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REPORTER'S TRANSCRIPT OF PROCEEDINGS
VOL. I
(PAGES 1 - 248)

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By: Gary W. Hill, RPR
Certified Reporter
Certificate No. 50812

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1 BE IT REMEMBERED that the above-entitled and
2 numbered matter came on to be heard before the Arizona
3 Power Plant and Transmission Line Siting Committee, at the
4 Hampton Inn and Suites, 2000 North Litchfield Road,
5 Goodyear, Arizona, commencing at 9:30 a.m. on the 26th day
6 of January, 2010.

7

8 BEFORE: JOHN FOREMAN, Chairman

9 DAVID L. EBERHART, Arizona Corporation
Commission

10 PAUL W. RASMUSSEN, Department of Environmental
Quality

11 JESSICA YOULE, Department of Commerce

12 GREGG HOUTZ, Arizona Department of Water
Resources

13 PATRICIA NOLAND, Appointed Member

14 JEFF McGUIRE, Appointed Member

15 MIKE WHALEN, Appointed Member

16 WILLIAM MUNDELL, Appointed Member

17 MIKE PALMER, Appointed Member

18 BARRY WONG, Appointed Member

19

20 APPEARANCES:

21 For the Applicant:

22 MOYES SELLERS & SIMS

23 By: Mr. Jay I. Moyes

24 and Mr. Steve Wene

25 Viad Corporate Center

1850 N. Central Avenue, Suite 1100

Phoenix, Arizona 85004

26

27 GARY W. HILL, R.P.R.

28 Certified Reporter

29 Certificate No. 50812

30

1 CHMN. FOREMAN: Let's see if we can get started.
2 My name is John Foreman, and I'm the Chairman of the
3 Arizona Power Plant and Transmission Line Siting
4 Committee. This is a meeting of that Committee to
5 consider the application of Arlington Valley Solar Energy
6 and Arlington Valley Solar Energy II, related companies,
7 who have applied to build similar but not identical solar
8 generators and similar but not identical generation tie-in
9 lines at a location not far from here in Maricopa County.
10 These two applications, Cause Numbers 153 and 154, have
11 been consolidated for hearing.

12 And as those of you who can hear can tell, I'm
13 going to be speaking very softly today, and I'm doing that
14 so that I hope I'll still be speaking at the end of the
15 day.

16 I would like to start by having the Applicant
17 identify himself for the record, counsel for the Applicant
18 identify himself for the record and identify those who
19 will be with him today from the Applicant.

20 MR. MOYES: Thank you, Mr. Chairman. Good
21 morning. My name is Jay Moyes of the law firm of Moyes
22 Sellers & Sims, representing the applicants, Arlington
23 Valley Solar Energy, LLC, and Arlington Valley Solar
24 Energy II, LLC.

25 With me today on my right is Mr. Steve Wene,

1 also an attorney with Moyes Sellers & Sims.

2 At the table seated today is Mr. John King in
3 the red tie, and Mr. King is the senior representative of
4 these entities and their parent organization, LS Power,
5 with us today and will be one of our witnesses.

6 On his left is the noble Stan Barnes who is well
7 acquainted to you and with you.

8 On his right, Mr. Randy Schroeder of ENValue
9 Environmental Consulting, and I think Mr. Schroeder is
10 also a familiar participant in these proceedings and
11 someone that you are well acquainted with.

12 Against the wall, we have Mr. Joe Otahal. Joe,
13 would you stand? Mr. Otahal also with LS Power will be
14 one of our witnesses later.

15 Mr. Mike Tietze, Mike would you stand?
16 Mr. Tietze is with Worley Parsons and will be with us
17 later in the proceeding with respect to water issues.

18 And then finally Kenda Pollio, and again, you
19 are all familiar with Kenda. Kenda, with kp
20 environmental, is one of our witnesses and one of the
21 consultants working with these projects.

22 CHMN. FOREMAN: All right. We have, because
23 this is a public meeting, an opportunity for public
24 comment. We have another opportunity this evening at 6:00
25 p.m.

1 We have some people who are here today who have
2 filled out public comment requests. I'm going to allow
3 brief public comment from those who filled out requests
4 after the opening statement of the Applicant so that we
5 have on the record a brief description of what the project
6 is about before we have a record made of your comments
7 about the application. So bear with us for a few moments.

