and not cooling water. But just to show the  
12 policy fluctuates and tries to parallel  
13 technology.

14 HEARING OFFICER SHEAN: Well, let's go  
15 back to your witnesses' offered testimony here in  
16 writing. Because it indicates that this letter  
17 made a clarification to state policy. Is that  
18 still going to be the testimony of your witnesses?

19 MR. BABULA: Their testimony here -- the  
20 letter isn't the main focus of their testimony.

21 HEARING OFFICER SHEAN: Well, the letter  
22 is quoted extensively on the first page, and then  
23 referred to again on the second page. And  
24 specifically it says: This policy guidance" and  
25 now that's referring to the IEPR "follows the

1 State Water Resources Control Board's  
2 clarification letter regarding resolution 7558."  
3 And uses the words cooling purposes by power  
4 plants which does not differentiate between  
5 cooling processes."

6 Now, I'm just trying to find out whether  
7 or not you are intended to have this letter  
8 introduced for the purpose of indicating that, as  
9 a matter of fact, there is a clarification of  
10 state water policy which would not differentiate  
11 between cooling processes.

12 MR. BABULA: Well, the quote you read  
13 was the IEPR's quoting the letter -- I'm not clear  
14 what part you read.

15 HEARING OFFICER SHEAN: Well, let me --

16 MR. BABULA: But, regardless --

17 HEARING OFFICER SHEAN: -- just repeat  
18 it then. If you're not clear, because I want you  
19 to be clear on this. It says: This policy  
20 guidance follows the Board's clarification  
21 letter." So you've characterized this May letter  
22 as a clarification letter.

23 And so the real question is, what is the  
24 evidentiary fact that has been clarified by virtue  
25 of the letter?

1 MR. BABULA: Well, the evidentiary fact  
2 then would be that the water policy, you can't  
3 apply the water policy in a rigid guideline as it  
4 was set out in the '70s where it listed, I think  
5 there's five levels of preferred water uses.

6 And the letter then just goes forth and  
7 says, for example, I believe the letter indicates  
8 ocean water, which is number two on the original  
9 1970s water policy.

10 It's not -- I mean right now you  
11 wouldn't consider an ocean as a second-best water  
12 source to use. So it just goes on to an  
13 evolution.

14 But I don't want to get hung up on this  
15 letter and clutter the record or the Committee --

16 HEARING OFFICER SHEAN: Well, and  
17 neither do we. Nor do we want --

18 MR. BABULA: Right.

19 HEARING OFFICER SHEAN: -- since the  
20 applicant has already indicated in its responding  
21 documents that they do not agree with your  
22 interpretation of the letter, all right.

23 So, you have one interpretation of what  
24 the letter means. They have a different. We  
25 might have a third. And the real issue here is

1 this letter, if it's to be used to support a fact  
2 on which the Commission can rely for the purpose  
3 of making a finding, we have to know whether or  
4 not this particular document can be admitted to  
5 the record for that purpose.

6 That's why I asked you the purpose for  
7 which you were seeking to admit it, which, as you  
8 explained, was somewhat different from what the  
9 testimony of your witnesses says is the function  
10 of this letter.

11 And we have the fact that we know  
12 there's a disagreement about how this letter  
13 should be interpreted, which is fundamentally what  
14 the issue is with respect to hearsay. And the  
15 reason that hearsay is generally not admissible.

16 So, before the Commission and the  
17 Committee are going to allow the establishment of  
18 a record that will serve as the basis for  
19 findings, we have to determine whether or not it  
20 would be appropriate to admit this particular  
21 letter for either the purpose that you stated  
22 orally, or for the purposes reflected in the  
23 statement of your witnesses.

24 Now, if Mr. Baggett is -- first of all,  
25 he's not unavailable as a witness. He is a local

1 state employee and he could have been called to  
2 support your interpretation of the meaning of the  
3 letter.

4 But he's not here and he's not subject  
5 to the cross-examination of the applicant, which  
6 would allow, at least a fair exchange as to what  
7 Mr. Baggett either meant by the letter. Or  
8 whether or not he has an opinion of whether now  
9 the State Water Board policy could include or does  
10 include any cooling purpose. Or would include the  
11 cooling purpose that the staff has identified in  
12 its testimony.

13 So, I think since the letter, number  
14 one, does not appear, based upon this decision, to  
15 be serving, in your mind, a single purpose, but  
16 multiple purposes, and the hearsay rule, as it  
17 addresses that, would not allow its admission,  
18 that with respect to your offer that it be  
19 admitted into the record, it may not be  
20 appropriate.

21 Do you want to chime in on this, Mr.  
22 Thompson?

23 MR. THOMPSON: Yeah, we would. When I  
24 filed a rebuttal, as you'll note in my rebuttal  
25 brief, we looked at every case that has been

1 decided since the date of the letter.

2 I could find no reference to the letter  
3 or the specific language that staff relies on  
4 contained in that letter in any of the  
5 following -- any discussion of any following case.

6 The letter, itself, the May 22nd letter,  
7 whatever, is not mentioned in any of the LORS  
8 tables in any of the cases that have been decided  
9 since. And, indeed, was not included in the  
10 staff's PSA.

11 ASSOCIATE MEMBER GEESMAN: When you say  
12 cases, what are you referring to?

13 MR. THOMPSON: Final decisions of this  
14 Commission from --

15 ASSOCIATE MEMBER GEESMAN: This  
16 Commission.

17 MR. THOMPSON: -- May 22nd on. We don't  
18 know if this letter was the result of an inquiry  
19 in the 2003 IEPR; whether it was a specific siting  
20 case. I don't know who was on the Siting  
21 Committee at the time. We don't know any of the  
22 relevant facts surrounding it, what the inquiry  
23 was that prompted the letter.

24 I guess I think it's significant that  
25 it's never appeared in print before in any of the

1 Commission documents.

2 I don't think it addresses technology.  
3 I don't think it addresses any change in policy.  
4 Indeed, the letter says, to my reading, that  
5 they're happy with the state policy as it's being  
6 administered by the Energy Commission.

7 So I would object to its admission and I  
8 would object to testimony being based upon the  
9 admission of that document.

10 HEARING OFFICER SHEAN: Do you want to  
11 reply?

12 MR. BABULA: Yeah. I did see his list  
13 of power plant cases that was cited and there's no  
14 information or testimony regarding the facts of  
15 any of those cases, and whether water was an  
16 issue, and whether the letter would even have been  
17 appropriate to be brought up in any of those  
18 cases. I don't think that's that relevant.

19 But I don't want this to drag on about  
20 this letter. And so if the Committee feels it's  
21 inadmissible, then staff will be okay with that  
22 decision.

23 ASSOCIATE MEMBER GEESMAN: You know, --

24 HEARING OFFICER SHEAN: You know, you're  
25 still going to be able to make your pitch, which



1 is that the cooling purpose that you seek --

2 MR. BABULA: Right, that's just fine,  
3 which is why I'd like to --

4 HEARING OFFICER SHEAN: -- is one that  
5 should be offset by the, you know, use of the  
6 Westlands Water District offset program. And so  
7 while it doesn't prevent you from doing that, I  
8 think what it appears to do, to the Committee, is  
9 keep the record uncluttered, since there's no  
10 basis, either arising from the language of the  
11 letter, to get to the point where the nonhearsay  
12 value of this letter exceeds the complications to  
13 the record, since it does not appear that there  
14 was a prior clarification or clarification  
15 resulting from this letter that we can  
16 historically, as we sit here today, turn around  
17 and look and say that that occurred.

18 So, we will not admit the letter,  
19 although it is in the administrative record of the  
20 proceeding. And I think it's also appropriate  
21 that any use of the letter, to the extent that it  
22 states that the testimony of your witnesses is  
23 based upon a clarification that is indicated in  
24 the letter, be stricken. But you have lots of  
25 additional testimony to that. So that would be

1 the ruling of the Committee. And we'll allow you  
2 now to have direct testimony from your witnesses.

3 MR. BABULA: Okay, -- proceed now, thank  
4 you. All right, let's start with Mr. Baker here  
5 on power plant cooling then.

6 DIRECT EXAMINATION

7 BY MR. BABULA:

8 Q Can you please state your name.

9 A Steve Baker.

10 Q And who are you employed by?

11 A I'm a Senior Mechanical Engineer on the  
12 Energy Commission Staff.

13 Q Okay. Can you please summarize your  
14 background as it pertains to energy production,  
15 power plants and power generating equipment.