8 Mr. Moyes, if you would, please, outline the
9 applications for us and why they should be granted.

10 MR. MOYES: Thank you, Mr. Chairman. If I
11 might, and I apologize for this diversion for just a
12 moment, but I do have a question that has arisen by virtue
13 of some questions in another proceeding, and that is to
14 ask you if you have any strong preference with respect to
15 whether we follow the practice we have in our previous
16 cases of keeping an audio recording through the sound
17 system of this proceeding. We are prepared to go either
18 way on that.

19 CHMN. FOREMAN: Well, in view of recent legal
20 research that I've done, I'm proud to announce that I have
21 no objection to you recording the proceedings, so long as
22 notice is given, as you have, and access to the product of
23 the recording, with the understanding that the access to
24 the product of the recording would be made available, if
25 necessary, later in the proceeding.

1 MR. MOYES: Certainly, and as has been our
2 practice, we have followed a rule which requires either
3 the transcript or a recording be delivered to the
4 Executive Director's office of the Utilities Division. We
5 would expect to deliver the tapes to that office within
6 three days of the close of our hearings today.

7 CHMN. FOREMAN: That would be great. Thank you
8 for that.

9 MR. MOYES: Thank you.

10 MEMBER HOUTZ: Mr. Chairman.

11 CHMN. FOREMAN: Member Houtz.

12 MEMBER HOUTZ: Just to clarify, in the last
13 proceeding, since I'm probably the cause of that, we had
14 people in the audience that had a history of secretly
15 recording meetings, and therefore, notice was given that
16 they needed to announce it. I think there was some
17 confusion about to what extent their notice had to be, but
18 I still believe if anybody is recording, we do need to
19 know about it. Not necessarily that there are
20 requirements but we need to know about any recording.
21 Thank you, Mr. Chairman.

22 MR. MOYES: I appreciate and agree with that
23 position, and that's why I raised it when I did. Thank
24 you.

25 CHMN. FOREMAN: Please proceed.

1 MR. MOYES: It is my pleasure, Members of the
2 Committee, Mr. Chairman, to appear before you again, and I
3 do appreciate these opportunities. I look forward to our
4 time together today on behalf of LS Power and its wholly
5 owned affiliates. We'll refer to them by shorthand as
6 AVSE and AVSE II, who are the applicants in these cases,
7 and we appreciate your being here today and your service
8 on this Committee.

9 In your review, I'm sure you've noted that our
10 two applications are nearly identical, and that the two
11 projects are very proximately located, and in fact they
12 are environmentally identical in our view. Therefore, our
13 testimony today will apply equally to both projects unless
14 we specifically note otherwise.

15 The filed applications you've reviewed do
16 contain all of the details, and our testimony this morning
17 will briefly cover the highlights, and then we'll try to
18 answer your questions with respect to details.

19 We have three short panels of witnesses. The
20 first panel will address policy issues, the strength and
21 experience of the Applicant's corporate family, and the
22 market and need for the projects.

23 Panel 2 will address the design philosophy and
24 physical attributes of the projects, including a virtual
25 tour of the sites and will explain the projects's basic

1 components.

2 Panel 3 will address our public outreach program
3 and the consistently supportive public responses to the
4 proposed project. Panel 3 will conclude with a discussion
5 of the factors demonstrating environmental compatibility
6 as set out in the statutes and including water. The
7 Panel 3 testimony you will find has been prefiled so the
8 witnesses in that panel will simply briefly summarize
9 their conclusions and then address questions.

10 I'm sure you've also noted that each project's
11 application contemplates two technology options.

12 I think I've picked something up from you
13 already, Mr. Chairman.

14 Those two options are either concentrating
15 solar, or CSP as you've come to know, over which you do
16 have express jurisdiction, or in the alternative,
17 photovoltaic or PV.

18 Additionally, within the CSP option we are
19 seeking approval of two optional sub-technologies, if you
20 will, for firming the CSP generation capacity when the sun
21 is hidden behind storms -- we've recently been reminded
22 that does happen -- and after sundown when high electric
23 demand continues.

24 One firming option requires extra land, extra
25 mirrors, large tanks to capture and store heat in molten

1 thermal salt for later recovery to produce the steam. The
2 other option produces steam using a simple natural gas-
3 fired auxiliary boiler to provide the firming capacity
4 when required.