16 HEARING OFFICER SHEAN: Just for the  
17 sake of expedition, do you have any problem with  
18 him testifying as an expert?

19 MR. THOMPSON: I think I've known him  
20 for 30 years. I have no problem.

21 HEARING OFFICER SHEAN: Right, yeah.

22 MR. BAKER: Closer to 25, I think, yes.

23 MR. THOMPSON: Twenty-five.

24 HEARING OFFICER SHEAN: Okay, you're  
25 qualified. And Mr. Anderson, any problem?

1 MR. THOMPSON: Same.

2 HEARING OFFICER SHEAN: All right.

3 MR. BABULA: Okay.

4 HEARING OFFICER SHEAN: Let's get to the  
5 substance of testimony.

6 MR. BABULA: Okay.

7 BY MR. BABULA:

8 Q Did you prepare the power plant cooling  
9 portion of the supplemental soil and water  
10 testimony filed on November 9?

11 MR. BAKER: We did.

12 MR. BABULA: And is this testimony true  
13 and correct to the best of your knowledge?

14 MR. BAKER: Yes.

15 MR. ANDERSON: Yes.

16 MR. BABULA: Okay. Do either of you  
17 have any changes to make?

18 MR. ANDERSON: No.

19 MR. BAKER: No.

20 MR. BABULA: Okay. Mr. Baker, is inlet  
21 fogging a form of cooling?

22 MR. BAKER: In my opinion, yes, clearly.

23 MR. BABULA: Okay. Can you please  
24 summarize the power plant cooling, where inlet  
25 fogging fits in in the process. I believe you

1 have a PowerPoint presentation?

2 MR. BAKER: Yes. Let me precede this by  
3 saying that I began my career in power plant  
4 engineering in June of 1974, a year before this  
5 policy was promulgated. Back when the policy was  
6 created in 1975 few, if any, power plants were  
7 being built using gas turbines. Back then,  
8 everything being built was a steam plant.

9 The steam turbine was powered either by  
10 a boiler burning fossil fuel or by a nuclear  
11 reactor. But when someone said power plant in  
12 1975 they meant a steam power plant.

13 The gas turbine generator didn't become  
14 popular until later. They weren't commonly  
15 available in 1975. For instance, the General  
16 Electric Frame 7E, which was the first wildly  
17 popular gas turbine, of which there are many in  
18 California today, was first offered for sale in  
19 1976.

20 The predecessor to the project proposed  
21 for this project, the Starwood project, the  
22 turbopower FT8 twin wasn't offered until 1990.  
23 So, gas turbines are newer and more modern than  
24 the policy we're talking about.

25 Let me show you a slide. This is a

1 Rankine cycle or steam cycle power plant. This  
2 boiler, the box on the left, boiler can be fired  
3 with fossil fuels such as coal, natural gas, oil,  
4 biowaste, wood. It can also be replaced by a  
5 nuclear reactor.

6 Air and water are introduced and a fuel.  
7 The heat creates steam, which turns the steam  
8 turbine generator, which turns, in turn, an  
9 electric generator and creates electricity.

10 The steam, the spent steam that comes  
11 out of that turbine must be cooled in order to  
12 allow the water, the steam and water, to be  
13 recycled and reused, and also to improve the  
14 efficiency and the power output of the power  
15 plants.

16 The more effectively this condenser is  
17 cooled, whether by evaporative cooling, air  
18 cooling, once-through ocean water cooling, the  
19 more effectively the condenser is cooled, the more  
20 power the plant makes, and the more efficiently it  
21 uses its fuel.

22 Next slide, please. Today, many of the  
23 power plants built in California are combined  
24 cycle plants, where we've combined a gas turbine  
25 with a steam turbine. And in these plants the

1 steam turbine cycle is practically identical to  
2 the Rangine cycle that we just looked at. There's  
3 a condenser which must be cooled in order for the  
4 steam turbine to perform optimally.

5 Many of today's power plants are similar  
6 to Starwood, just simple cycle plants where we  
7 have just a gas turbine providing the power. In  
8 one of these plants the air is taken into a  
9 compressor and compressed. Then the compressed  
10 air has fuel added to it and it burns. It is now  
11 a hot mixture, passes through the turbine section.

12 The turbine does two things. First, it  
13 drives the compressor, and then it turns the  
14 electric generator.

15 The power put out by the turbine is a  
16 factor of the mass flow of air through the  
17 machine. So, in warm climates such as California,  
18 you can increase the mass flow through the machine  
19 allowing it to produce more power by cooling the  
20 air as it enters the machine.

21 In fact, not only does this allow a  
22 greater power output, but increases the fuel  
23 efficiency of the machine, because the cooler the  
24 air is going through the compressor the less power  
25 it takes to compress it. That leaves more power

1 left over to turn the generator.

2 Actually three commonly used modes of  
3 cooling inlet air to a gas turbine. Two of the  
4 four are mechanical chillers and adsorption  
5 chillers. We see mechanical chillers being  
6 installed in California power plants that cools  
7 the air before it goes in something similar to a  
8 refrigerator.

9 Then there's another popular method  
10 called evaporative cooling. This is inlet air  
11 cooling. And it amounts to evaporating water into  
12 the air before it reaches the compressor of the  
13 gas turbine. A very popular technology. One of  
14 the drawbacks is that you have blowdown water that  
15 has to be disposed of as wastewater.

16 Then recently gas turbines manufacturers  
17 have gained enough confidence in their machines  
18 that they've allowed what we now call fogging.  
19 This is, again, inlet air cooling. But instead of  
20 requiring that the air be fully -- the water be  
21 fully evaporated into the air before it reaches  
22 the compressor in the gas turbine, in fact the  
23 device is designed such that a fog or mist of  
24 water is sprayed right into the inlet of the  
25 compressor.

1           And these tiny water droplets, it's been  
2 found, you know, don't damage the compressor, the  
3 first blades of the compressor, the first stage  
4 blades. And so the manufacturer of the turbine  
5 will allow this without it impacting the warranty.  
6 Fogging is effective as evaporative air cooling,  
7 inlet air cooling, because, again, you're cooling  
8 the air as it enters the turbine; you're  
9 increasing the mass flow rate.

10           And the advantage is that you don't have  
11 the blowdown wastewater to deal with that you do  
12 with the evaporative inlet air cooling process.  
13 So fogging is popular because it gives all the  
14 benefit of evaporative inlet air cooling with less  
15 of the cost, less of the hassle of maintaining a  
16 process.

17           Now, cooling, in both the steam plant  
18 and the gas turbine plant, again accomplishes the  
19 same two purposes. It increases the power output  
20 of the power plant, and it increases the fuel  
21 efficiency of the power plant.

22           And in both cases the cooling is used to  
23 cool what we call the working fluid. These are  
24 thermodynamic machines. They make power by moving  
25 heat through the machine. Thermodynamic means



1 heat movement.

2           And that heat is carried through the  
3 machine with a working fluid. In the case of a  
4 steam plant, the working fluid is water or steam.  
5 In the case of the gas turbine that working fluid  
6 is air. In both cases, when you cool the working  
7 fluid you improve both the power output and  
8 efficiency of the machine.

9           Inlet air cooling, whether evaporative  
10 or fogging, does the same thing as condenser  
11 cooling in a steam plant. It cools the working  
12 fluid improving the power output and efficiency of  
13 the power plant.

14           MR. BABULA: Okay. Through your  
15 personal contacts, conferences, seminars, do you  
16 regularly interact with engineers involved in  
17 power generation outside of this Commission?

18           MR. BAKER: Yes, I do.

19           MR. BABULA: On the topic of inlet  
20 fogging, are you aware of any consensus by power  
21 generation engineers as to whether inlet fogging  
22 is a form of cooling?

23           MR. BAKER: Until a few weeks ago on  
24 this Starwood case I had never heard anyone  
25 mention the possibility of inlet air cooling, in

1 whatever form, fogging or otherwise, would be  
2 anything but power plant cooling.

3 MR. BABULA: Does the definition of  
4 steam electric power generating facilities, as  
5 found in 7558, and excerpted in the applicant's  
6 reply brief, have any bearing as to whether inlet  
7 fogging is considered cooling?

8 MR. BAKER: It doesn't address it at  
9 all. The policy addresses only the steam plants  
10 that were popular back when the policy was formed.  
11 It doesn't address the gas turbine plants that are  
12 popular today.

13 MR. BABULA: Okay. Is inlet fogging  
14 cooling under state law water policy 7558?

15 MR. BAKER: In my opinion it is; and I  
16 think the applicant's opinion it is, too. If you  
17 look at the application for certification, page 3-  
18 4, the section called facility description, and  
19 the last line, I'll quote: Inlet fogging will be  
20 utilized to provide cooling of inlet air." It's  
21 clear, fogging is inlet air cooling. It's cooling  
22 the power plant.

23 MR. BABULA: I have no further  
24 questions. Cross?

25 MR. THOMPSON: No questions. We do have

1 a couple issues on rebuttal.

2 HEARING OFFICER SHEAN: I have a couple  
3 questions. Your testimony lists, under modern  
4 power plant cooling takes more forms, steam  
5 condenser cooling, which is the steam cycle  
6 cooling that is the traditional cooling that was  
7 addressed initially in resolution 7558, is that  
8 correct?

9 MR. BAKER: I believe I mentioned three  
10 popular means of cooling the condenser there.  
11 Once-through ocean water cooling; their  
12 evaporative cooling; and air cooling.

13 HEARING OFFICER SHEAN: All right. And  
14 then you indicate gas turbine inlet air cooling,  
15 which is what we're discussing here today. Gas  
16 turbine compressor intercooling, which would be  
17 the technology found on the GE LMS100, is that  
18 what you're referring to there?

19 MR. BAKER: I've not referred to  
20 intercooling at all today. I don't -- as I  
21 understand it, the machines, Starwood machines,  
22 are not intercooled and I have not --

23 HEARING OFFICER SHEAN: I'm just trying  
24 to --

25 MR. BAKER: -- addressed intercooling.

1 HEARING OFFICER SHEAN: Your attorney  
2 has asked that we admit into evidence your written  
3 testimony. And your written testimony has a list  
4 of four items that are modern power plant cooling  
5 typically take four forms.

6 MR. BAKER: You're talking about item  
7 number 3 on the second page?

8 HEARING OFFICER SHEAN: Correct.

9 MR. BAKER: I apologize. I have not  
10 orally addressed that today. You're right, it was  
11 addressed in our written testimony. I have not  
12 addressed it today because, as it says here in the  
13 written testimony, this does not apply to the  
14 Starwood project.

15 Now, I could --

16 HEARING OFFICER SHEAN: No, I'm not  
17 asking you to do it. I'm taking your testimony,  
18 I'm trying to understand. You've described four  
19 types of modern power plant cooling, right? And  
20 this list is one through four.

21 MR. BAKER: No, I think I've confused  
22 you, sir, I apologize for that. I've talked about  
23 inlet air cooling, gas turbine inlet air cooling.  
24 I've talked about steam condenser cooling. I've  
25 not talked about the four items that are on page 2

1 of the written testimony.

2 If you'd --

3 HEARING OFFICER SHEAN: Well, I guess I  
4 should indicate, or maybe your counsel can tell  
5 you, that if you introduce this into evidence it's  
6 as if you spoke it here today. Okay?

7 So, when I say your testimony speaks of  
8 these four, it's because we're allowing this  
9 document in, all right.

10 Now, let me just ask you, of the two  
11 principal water uses of this facility, one of them  
12 is for fogging and the other is for what?

13 MR. BAKER: It's for NOx control. Water  
14 is injected directly into the combustion chamber.

15 HEARING OFFICER SHEAN: And what is the  
16 effect on the working fluid of that water  
17 injection?

18 MR. BAKER: In actuality the water  
19 injected into the combustion chamber accomplishes  
20 the same ends as cooling the air going into the  
21 inlet of the turbine. It cools the mass flow  
22 through the combustor. It also adds mass flow  
23 through the turbine, which increases the power  
24 output. And since the power to inject that water  
25 is very much less than would have been the power

1 to compress it, if it were inlet air, it increases  
2 the fuel efficiency of the machine.

3 However, we do not and have not  
4 maintained that combustor water injection is for  
5 the purpose of cooling the power plant because its  
6 principal purpose is for NOx control.

7 Let me summarize. Yes, it does cool the  
8 power plant. It provides the same benefits of  
9 more power, more efficiency. But, we don't call  
10 that combustor water injection power plant cooling  
11 because that's not its primary purpose. The  
12 primary purpose is just for NOx control.

13 HEARING OFFICER SHEAN: And how is the  
14 NOx controlled?

15 MR. BAKER: Nox is created when the  
16 flame temperature reaches -- goes too high.  
17 Nitrogen makes up nearly 80 percent of air. And  
18 it's, under normal conditions, rather inert. But  
19 if you have a high enough flame temperature that  
20 some of the NOx is actually burned or combined  
21 with oxygen, this produces various different  
22 oxides of nitrogen, which are regarded as  
23 precursors to smog.

24 If you cool the flame temperature, if  
25 you cause the fuel to burn at a lower temperature,

1 less NOx is combined with oxygen. And so the  
2 oxides of nitrogen production is much lower.

3 The water injected into the combustor,  
4 itself, cools the flame temperature. Natural gas  
5 will burn in air at over 3000 degrees Fahrenheit.  
6 But, in fact, with cooling and air dilution and  
7 such, the flame temperatures are kept down not  
8 much above 2000 degrees, 2300 degrees or so. This  
9 reduces NOx production.

10 HEARING OFFICER SHEAN: Are there  
11 alternatives to water injection for NOx control in  
12 standard combustion turbines that are available  
13 for the power market?

14 MR. BAKER: Many of them allow steam  
15 injection into the combustor. In this case, you  
16 know, you need a source of steam which is not  
17 common in a simple cycle power plant like  
18 Starwood.

19 HEARING OFFICER SHEAN: Are there dry  
20 low NOx combustor cans?

21 MR. BAKER: Yes. Those are popular on  
22 the larger frame machines, industrial gas  
23 turbines, that have separate cylindrical  
24 combustors arrayed around the machine. The  
25 aeroderivative machines, the ones that are derived

1 from aircraft jet engines similar to the Starwood  
2 engines, typically do not offer dry low NOx  
3 combustors because the combustors in these  
4 machines are an annular or donut shape. And they  
5 don't usually lend themselves to a dry low NOx  
6 technology.

7 HEARING OFFICER SHEAN: What's the  
8 proportion of water for this project between NOx  
9 control -- water injection for NOx control versus  
10 water fogging of inlet air?

11 MR. BAKER: I'm sorry, I don't know  
12 that.

13 HEARING OFFICER SHEAN: All right.  
14 We'll go to Mr. Anderson. Do you know that?

15 MR. ANDERSON: Yeah, it's about a third,  
16 two-thirds for NOx and one-third for inlet  
17 fogging.

18 HEARING OFFICER SHEAN: So the greater  
19 use is for NOx control?

20 MR. ANDERSON: Yes.

21 HEARING OFFICER SHEAN: From a water  
22 resources perspective, if the greater fraction of  
23 water is used for NOx control, why then would the  
24 staff not take the position, since that water is  
25 used to cool the flame of the combustor cans, that



1 water used for NOx injection is subject to the  
2 same policy that would apply to inlet air cooling?

3 MR. ANDERSON: Well, we consider this  
4 two ways. One is we believe that inlet fogging is  
5 evaporative cooling. And although NOx, in a  
6 sense, is evaporative cooling, it has to be done.

7 So when we looked at the use of one type  
8 of water for this, the backwash water, it's very  
9 high quality, we're looking at, one, an option for  
10 cooling water, as under state policy 7558 and IEPR  
11 2003, for example.

12 But at the same token, we're looking for  
13 conservation of water and using the lowest quality  
14 water that's available. There is other water  
15 available that can take care of both those needs,  
16 NOx and inlet fogging. And that's the upper  
17 aquifer, the semi-confined aquifer, which is  
18 considered brackish water. Which was the first  
19 water source proposed by the applicant, their  
20 preferred source.

21 They came back with one of their  
22 alternatives on October 19th, which was the  
23 backwash water.

24 And so from a conservation standpoint we  
25 think all of the water is important, and other

1 source lower quality water, or compensation or  
2 offsetting the use of the backwash water is  
3 important, not just for inlet fogging water, but  
4 for the NOx water, also.

5 HEARING OFFICER SHEAN: Okay. I'm again  
6 trying to understand why the staff believes that  
7 whatever policy applies to inlet cooling water  
8 does not apply to the water injection for NOx  
9 control.

10 MR. BAKER: Mr. Anderson is speaking to  
11 water availability and conservation. I'm speaking  
12 strictly technically to gas turbines.