5 You have now heard and approved four solar
6 projects that propose to use the same basic parabolic
7 trough CSP equipment as is contemplated for AVSE and
8 AVSE II, including the thermal salt storage component,
9 storage and recovery.

10 You've also learned a lot about PV technology in
11 these previous cases as an acknowledged possible
12 alternative for several of those projects.

13 Therefore, we felt it prudent to not bore you
14 today with repetition of all of that detailed technology
15 information, although it is found in our applications. We
16 will try to answer questions about those technology
17 details if you still have any.

18 We will focus a bit more, however, on the
19 natural gas co-firing firming option because it has not
20 been presented to you in prior cases, at least to my
21 understanding.

22 These two projects will both interconnect to the
23 Hassayampa switchyard, and a minor complexity again of our
24 cases, if you will, is the fact that we are seeking and
25 need approval of two gen-tie transmission corridors, one

1 for each project.

2 As they've been designed, each one of the
3 corridors constitutes the preferred route for one project,
4 but it also serves as a backup alternative route for the
5 other project, in case negotiating easements on one or the
6 other routes should prove unreasonable.

7 We'll try to avoid confusion because of these
8 options when dealing with the various project alternatives
9 by using multi-colored maps, laser pointers, et cetera,
10 but please interrupt us if you aren't clear on exactly
11 what component of the projects a witness is addressing at
12 any point in time.

13 You will hear testimony explaining why we have
14 two separate projects, even though they are in close
15 proximity, AVSE and AVSE II, with separate certificates,
16 and why we need flexibility within each project to select
17 alternative technology options in gen-tie corridors.

18 The answer to those questions involves our
19 primary objective as a project and a fundamental theme
20 that we hope will be in the minds of all of you as we work
21 together day. And by the way, I think we can
22 realistically complete all of our work together today on
23 these cases, and we're pledging our efforts to try to meet
24 that goal.

25 I like to characterize our fundamental theme by

1 a turn of the phrase immortalized by the classic movie
2 Field of Dreams. During the phenomenon of speculative
3 merchant generation in Arizona in the late '90s and early
4 2000s, Wall Street bankers must have changed this phrase
5 religiously each morning. "If you build it, they will
6 come. If you build it, they will come."

7 Oh, how things have changed in a few short
8 years. Back then, because the banks were eager to finance
9 it, we built it, hoping and expecting that they, the ball
10 players, if you will, the load serving customer utilities,
11 would come. In some cases, the players did come out of
12 the cornfield to play. But in several fields of dreams,
13 either the players just built their own diamonds or there
14 simply weren't enough players to make a team. So the
15 games didn't start soon enough, if at all, and big banks
16 were left holding some expensive, seldom-used diamonds.

17 Today the mantra of the financiers is reversed.
18 If they come, you will build it, but only after they come.

19 Arizona leaders envision a statewide solar field
20 of dreams for many good reasons. Arizona wants and needs
21 to become the biggest solar ballpark in the country, if
22 not the world, and well it should. The new tax base alone
23 from these highly capital intensive projects will be
24 staggering, but we need the building to begin, not just
25 the planning and the permitting.

1 Before any construction can start, there must be
2 financing. And before financing will come, unlike in the
3 merchant plant era, the players must come out of the
4 cornfield to play first. And not just walk-ons looking
5 for an occasional pickup game, but real Major League
6 players who are signed to long-term contracts and who have
7 the draw for season tickets, so to speak, and the tickets
8 must be affordable.

9 Those long-term player contracts are the
10 purchase power agreements or PPAs for these solar
11 projects. No large-scale solar project is going to be
12 constructed in Arizona without advance financing, nor will
13 it be financed without a long-term PPA from a strong,
14 creditworthy customer.

15 So what is the thematic connection to this
16 proceeding? PPAs come from large load serving utilities.
17 In Arizona, as elsewhere, each utility is unique in its
18 resource needs, portfolio configuration and procurement
19 philosophy. And even in the realm of mandated renewables,
20 utilities still must select the most cost effective
21 renewable projects.

22 In order to succeed, a solar project competing
23 for a PPA in Arizona must have both the design flexibility
24 to tailor itself to different utilities' needs and
25 preferences and the optimal economic competitiveness.