13 And, you know, as I explained, one could  
14 make an argument that NOx control water is, in  
15 fact, power plant cooling water. But I don't  
16 choose to make that argument. I don't really like  
17 that argument. And I would not claim that NOx  
18 control water is power plant cooling water.

19 HEARING OFFICER SHEAN: Okay. If we  
20 were to consider the working fluid, then, you have  
21 the inlet air arriving at some temperature before  
22 it gets into the inlet structure. It is then  
23 cooled by virtue of the fogging; enters the low-  
24 pressure compressor, the high-pressure compressor,  
25 the combustion cans at which point, as the flame

1 is being put to it, this working fluid is further  
2 cooled as it's combusted.

3 It then goes through the high-pressure  
4 and then the low-pressure turbines as it exits the  
5 machines. And now, am I correct that the exhaust  
6 coming from the turbine will contain, as water  
7 vapor, whatever was the injected water?

8 MR. BAKER: That's correct.

9 HEARING OFFICER SHEAN: Okay. And, in  
10 fact, as far as the atmosphere is concerned, the  
11 water that will exit the stack of the combustion  
12 turbine, assuming it's been fogged and used water  
13 for NOx control, the atmosphere cannot tell the  
14 difference between the water vapor that's exiting  
15 that stack and the water vapor that would be  
16 produced by the evaporation of that water had it  
17 been left in the Baker pond?

18 MR. BAKER: That's correct.

19 HEARING OFFICER SHEAN: Okay. Is the  
20 project waste heat cooled in any way?

21 MR. BAKER: Not that I'm aware of. It  
22 passes through a selective catalytic reduction  
23 unit and, I believe, a carbon monoxide catalyst.  
24 And it will be somewhat cooled in that process.  
25 But it's not for the purpose of cooling it.

1 HEARING OFFICER SHEAN: All right. Just  
2 two more questions here then. Mr. Anderson, based  
3 upon what you understand to be the average  
4 capacity factor for this project, which I think  
5 has been stated in the FSA as 400 hours, do you  
6 have an estimate of the average number of acrefeet  
7 that would be used for this inlet fogging?

8 MR. ANDERSON: I think what the  
9 applicant has in their AFC is that approximately  
10 at 400 hours of operation they would use 14  
11 acrefeet approximately of water for all purposes.  
12 Which a third of that would be inlet fogging.

13 So, we're talking four or five acrefeet  
14 of water for inlet fogging at 400 hours of  
15 operation.

16 HEARING OFFICER SHEAN: Okay. And, Mr.  
17 Baker, you gave a good rendition of the history of  
18 some of the -- did you want to make a comment?

19 MR. BAKER: No, sir.

20 HEARING OFFICER SHEAN: Okay. -- of  
21 some of the history of power plants around the  
22 time that the Water Board's policy was adopted.  
23 As a general rule for those nuclear and other  
24 fossil-fuel-fired facilities, what was their  
25 annual water use in terms of acrefeet?

1 MR. BAKER: Oh, up in the thousands.

2 HEARING OFFICER SHEAN: Would it have  
3 been tens of thousands?

4 MR. BAKER: Oh, no, you'd -- actually I  
5 think that might be possible. I'm not familiar  
6 with the numbers, but, yes, you could probably get  
7 up in that area.

8 MR. ANDERSON: It would have to be a  
9 very large power plant, on the order of one to  
10 several thousand, such as a nuclear plant, for  
11 that. Unless they're using once-through cooling,  
12 then it would be hundreds of thousands.

13 HEARING OFFICER SHEAN: So at the time  
14 of the origin of the policy, I guess I want to  
15 understand, if that was adopted in 1975, the  
16 Commission had, within the remainder of the '70s,  
17 the Sun Desert project in 1976, which was an SDG&E  
18 nuclear project, the PG&E Stanislaus project, PG&E  
19 fossil 1 and 2 project, and the SCE CalCoal  
20 project. Do you have in mind any of the proposed  
21 water uses for those facilities?

22 MR. ANDERSON: I remember them. I'd  
23 just gotten here. But, I don't remember. I'd say  
24 if you have a 500 megawatt power plant you're  
25 looking at somewhere between 4000 and 6000 or 7000

1 acrefeet of water a year.

2 HEARING OFFICER SHEAN: Okay.

3 MR. ANDERSON: -- combined cycle but  
4 there's steam is --

5 MR. BAKER: Well, but only a third of  
6 the power comes from the steam cycle.

7 MR. ANDERSON: Yeah.

8 HEARING OFFICER SHEAN: All right, I  
9 have no further questions. Do you have any  
10 redirect?

11 MR. BABULA: Yes. Let me finish on --  
12 okay. Got interrupted there.

13 REDIRECT EXAMINATION

14 BY MR. BABULA:

15 Q Mr. Anderson, a couple questions for you  
16 to kind of tighten up the testimony a little bit.  
17 Looks like you've talked about some of the things  
18 already.

19 Let's see. Can the upper aquifer, the  
20 source the applicant originally proposed to use,  
21 be used for irrigation?

22 MR. ANDERSON: No.

23 MR. BABULA: Okay. How about the  
24 backwash water that they now propose to use, does  
25 that have any irrigation use for agriculture?

1 MR. ANDERSON: That has use for  
2 everything.

3 MR. BABULA: Okay. Can you explain  
4 regarding state water policy 7558 where backwash  
5 water would fall in the list of preferred water  
6 sources?

7 MR. ANDERSON: Yes. You're probably  
8 aware of these categories, but the State Water  
9 Resources Control Board policy 7558 sets forth a  
10 priority. And there are five priorities listed.

11 The first is the most desirable water to  
12 use because it's wastewater being discharged to  
13 the ocean. Ocean water, brackish water from  
14 natural sources or irrigation return flow, inland  
15 wastewaters of low TDS and other inland waters.

16 So, in this case, priority one,  
17 wastewater being discharged to the ocean does not  
18 apply. Priority two, ocean water, does not apply.  
19 Priority three, brackish water from natural  
20 sources is the upper aquifer, which was the first  
21 source of water that the staff has recommended.  
22 And that category three, brackish water from  
23 natural sources, or irrigation return flow.

24 We don't consider this irrigation return  
25 flow. The irrigation return flow is water that

1 has been used for irrigation and comes off a field  
2 laden with minerals and salts. And then is  
3 returned. And sometimes it can be reused, often  
4 it can't.

5 The fourth category, inland wastewaters  
6 of low TDS, sounds good if we continue to call  
7 backwash water wastewater. Backwash water is 20  
8 times cleaner than the upper aquifer water, for  
9 example. It's 170, a TDS of 170, which is cleaner  
10 than most of the drinking water in Sacramento.

11 It can be called wastewater, but I think  
12 that next year it might be called irrigation water  
13 again, or some other water that has great  
14 potential to be used for a variety of sources.  
15 And the fact that 160 acrefeet of it would be  
16 wasted seems to be very wasteful.

17 Number five, other inland waters. It  
18 fits into that easily because of the quality of  
19 the water.

20 MR. BABULA: Okay. During your research  
21 and working with this project, did you have an  
22 opportunity to look into the Westland Conservation  
23 Program?

24 MR. ANDERSON: Yes, I have.

25 MR. BABULA: Can you explain what the



1 program's about and how it works?

2 MR. ANDERSON: Well, their program is  
3 called the expanded irrigation system improvement  
4 program. And it's a program to help farmers  
5 upgrade and modernize their irrigation equipment  
6 so that they are more efficient and use less  
7 water, conserve water.

8 Westlands Water District has a large  
9 amount of money in a pot, about \$10 million. And  
10 it's cycled through in four years. So each year  
11 there's \$2,500,000 available.

12 The majority, about 90 percent, of the  
13 improvements that are made are movements towards  
14 what's called micro-drip irrigation. And micro-  
15 drip irrigation, the water needs to be fairly  
16 clean in terms of suspended solids, so that the  
17 water can go through a small hole. Kind of like a  
18 soaker.

19 Anyhow, Westlands provides loans to the  
20 farming community. They buy and upgrade their  
21 equipment, thereby conserving Central Valley  
22 Project water, which is delta water.

23 And we assume about an eight-year life  
24 of these upgrades before they have to be re-  
25 upgraded. The money that is provided works over

1 and over, so that \$2.5 million on a four-year --  
2 every four years, that \$10 million is available  
3 again.