1 Otherwise, it will never be financed, therefore, will
2 never be constructed.

3 The AVSE and AVSE II projects have the
4 attributes to make them ideally economically competitive
5 for Arizona utilities as well as others in the Southwest.
6 These projects have been intentionally and thoughtfully
7 planned and designed to be so. They offer both
8 flexibility and cost effectiveness, and they have the
9 physical attributes that make them clearly environmentally
10 compatible.

11 They are not located out in pristine desert
12 where there are uninterrupted vistas. They are instead
13 prudently sited in an area where there already exists many
14 large generation and high voltage transmission facilities
15 in heavy concentration, and those facilities have been
16 accepted by the public. I think there are no fewer than a
17 dozen lines literally emanating from the Hassayampa
18 switchyard, which is very nearby to these sites.

19 These locations, because of that, provide close
20 access to the major transmission hub that serves multiple
21 large utilities. The projects utilize mostly retired
22 farmlands, previously tilled and irrigated, without
23 disturbing significant natural habitat. They have
24 received to date, at least, unequivocal and enthusiastic
25 public support, and we expect that to continue.

1 These are mature projects. They are backed by a
2 strong major energy company with the experience and the
3 wherewithal to make them realities, and they are
4 progressing very successfully in their other development
5 and permitting activities, including with Maricopa County,
6 and we will speak to that further in our testimony.

7 In conclusion, AVSE and AVSE II deserve your
8 full support and approval, and the opportunity to
9 economically compete for and win PPAs. If those come,
10 these projects will secure financing, will sign and
11 perform cost effective EPC contracts for their
12 construction and will become operating realities,
13 harvesting the Arizona sun to produce economic activity
14 and clean electricity.

15 If they come, we will build it. Thank you.

16 CHMN. FOREMAN: Thank you, Mr. Moyes. I was
17 listening during your opening to a couple of points that I
18 would like your witnesses to address when they have the
19 opportunity that follow along with what you've referred
20 to.

21 On page 3 of your proposed CECs, you refer to
22 the proposed solar thermal technology or natural gas
23 co-firing technology, and you referred to that in your
24 opening. In our last hearing, we had testimony that a gas
25 co-firing boiler would be used to supplement, not just

1 complement, the generation of the solar collections, the
2 solar collectors.

3 On days where there was an especially high need
4 for load, prices for electricity were high, there was a
5 request to have the natural gas boilers be able to be used
6 so that supplemental power could be produced up to, I
7 believe the testimony was, two percent.

8 What I would like to know is, I saw no reference
9 to that in what you wrote, and no reference was made to it
10 in what you said. And so I am assuming that when you say
11 co-firing, you're meaning that it would just be used to
12 produce electricity that would otherwise have been there
13 had it not been for clouds or some sort of impediment like
14 a need to replace a mirror or wash something.

15 So if my understanding of what you have written
16 is incorrect and you do plan to use it to add increased
17 power, even though everything is going at peak efficiency
18 with the solar collector system, then I would like for you
19 to tell us that, and describe under what circumstances
20 that decision would be made.

21 Related to that, on page 10 of your proposed
22 CECs, both of them, there is a reference on Finding of
23 Fact Number 3 to the opportunity cost in greenhouse gas
24 emissions of over, I think it's supposed to be a hundred
25 thousand tons. It's a hundred thoughts tons. But we're

1 hoping that it's more than thinking that's involved here.

2 MR. MOYES: Those typos sneak through no matter
3 how carefully one looks.

4 CHMN. FOREMAN: What I would like to know is the
5 assumption with regard to use of the gas backup that
6 supports that conclusion. So those are the two areas that
7 I had concerns about that I wanted you to address.

8 If there are not other thoughts now from
9 Committee members about particular points that we would
10 like the testimony to address, I thought we would go in
11 and have public comment from those who have filled out
12 slips so far.

13 I'll take these in the order in which I received
14 them. Is there a Chad turner here?

15 MR. TURNER: Yes, sir.

16 CHMN. FOREMAN: Mr. Turner, if you would come
17 forward, please, and just tell us your name, spell your
18 last name for the court reporter, and then if you could
19 just take a minute or two to tell us what your position is
20 with regard to the project.

21 MR. TURNER: Okay. My name is Chad Turner,
22 T-U-R-N-E-R. I represent Arlington Elementary School. I
23 am the superintendent of that district. LS Power has a
24 power plant in our district. This project will be in our
25 school district.

1 We support this project for two different
2 reasons. One is the tax base that it will bring to our
3 residents. In this economy, it's pretty tough to educate
4 the children on what we have. So any kind of tax help
5 that we get is much needed and much appreciated.

6 The second reason that we support this project
7 is our relationship with LS Power. Our relationship in
8 the past with LS Power has been very, very close. They
9 support our school system in many ways. They are there to
10 help in any capacity that we ask.

11 Arlington School District trusts LS Power, and
12 we think highly of them, and we support this project.

13 Thank you.

14 CHMN. FOREMAN: Thank you. Shirley Caudillo.
15 Ma'am, I believe you've spoken to us before. Again, if
16 you could tell us your name and spell your last name for
17 the court reporter, please.

18 A. Shirley Caudillo, C-A-U-D-I-L-L-O. I'm the
19 publisher of the Tonopah Tribune, the newspaper in
20 Tonopah, and myself and my co-workers and my business
21 partners wholeheartedly, enthusiastically support this
22 project, for obvious reasons.

23 For the business, from the business aspect, we
24 feel that it will enhance our businesses and the business
25 community, and I think I will echo a statement that I

1 heard a few minutes ago. There is just no reason why
2 Arizona can't be known for the great solar energy and the
3 projects that will be in our state. And that's all I have
4 to say. We do totally support this and wish you well.

5 CHMN. FOREMAN: Thank you, ma'am. James
6 Hanshew.

7 A. Hanshew. I live in the Tonopah area. We've
8 been there for about ten years now. I come from or am in
9 the high tech industry. I build or have built computer
10 chip manufacturing plants for Intel, Motorola, ST. I've
11 seen good projects, and I've seen very bad projects.

12 This project from the outset looks like it could
13 be a very good project. The Tonopah Valley has the
14 infrastructure already in place or on the books to support
15 the major transcription needs of a project of this size
16 and scope. We have the railroad spurs. We have the
17 freeway. And we already have the pre-proposed arteries
18 that will feed this type of operation.

19 We have the ability to put in place free trade
20 zones. We want clean energy technology in our valley for
21 the simple purpose that we need to balance the scope of
22 nonclean versus clean and transition to clean energy.

23 LS Power has made a statement to me right up
24 front which caught my attention. We want to use local
25 contractors and local people wherever possible. This is a

1 little different than most people. Most people are
2 typically project, profit oriented and we really
3 appreciate that.

4 In 2011, PV sales worldwide will surpass ten
5 billion dollars and capacity will increase to greater than
6 25 gigawatts. Solar market will double in 2011. Tonopah
7 wants its share of this growth. We have the
8 infrastructure, as I've stated. I think we have a company
9 here that is willing to work with the local people and
10 build a showcase facility that will meet the requirements
11 of the investment community that says, "Build it, and we
12 will come."

13 I would like to see this facility be a showcase,
14 one that we can be proud of, not only in Tonopah, but in
15 the entire State of Arizona and the United States. Thank
16 you.

17 CHMN. FOREMAN: Thank you, sir. Janet Gonzalez.

18 MS. GONZALES: Hello. I am Janet Gonzales. My
19 husband Robert and I manage the Saddle Mountain RV Park
20 located there in Tonopah.

21 CHMN. FOREMAN: Ma'am, for the record, could you
22 spell your last name for the court reporter?

23 MS. GONZALES: J-A-N-E-T, G-O-N-Z-A-L-E-S.

24 CHMN. FOREMAN: Thank you.

25 MS. GONZALES: We're definitely in support of

1 this project. We're really looking forward to it. The
2 Saddle Mountain RV Park was originally the housing for the
3 Palo Verde Nuclear Plant workers, and we've still got the
4 structures. I'm told that at one point we housed over
5 five hundred men there. And the structures are there.
6 They've fallen into disrepair, and we're at the point now
7 of returning them to a useful level, and so we're very
8 much, the same as the speaker here, that if you come, we
9 will build it. So the housing will be available for the
10 people there to construct the facility.

11 So we've already got 344 RV sites there. A lot
12 of the Palo Verde people live there in their RVs so we've
13 got this huge structure that's capable of housing another
14 five hundred people, so we, on a very personal level for
15 our business, we're really looking forward to this
16 construction.