4 So, if you conserve 5000 acrefeet of  
5 water with that \$10 million, that's for the first  
6 four years. The second four years, the first four  
7 year of equipment is still operational, and so  
8 then it doubles. In this case it would double,  
9 say, to 10 acrefeet. And then it would continue  
10 at that level each year until the program stopped,  
11 if ever.

12 Looking at that we've used an estimate  
13 of approximately a third of an acre of water can  
14 be conserved per acre per year. And in order to  
15 create an average of 136 acrefeet, which is the  
16 amount of water that the applicant would use if it  
17 operated full time, 4000 hours a year, would end  
18 up requiring about \$175,000. That's a one-time  
19 payment, and then it just keeps working.

20 So it seems like a very good program.  
21 And we've been involved with it and recommended it  
22 also for the Panoche project.

23 MR. BABULA: Can you elaborate on the  
24 basis for establishing a conservation program that  
25 saves an amount of water equivalent to the maximum

1 amount used by the project rather than the  
2 expected use?

3 MR. ANDERSON: Well, I think that it's  
4 been, you know, staff normally recommends the  
5 amount of water that's needed at the maximum. The  
6 maximum use of this project would be 136 acrefeet.  
7 Even though the applicant claims they would only  
8 use -- they'd only operate 400 hours a week, staff  
9 would be willing to create a condition of  
10 certification that allowed them only 14 acrefeet a  
11 year.

12 But it seems to me that they would like  
13 to be licensed for the maximum amount, which is  
14 136 acrefeet of water, in case something happens  
15 and you're fortunate enough to operate 4000 hours.

16 HEARING OFFICER SHEAN: No further  
17 questions. Cross?

18 HEARING OFFICER SHEAN: Any recross?

19 MR. THOMPSON: Just a couple, Mr.  
20 Anderson.

21 RE-CROSS-EXAMINATION

22 BY MR. THOMPSON:

23 Q Am I correct that you're saying because  
24 at some point in the future the project could  
25 operate 4000 hours a year you're assuming that the

1 project would operate 4000 hours per year for  
2 every year in your calculation?

3 MR. ANDERSON: I used the calculations  
4 that would allow for what you're being licensed  
5 for, or what I'm assuming you'll be licensed for,  
6 136 acrefeet a year.

7 MR. THOMPSON: And you recognize that  
8 staff also in the FSA stated that the average  
9 would be 14 acrefeet a year?

10 MR. ANDERSON: I recognize that we used  
11 that figure that you provided us. If you --

12 MR. THOMPSON: Do yo have any --

13 MR. ANDERSON: -- if you operated at 400  
14 hours.

15 MR. THOMPSON: Do you have any reason to  
16 think that the 14 acrefeet a year is unreasonable  
17 as an average?

18 MR. ANDERSON: Well, only that you're  
19 being licensed for 4000 hours of operation. At  
20 least that's, according to air quality that's the  
21 amount.

22 MR. THOMPSON: One more brief item. You  
23 went to principle number one of policy 7558 and  
24 went down the latter of needs -- of water sources?  
25 Do you have that?

1 MR. ANDERSON: I will in a second. Yes.

2 MR. THOMPSON: Is there a definition for  
3 irrigation return flow in 7558?

4 MR. ANDERSON: No.

5 MR. THOMPSON: Is there a definition of  
6 power plant?

7 MR. ANDERSON: I think there's one that  
8 same steam electric power generating facilities,  
9 is that the one you mean?

10 MR. THOMPSON: Yeah. And -- well, I  
11 think that's it.

12 No further questions of Mr. Anderson on  
13 this document. As I said, we have a couple  
14 questions on rebuttal when the time is  
15 appropriate.

16 HEARING OFFICER SHEAN: Since Mr.  
17 Anderson's testimony here got into the other  
18 indicated supplemental testimony of Mr. Anderson  
19 and Somer Goulet, right?

20 MR. BABULA: Right.

21 HEARING OFFICER SHEAN: Do you have  
22 objection to the admission of that testimony?

23 MR. THOMPSON: I do not have an  
24 objection to the description of the Westlands  
25 program. I do object to the discussion of the

1 Baggett letter.

2 HEARING OFFICER SHEAN: All right. With  
3 that stricken, it's admitted. Since that's  
4 similar to what we did in your prior testimony.

5 All right. Does that conclude the  
6 staff's witnesses?

7 MR. BABULA: It does.

8 HEARING OFFICER SHEAN: All right, thank  
9 you. And do you have some rebuttal?

10 MR. THOMPSON: Yes.

11 DIRECT EXAMINATION

12 BY MR. THOMPSON:

13 Q First, Mr. Weiss, would you confirm -- I  
14 think staff used a figure of approximately 70  
15 percent of 14 acrefeet average annual use would be  
16 used for emission control -- could you confirm or  
17 give a more precise number if you have one?

18 MR. WEISS: Yes. The amount of water  
19 use for emission control is 70 percent of the  
20 volume; and 30 percent is used for inlet fogging.  
21 The exact data is in the AFC.

22 MR. THOMPSON: I would like to have Mr.  
23 Ron Watkins sworn.

24 //

25 //

1 Whereupon,

2

RON WATKINS

3

was called as a witness herein, and after first

4

having been duly sworn, was examined and testified

5

as follows:

6

DIRECT EXAMINATION

7

BY MR. THOMPSON:

8

Q Mr. Watkins, what are your duties and

9

responsibilities with regard to the Starwood

10

project?

11

MR. WATKINS: I'm an Advisor on the

12

project.

13

MR. THOMPSON: Mr. Baker just testified

14

that as far back as 1975 he did not believe that

15

simple cycle plants were being constructed, so I

16

guess the implication being that the 7558 would

17

not have considered simple cycle plants.

18

Do you have any of your experience that

19

contradicts this?

20

MR. WATKINS: Yes. I'm a little older

21

than Mr. Baker, I think. And my experience in

22

California actually goes back to 1964 in power

23

plant work.

24

And to clarify a little bit the history

25

of the simple cycle, actually within a matter of

1 weeks after the New York blackout in 1965 simple  
2 cycle gas turbines became rather popular, and  
3 there were numerous orders for simple cycle gas  
4 turbines. And the reason was they found that all  
5 the large steam plants, when the whole system went  
6 black, they did not have black-start capability,  
7 many of them.

8 And so there was a rush to install a  
9 number of simple cycle gas turbines, and a number  
10 in California in the late '60s, a predecessor to  
11 the Frame 7, the Frame 5 and some Pratt and  
12 Whitney aeroderivative gas turbines were installed  
13 in those days.

14 So there definitely were a number of gas  
15 turbines in operation by 1975. Now, none of those  
16 gas turbines used any -- those simple cycle units  
17 in those days -- used any water. Because it was  
18 not economical to install evaporative cooling, and  
19 fogging wasn't yet really developed for simple  
20 cycle gas turbines. And water injection for NOx  
21 control was not yet applicable on gas turbines.  
22 And that didn't evolve until a number of years  
23 later.

24 But certainly there were a number of gas  
25 turbines in operation in 1975. I was very active



1 in, in fact, this Commission and a number of  
2 energy policy issues that were developed in this  
3 state in 1975, including 7558. 7558 was developed  
4 really when a number of steam plants, including  
5 the Sun Desert Nuclear Plant, which some of you  
6 are familiar with, was proposed by San Diego Gas  
7 and Electric in the area of Blythe, California,  
8 and used agricultural wastewater for that plant,  
9 was the proposed use. So that it would not be  
10 dumped back into the Colorado River in the Blythe  
11 area.

12 And much of 7558 was really developed in  
13 response to those steam plants. And was  
14 specifically aimed at the steam plants because of  
15 the large volume of water that was being used.

16 There was another nuclear plant called  
17 the San Joaquin Plant that was proposed at about  
18 the same time that I think was going to use Kern  
19 River water. So it was certainly discouraging the  
20 steam plants from using fresh water.

21 And that's why the definition in 7558  
22 was specifically constructed to only include steam  
23 plants.

24 MR. THOMPSON: That concludes our  
25 rebuttal.

1 HEARING OFFICER SHEAN: Before your  
2 witness leaves, is the type of combustion, simple  
3 cycle combustion turbine that you're talking  
4 about, similar to the one that has been at  
5 Edison's Huntington Beach facility? Is that --

6 MR. WATKINS: Yeah, there were a number  
7 of steam plants that had peaking plants attached  
8 to them. As I said, primarily because of black-  
9 start capability. And to provide that for the  
10 steam plants.

11 HEARING OFFICER SHEAN: Thank you. Do  
12 you have any questions of the witness?

13 MR. BABULA: I have a question for you.

14 CROSS-EXAMINATION

15 BY MR. BABULA:

16 Q So your testimony is that there were  
17 these simple cycle plants prior to '75, but they  
18 weren't using water for NOx control or fogging?

19 MR. WATKINS: That's correct.

20 MR. BABULA: Okay. No further  
21 questions.

22 HEARING OFFICER SHEAN: All right.  
23 Anything further?

24 MR. THOMPSON: I have a question on the  
25 testimony of Mr. Anderson and Ms. Goulet's. Is

1 now the --

2 MR. BABULA: You want to ask Mr. --

3 MR. THOMPSON: I only have one question.

4 MR. BABULA: Go ahead.

5 FURTHER RECROSS-EXAMINATION

6 BY MR. THOMPSON:

7 Q Mr. Anderson, you talked about the  
8 potential of using the water in Mr. Baker's pond.  
9 What happens to that water right now, to the best  
10 of your knowledge?

11 MR. ANDERSON: According to you folks,  
12 it is being evaporated and percolated right now  
13 through a number of small, and one large pond.  
14 Those ponds are now being connected by pipes. For  
15 what reason would that be, I wonder?

16 MR. THOMPSON: To supply water to this  
17 plant?

18 MR. ANDERSON: Is that why? But, you  
19 said that -- when we asked that question you said  
20 that no, this was happening anyhow. The only  
21 thing related to this plant would be the pipeline  
22 from the large pond to the power plant.

23 MR. THOMPSON: Let me ask my witness  
24 when the time comes so the record is straight on  
25 this.

1           If you pull water out of the aquifer, is  
2 it there for future use?

3           MR. ANDERSON: Does it have a future  
4 use?

5           MR. THOMPSON: When you pull water out  
6 of the aquifer, does it remain in the aquifer so  
7 it could be used later?

8           MR. ANDERSON: Well, it's very  
9 complicated. One molecule of water doesn't --  
10 isn't purchased by Westland and goes directly to  
11 Westland. Water can be moved all around in the  
12 aquifer.

13           But normally once the water leaves the  
14 aquifer, it goes -- in this case it goes to  
15 Westlands Water District. Westlands has a right  
16 to a certain amount of water, and they have  
17 people, groups such as Baker Farms, that buys that  
18 water from them. And so there are a number of  
19 contracts involved.

20           Currently Westlands Water District has a  
21 moratorium on using that water for industrial  
22 purposes. It only can be used for agriculture  
23 right now. That probably is why the Westlands  
24 Water District Board meeting is trying to make a  
25 determination as to whether they are going to

1 allow the sale of this water.

2 MR. THOMPSON: I must not have been  
3 clear. Let me try again. If you have one system  
4 that pulls water from a pond that would ordinarily  
5 evaporate or percolate compared to another system  
6 that pulls water out of the aquifer, thus  
7 depriving the aquifer of that water year in and  
8 year out, I guess I'm having trouble with your  
9 recommendation that we use the aquifer water that  
10 is pulled out and not replaced versus the water  
11 that would evaporate and percolate. Can you  
12 enlighten me?

13 MR. ANDERSON: Well, the water that's  
14 evaporating and percolating is very high quality.  
15 It's percolating into a very low quality aquifer  
16 and therefore becomes degraded.

17 Now you're proposing to use that water.  
18 There's no reason that Baker Farm couldn't use  
19 that water, re-use it. All they have to do is run  
20 it through a filter just like you will.

21 And so my belief is that water  
22 eventually, since it's delta water, and it's in  
23 short supply and it's getting in shorter supply,  
24 will be used at some point, maybe next year, maybe  
25 three years from now, for irrigation. It's going

1 to be recycled by Baker Farm. They're just not  
2 going to continue to waste 160 acrefeet a year.  
3 It wouldn't make any sense.

4 MR. THOMPSON: I don't have any more  
5 questions. I think I've -- this whole thing up;  
6 and what I'd like to do is ask a question of Mr.  
7 Weiss to see if I can get my point across that  
8 way.

9 HEARING OFFICER SHEAN: Well, stand by  
10 here. When you say in one to three years you  
11 think this water would no longer be available to  
12 the project but would be recycled by Baker Farms  
13 for irrigation use, what is that number opinion  
14 based upon?

15 MR. ANDERSON: Well, I don't know what I  
16 can -- I had a phone conversation with an employee  
17 at Baker's Farm, but I don't know if that's  
18 admissible.

19 HEARING OFFICER SHEAN: Well, if it was  
20 part of formulating your opinion, why don't you go  
21 ahead and state it.

22 MR. ANDERSON: I asked --

23 HEARING OFFICER SHEAN: And if there's  
24 an objection we'll deal with it.

25 MR. ANDERSON: I called to talk to Barry

1 Baker, who is the owner, I think, and he was not  
2 there. And they transferred me to another  
3 gentleman named Juan Calderon.

4 And I talked to him about how they're  
5 operating; what they're doing with their water  
6 right now. And they are evaporating it, you know.

7 But that -- I said if the power plant  
8 wouldn't be buying this water now, when they start  
9 using it in a year or two, what would you do with  
10 that water? Would you continue to waste it? And  
11 he said, no, we would recycle it.

12 And it's as simple as running it through  
13 a filter just like the applicant is doing, or  
14 proposing to do, for the ag community to run that  
15 back through a filter. All it has in it is leaves  
16 and debris that gets filtered out. It's very  
17 clean water. The water gets pumped backwards to  
18 clean off the front of the filter, and then that  
19 water is sent -- given a little time for the  
20 solids to sink, you know, go out of suspension.  
21 That water then could be just run right back  
22 through the filter and be used for irrigation.

23 HEARING OFFICER SHEAN: So what you  
24 would envision is sort of this cascading filtering  
25 process. At some point, though, you end up with

1 as much filtered water for irrigation use as  
2 possible, is that right?

3 MR. ANDERSON: Well, I'm not sure I --

4 HEARING OFFICER SHEAN: You have the  
5 filtration that's currently taking place at Baker  
6 Farms. And right now that does not include  
7 filtering the water that they put in the  
8 evaporation pond to recycle.

9 So, if I understand, you have the  
10 current level of filtration. If, for what you're  
11 describing to happen, you'd have another level of  
12 filtration from what they were currently using as  
13 backwash water in the evaporation pond. And so  
14 that would be filtered, right?

15 MR. ANDERSON: That's what the applicant  
16 proposes to do.

17 HEARING OFFICER SHEAN: And presumably  
18 there's some reject water from that filtering  
19 process?

20 MR. ANDERSON: Yes.

21 HEARING OFFICER SHEAN: And so that sort  
22 of just keeps going until you basically have got  
23 as much water extracted from that recycling  
24 process as possible, is that the idea?

25 MR. ANDERSON: Yes.



1 HEARING OFFICER SHEAN: All right, I  
2 have nothing further.

3 MR. THOMPSON: I have one question of  
4 Mr. Weiss on redirect, if I may?

5 HEARING OFFICER SHEAN: Yes.

6 REDIRECT EXAMINATION

7 BY MR. THOMPSON:

8 Q Mr. Weiss, could you please add to the  
9 discussion on the Baker ponding source of water?

10 MR. WEISS: Yes. Just to point out that  
11 in Mr. Baker's letter, and to my knowledge from  
12 his attorney, that he already uses the microdrip  
13 system, which is a way to reduce his water  
14 consumption. He's already done that.

15 Also, to his letter, and what he's told  
16 me, is that he wouldn't be doing this without some  
17 impetus; he wouldn't be collecting all this water.

18 I think really the question, you know,  
19 that the staff is not addressing is currently all  
20 of these filters are dumping water on the ground.  
21 And a lot of the farmers are dumping water on the  
22 ground.

23 The reason they're doing it is because  
24 it doesn't pay for them to get it. You know, 160  
25 acrefeet may seem like a lot of water, but Barry

1 Baker uses 24,000 acrefeet in his farming  
2 operation. So it's not worth his time to go get  
3 it at this point in time.

4 And without our project being there he  
5 wouldn't go get it. It creates an impetus; it  
6 creates -- we provide some funds for him to go do  
7 this, and put the piping in and collect the water.

8 If you look at the Westlands Water  
9 District, you know, fund, it's actually there to  
10 do these kinds of things, to go and collect this  
11 water so it's not wasted.