17 But then on a larger scale, the community there
18 really is looking forward to the jobs and the business and
19 the commerce. We could really use it. I turn away a lot
20 of people there at my front desk that are looking for jobs
21 in that area. It's such a wonderful place to live.
22 There's a lot of family people, renters, and farmers that
23 love being out there in the open desert, and just need a
24 way to support that kind of life-style while they're out
25 there. So the community is really looking forward to the

1 project.

2 And then on a larger scale, we're kind of a
3 microcosm there at the RV park of our country in general.
4 Robert and I are originally from Portland, Oregon. And we
5 don't have too many opportunities for solar power in
6 Portland, Oregon; but it's a very green state, and our
7 mantra there is reduce, reuse, recycle. And we, in
8 Oregon, always looked for ways to be able to produce green
9 power. And so here we are in Arizona and loving it.
10 We've been here for the last ten years. And boy, if
11 Arizona doesn't do these large solar projects, who will?
12 And the rest of the country, I know by the anecdotal
13 comments and stuff that I get from my tourist visitors
14 there at the RV park, they're really looking to us,
15 they're really looking forward to us taking the lead here
16 in Arizona. I mean if we don't do it, if our sunshine
17 can't do it, who can? Where in the rest of the country?

18 So the rest of the country is watching us. The
19 rest of the world is watching us, and we hope that here in
20 Tonopah we really get a chance to play a little part in
21 that. So I think we're standing at a focal point in
22 history here, and we sure hope Tonopah gets a chance to be
23 a part of it. Thank you.

24 CHMN. FOREMAN: Thank you, ma'am. John Hewitt.

25 MR. HEWITT: Thank you, Mr. Speaker, Members of

1 the Panel. My name is John Hewitt. I'm with a company
2 called Custom Landscape Material. We are a quarry and
3 aggregate producer in the west end of Maricopa County.
4 Our site is there close by, and we have a tremendous
5 amount of experience in the past in dealing with flood
6 control products as well as general specified aggregate
7 products for road building and for construction in
8 general.

9 One of the biggest things that we have is
10 virtually all our employees are located in the west end of
11 the Valley, in the Arlington Valley area and Buckeye, and
12 so we like to keep our local people working. And the
13 other thing is from the high-end jobs I think that the PV
14 and the CSP kind of projects that come out of here, I
15 think for maintaining that it will be a very good job.
16 But I would like to see it go forward. We would like the
17 opportunity to be able to bid on some of the work and see
18 what we can do for that.

19 CHMN. FOREMAN: I assume, sir, you support the
20 project?

21 MR. HEWITT: Oh, yeah. I'm sorry, yeah, we
22 support it wholeheartedly, one hundred percent.

23 CHMN. FOREMAN: Thank you very much, sir.

24 MR. HEWITT: Thank you.

25 CHMN. FOREMAN: Jay Humphrey.

1 MR. HUMPHREY: Jay, Humphrey, H-U-M-P-H-R-E-Y.
2 I am a property owner in the area. I highly support the
3 project. I have a rock quarry out in the location. The
4 company that's running the rock quarry is Superstition
5 Crushing. It's been in business in Arizona only for 50
6 years. I believe that the project will do a lot in this
7 down economy. That area could be a thriving location for
8 people to have jobs. I'm looking forward to getting
9 involved with the local community and doing things that we
10 can do to make a difference out there. It's just a great
11 thing to do, and I'm glad to be a part of it.

12 CHMN. FOREMAN: Thank you, sir. Those are all
13 of the written requests to comment that I have.

14 Member Whalen.

15 MEMBER WHALEN: Thank you. Just in order of
16 full disclosure, I don't believe this is going to be a
17 problem, but the Saddle Mountain RV Park is a customer of
18 my business. It will not influence me in any way on my
19 decision; but I think in order for full disclosure, I
20 think I need to make the Committee aware of that.

21 CHMN. FOREMAN: Okay. Very good. Counsel, if
22 you would then, call your first witness, please.

23 MR. MOYES: Thank you, Mr. Chairman. If I
24 might, I would like to address just a couple of procedural
25 matters with respect to exhibit items.