12 So, in a sense, our project and what  
13 we're doing with Mr. Baker is directly in line  
14 with conservation. We're trying to get the  
15 benefit of it, though. We're paying for the  
16 piping and we're trying to, you know, we want to  
17 use that water.

18 So, I find it ironic that mitigation  
19 should be suggested when, in fact, this is a  
20 mitigation process. And if we do this, you know,  
21 will others pick up on it. And, you know, will  
22 other projects come along and save some water, put  
23 it to better use.

24 MR. THOMPSON: Thank you, that's all.

25 HEARING OFFICER SHEAN: Do you have any

1 cross on that?

2 MR. BABULA: No, no, thanks.

3 HEARING OFFICER SHEAN: All right. Are  
4 you done? All right. I think we'll excuse the  
5 witnesses. Thank you. Appreciate it.

6 All right, are we through on water  
7 resources?

8 MR. THOMPSON: Staff has, as part of its  
9 testimony, three suggested conditions of  
10 certification and the verifications thereto.

11 We have no objection to 4. Condition of  
12 certification number 8 was actually okay until we  
13 heard from Westlands that they are contemplating  
14 what to do. So we would like a slight alteration  
15 in 8 to allow for the fact that we may not hear  
16 from Westlands.

17 And 9 we object to.

18 HEARING OFFICER SHEAN: I'm sorry, I'm  
19 going to ask you to go through that again. Four  
20 is okay?

21 MR. THOMPSON: Four is okay.

22 HEARING OFFICER SHEAN: Eight is no?

23 MR. THOMPSON: I think the concept of 8  
24 is acceptable, and we will try and run down, with  
25 Westlands Water District, what the final

1 determination is. However, we are not sure that  
2 we will be able to get a letter out of them.

3 And 9 is not okay. We object to 9.

4 HEARING OFFICER SHEAN: All right.

5 MR. THOMPSON: We also would like to  
6 sponsor our version -- we have reviewed staff's  
7 suggested traffic and transportation 2, 3 and 4,  
8 with their suggested edits; and those are  
9 acceptable to us.

10 HEARING OFFICER SHEAN: Okay.

11 MR. BABULA: Staff can testify as to --  
12 we'd like to comment on the school bus and  
13 conditions that he has just talked about.

14 HEARING OFFICER SHEAN: All right.

15 MR. BABULA: Could we have the witness  
16 sworn in?

17 HEARING OFFICER SHEAN: He's been  
18 previously sworn.

19 MR. ADAMS: I've been previously sworn.

20 MR. BABULA: Okay.

21 HEARING OFFICER SHEAN: I believe.

22 Whereupon,

23 JAMES ADAMS

24 was recalled as a witness herein, and having been  
25 previously duly sworn, was examined and testified

1 further as follows:

2 MR. ADAMS: Essentially what we were  
3 asked to do, as you know, was to --

4 DIRECT EXAMINATION

5 BY MR. BABULA:

6 Q Would you identify yourself?

7 MR. ADAMS: Yes. My name is James  
8 Adams, environmental office. And we were asked to  
9 review the additional conditions; and we made some  
10 revisions that we thought were helpful to clarify  
11 it and removed some of the language that didn't  
12 necessarily relate to the school bus issue, in  
13 condition Trans-2, which is why you see quite a  
14 few revisions.

15 And then in Trans-3 and 4, relatively  
16 minor with the exception of adding a verification  
17 at the end of Trans-3.

18 So hopefully this would give -- we think  
19 this helped clarify the intent and what was  
20 discussed at the previous, when we had the  
21 previous hearing.

22 HEARING OFFICER SHEAN: All right.  
23 Appreciate your effort on that.

24 MR. BABULA: I have a question for you.

25 HEARING OFFICER SHEAN: As well as from

1 the applicant. Yeah, go ahead.

2 MR. BABULA: One question. Did staff  
3 find the original condition satisfactory? Was it  
4 staff's opinion that changes were needed?

5 MR. ADAMS: Well, yes. I reviewed the  
6 Cosumnes case and the circumstances were slightly  
7 different, which is why we came up with slightly  
8 different conditions. And we felt that the  
9 original analysis was okay and the condition was  
10 what we required. And we checked with the school  
11 board and they agreed with us.

12 But, in the interest of increasing the  
13 margin of safety we thought it was good to go  
14 ahead and add these additional conditions. And we  
15 did put some time in for the revisions, and we  
16 think it's appropriate in this case.

17 HEARING OFFICER SHEAN: All right. The  
18 Committee thanks you for your time and effort.

19 MR. ADAMS: Okay, thank you.

20 HEARING OFFICER SHEAN: And I must  
21 indicate, some of this is based upon the fact that  
22 at the site visit we went out and drove the road,  
23 as well as stopped at the area where the school  
24 bus stop is. So based upon the observation of the  
25 site, and the circumstances that we know that are

1 similar to either SMUD or other projects, thought  
2 this was the appropriate thing to do. So, thank  
3 you to the staff.

4 Is there anything else?

5 MR. THOMPSON: Nothing from applicant.

6 HEARING OFFICER SHEAN: From the staff?

7 MR. BABULA: We would like to have  
8 Shahab testify on noise and vibration because  
9 there was some confusion during the preliminary  
10 hearing regarding distances. And this will help  
11 clarify that.

12 HEARING OFFICER SHEAN: Okay. I thought  
13 we'd gotten to 3000 feet being fine. Is that  
14 right?

15 MR. BABULA: Steve Baker will also be on  
16 this panel.

17 Whereupon,

18 SHAHAB KHOSHMAHRAB  
19 was called as a witness herein, and after first  
20 having been duly sworn, was examined and testified  
21 as follows:

22 THE REPORTER: Please state and spell  
23 your full name for the record.

24 MR. KHOSHMAHRAB: Shahab Khoshmashrab,  
25 S-h-a-h-a-b, last name is K-h-o-s-h-m-a-s-h-r-a-b.

1 Whereupon,

2 STEVE BAKER

3 was recalled as a witness herein, and having been  
4 previously duly sworn, was examined and testified  
5 further as follows:

6 MR. BABULA: Thank you.

7 DIRECT EXAMINATION

8 BY MR. BABULA:

9 Q Did you prepare the noise and vibration  
10 section of the FSA which included your  
11 declaration?

12 MR. KHOSHMAHRAB: Yes.

13 MR. BABULA: Okay. Did you prepare a  
14 supplemental noise and vibration testimony filed  
15 on November 9, and is this testimony true and  
16 correct to the best of your knowledge?

17 MR. KHOSHMAHRAB: Yes.

18 MR. BABULA: Do you have any changes to  
19 make?

20 MR. KHOSHMAHRAB: No.

21 MR. BABULA: Can you explain the  
22 dialogue which occurred during the preliminary  
23 hearing between you and the Hearing Officer which  
24 led to changes in staff's condition of  
25 certification?



1 MR. KHOSHMAHRAB: The Hearing Officer  
2 asked Mr. Baker and me if the project would be in  
3 compliance with the applicable LORS at monitoring  
4 location ML-3, which is 1300 feet away from the  
5 project site then, shouldn't also a plot comply  
6 with the limit if the tenants in ML-1 were to be  
7 relocated to about the same distance.

8 And our initial response was that yes,  
9 it would make sense. But after leaving the  
10 hearing I made some calculations using basically  
11 mathematical extrapolation, and using the 55 dba  
12 limit or predicted noise level from the project  
13 given in the AFC, to make sure of this.

14 And my calculations showed that actually  
15 to comply with the 45 db limit, decibel limit, we  
16 would need a minimum of 2640 feet, actually a half  
17 a mile, which is 2640.

18 And therefore in order to also make --  
19 now, this limit that we're talking about here was  
20 originally one mile, and it refers to the  
21 monitoring location or the measurement that would  
22 be required by Noise-5 to be made at the new  
23 location. If the project were moved out to one  
24 mile, and the original Noise-5, to one mile within  
25 the project, then we would have required the noise

1 monitoring.

2 But now we agreed in the hearing to go  
3 to 1300 or 1520, which is a quarter of a mile.

4 Now, this number I recommended to be  
5 changed to 3000 because it would be taking into  
6 account the 2640 plus just a few hundred feet away  
7 just to make sure that we're taking into account  
8 other factors such as weather conditions, for  
9 example; or any possibility of absence of any  
10 intervening objects. Or to also account for the  
11 possibility that the new location might not have  
12 the same ambient noise level as another one, as  
13 it's located.

14 MR. BABULA: Those are all my questions,  
15 thank you.

16 HEARING OFFICER SHEAN: Okay. No, I  
17 understand it. I think this -- I mean, we're  
18 doing the right thing; we've got the right result.  
19 And thank you --

20 MR. KHOSHMAHRAB: We're just being more  
21 conservative just to make sure that --

22 HEARING OFFICER SHEAN: Right. It's a  
23 little less than what it was before, and I think  
24 it makes sense. So, thank you.

25 MR. BABULA: Thank you.

1 HEARING OFFICER SHEAN: Anything further  
2 from the staff?

3 (Pause.)

4 MR. BABULA: We just have one more,  
5 Keith Golden, for air quality.  
6 Whereupon,

7 KEITH GOLDEN  
8 was called as a witness herein, and after first  
9 having been duly sworn, was examined and testified  
10 as follows:

11 THE REPORTER: Please state your name  
12 for the record.

13 MR. GOLDEN: My name is Keith Golden,  
14 G-o-l-d-e-n.

15 DIRECT EXAMINATION

16 BY MR. BABULA:

17 Q Okay.

18 A I wanted to clarify about the  
19 supplemental testimony of Will Walters dated  
20 November 9, 2007.

21 After that testimony was filed I talked  
22 with the Air District, and apparently there was  
23 some kind of a misunderstanding between Mr.  
24 Walters and the Air District.

25 The bottomline is we want to remove the

1 change in AQ-3, and we're going back to the  
2 original language that was filed in the final  
3 staff assessment of Mr. Walters for AQ-3.

4 HEARING OFFICER SHEAN: All right.

5 MR. GOLDEN: Does the applicant have  
6 that? I have it here if you want to know what  
7 that was.

8 MR. THOMPSON: We have, in your  
9 testimony now that's what's being recommended?

10 MR. GOLDEN: No. No. We're having the  
11 AQ-3 that we're recommending it in November 9,  
12 2007, that one with it redacted, is that the term?  
13 Removed?

14 And we're going to go back to the  
15 original FSA language of that condition AQ-3.

16 MR. THOMPSON: It's longer.

17 MR. GOLDEN: It's longer, but that was  
18 the original intent of the Air District, and  
19 that's the language which they're going to have in  
20 their subsequent permits.

21 (Pause.)

22 HEARING OFFICER SHEAN: While they're  
23 reading this let me just make sure I'm  
24 understanding. I'm showing the pages came with  
25 your testimony, and the AQ-3, and if that's longer

1 in somebody's mind, it's only two lines and a  
2 little bit. Is that what you're --

3 MR. GOLDEN: That was the change, the  
4 original AQ-3, out of the determination of  
5 compliance that's in our FSA has additional  
6 verbiage that apparently the Air District's intent  
7 was to leave that wording in place.

8 And I can't understand -- I don't know  
9 exactly what happened between Mr. Walters and the  
10 technical staff down in San Joaquin, but  
11 apparently there's some misunderstanding about  
12 removing that verbiage. That's not correct. The  
13 wording should stay in place that came in the FSA.

14 HEARING OFFICER SHEAN: So that what  
15 we're seeing here in this November 9th testimony  
16 is not the way it's to be?

17 MR. GOLDEN: That is correct. So in  
18 other words, just remove AQ-3 from the  
19 supplemental testimony of November 9th. We're  
20 just going with the original testimony filed in  
21 the FSA.

22 HEARING OFFICER SHEAN: Okay.

23 MR. GOLDEN: Just for that one  
24 condition. AQ-SC-6, however, remains in place,  
25 what we're recommending.

1 MR. THOMPSON: We're fine with that.

2 HEARING OFFICER SHEAN: Okay. We now  
3 understand, too. Thank you.

4 MR. GOLDEN: Sorry for the inconvenience  
5 on that one, but stuff happens.

6 HEARING OFFICER SHEAN: I haven't  
7 changed it yet, so it won't be inconvenient.

8 MR. GOLDEN: Okay.

9 HEARING OFFICER SHEAN: Anything further  
10 from the parties? All right, --

11 MR. BABULA: That's all of ours.

12 MR. THOMPSON: Before you close the  
13 record we were all talking today and we would like  
14 to thank the staff. One glance at the website  
15 shows the huge number of cases that are going  
16 through this Commission. And Mr. McFarlin has  
17 been terrific in kind of assisting us and alerting  
18 us where we had problems, and trying to get  
19 through this.

20 And I know staff counsel had to replace  
21 someone mid-stream, and he's been very easy to  
22 deal with. And we just wanted to pass along our  
23 thanks to the staff on this.

24 HEARING OFFICER SHEAN: All right. But  
25 before we do close the record, I think for the

1 convenience of the Committee, as well as  
2 potentially for the convenience of the full  
3 Commission, when they're going to hear this  
4 matter, there are a couple of things I think the  
5 Committee would like to propose to take official  
6 notice of.

7 First would be the -- because we've  
8 already taken notice of resolution 7558. The next  
9 would be the California Water Plan Outlook in  
10 1974, November of 1974. The document is  
11 Department of Water Resources Bulletin Number  
12 16074. It's available in the Commission library.  
13 It was a predecessor document to the resolution,  
14 and I think even mentioned in there.

15 And also the 1977 Biennial Report of the  
16 State Energy Commission, Volume 5, giving the  
17 status of alternative energy technologies. And  
18 Volume 7 entitled Power Plant Siting.

19 And just in case somebody needs to use  
20 it, I'd like to also have the Committee take  
21 notice, for the limited purpose of identifying  
22 with the applicants in each of these cases, has  
23 identified is proposed water use, the Sun Desert  
24 notice of intention, the SDG&E Sun Desert notice  
25 of intention; the PG&E Stanislaus NOI, notice of

1 intention; the PG&E Fossil 1 and 2 notice of  
2 intention; And Southern California Edison CalCoal  
3 notice of intention.

4 That may be more than we want to work  
5 with, but we have it all.

6 MR. THOMPSON: A lot of paper there.

7 HEARING OFFICER SHEAN: Well, that's why  
8 I said the limited purpose. So we're only going  
9 to get down to a sentence or two in each one of  
10 those.

11 All right, is there anything further?

12 ASSOCIATE MEMBER GEESMAN: If we get a  
13 letter from Westlands, would it be your intent to  
14 open the record to allow that?

15 HEARING OFFICER SHEAN: Yes. And I  
16 think we can do that at a Committee hearing on the  
17 Presiding Member's Proposed Decision.

18 So, if you get something from them  
19 obviously you're going to docket it. It'll be  
20 circulated among the parties. And we'll see what  
21 it has to say.

22 And at that point, if the applicant  
23 feels, or actually either side feels there's  
24 something that they want to do with that, we'll  
25 entertain that at the time. But you need to let



1 us know. So if there's a factual matter you want  
2 to contest, we can throw a little evidentiary  
3 proceeding into the back of our PMPD comment  
4 hearing.

5 MR. THOMPSON: We will do that.

6 MR. FREEMAN: Mr. Chairman.

7 HEARING OFFICER SHEAN: Yes, go ahead.

8 MR. FREEMAN: Yes. This is Russ Freeman  
9 with Westlands Water District. I've been  
10 listening. I wasn't sure when I should speak,  
11 but --

12 HEARING OFFICER SHEAN: This is a good  
13 time,

14 MR. FREEMAN: -- on that last comment.  
15 I've been directed by the General Manager here at  
16 the District to send a letter to the Commission  
17 basically stating that the District opposes the  
18 proposed use of that backflush water.

19 HEARING OFFICER SHEAN: All right.

20 MR. FREEMAN: That should be there by  
21 next week, early next week.

22 HEARING OFFICER SHEAN: All right.  
23 That'll be fine. We'll take a look at it when we  
24 get it.

25 MR. FREEMAN: Thank you.

1 HEARING OFFICER SHEAN: We appreciate  
2 your calling in and speaking up.

3 Are there any other people who are on  
4 the phone?

5 All right, we appreciate that very much.  
6 Thank you.

7 Our hearing is adjourned.

8 (Whereupon, at 2:55 p.m., the  
9 evidentiary hearing was adjourned.)

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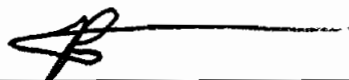
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## CERTIFICATE OF REPORTER

I, PETER PETTY, 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 27th day of November, 2007.



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PETER PETTY