1 CHMN. FOREMAN: Certainly.

2 MR. MOYES: But perhaps -- I guess we can do
3 that after we swear in the first panel. Our first witness
4 in Panel 1 is Mr. Stan Barnes, and he'll be followed by
5 Mr. John King. Perhaps it's most efficient just to have
6 them both sworn at this time.

7 CHMN. FOREMAN: Mr. Barnes, do you wish an oath
8 or affirmation?

9 MR. BARNES: An oath would be fine, Judge
10 Foreman.

11 (Stan Barnes was duly sworn by the Chairman.)

12 CHMN. FOREMAN: Tell us your name and spell your
13 last name for the record, please.

14 MR. BARNES: Thank you. My name is Stan Barnes.
15 The last name is spelled B-A-R-N-E-S.

16 CHMN. FOREMAN: Mr. King, do you wish an oath or
17 affirmation?

18 MR. KING: An oath.

19 (John King was duly sworn by the Chairman.)

20 CHMN. FOREMAN: Please give us your name and
21 spell your last name for the court reporter.

22 MR. KING: John King, K-I-N-G.

23 CHMN. FOREMAN: Counsel, you may proceed.

24 MR. MOYES: Thank you. Mr. Chairman, Members of
25 the Committee, our first witness to testify will be

1 Mr. Barnes, but I would first like to address the
2 admission of the applications or at least offer the
3 applications into evidence and have a couple of questions
4 for Mr. King specifically limited to that, if I may.

5 CHMN. FOREMAN: Proceed.

6 MR. MOYES: Mr. King, I previously handed you a
7 copy of the applications, one for each of these cases; and
8 I would draw your attention to the signature pages. I
9 think there's a yellow sticky tab there on each of them.
10 You can just look at one. They are the same. Is that
11 your signature attached as the authorized officer who made
12 this application?

13 MR. KING: Yes, it is.

14 MR. MOYES: And are you familiar with the
15 contents of these applications and were they prepared
16 under your direction and control?

17 MR. KING: Yes.

18 MR. MOYES: Are these copies of the applications
19 that were filed with the Arizona Corporation Commission
20 Docket Control on December 3, 2009, to commence these
21 cases?

22 MR. KING: Yes, they are.

23 MR. MOYES: Mr. Chairman, I would offer the
24 applications in these cases, 153 and 154, copies of which
25 I have previously furnished to the reporter to be marked

1 by the court reporter as Applicant's Exhibits AVS-1 and
2 AVS-2, and, if there are no objections, move for their
3 admission now or, if you prefer, later at your preference.

4 CHMN. FOREMAN: I don't hear any objections.
5 But good cause does appear, and so it will be ordered
6 admitting for the purposes of this proceeding Exhibits
7 AVS-1 and AVS-2.

8 (Exhibits AVS-1 and AVS-2 were admitted into
9 evidence.)

10 CHMN. FOREMAN: Counsel may proceed.

11 MR. MOYES: I believe each member of the
12 Committee should have a set of these two applications as
13 well.

14 In addition, we have delivered to each member of
15 the Committee a binder which we simply call the exhibits
16 binder. There's no label on the spine, but each of you
17 should have received one. If you don't have it, we do
18 have extras. The first two tabs are blank because they
19 refer to Exhibits 1 and 2, the applications.

20 Under the third tab is a revised Applicant's
21 Witness List. We presented one to you, Mr. Chairman, at
22 the prehearing conference on January 19. We have made a
23 minor revision to it, and under Tab 3 is the revised
24 Applicant's Witness List, and I would offer that as AVS-3,
25 because it better conforms to the structure of our actual

1 three panels today, and I would move for its admission if
2 there's no objection.

3 CHMN. FOREMAN: I hear no objection, but -- I
4 guess there is some evidentiary value. It will be ordered
5 admitting the revised Applicant's Witness List, that is
6 AVS-3.

7 (Exhibit AVS-3 was admitted into evidence.)

8 MR. MOYES: In that same vein, under Tabs 4 and
9 5 you will find hard copies of the visual slides that will
10 be used today. Under Tab 4 or the outline slides that the
11 witnesses will be using. Under Tab 5 are hard copies of
12 each of the other supplemental visual maps and other
13 information that may be used in the course of testimony
14 today.

15 Again, I would offer those to be marked as
16 Exhibits AVS-4 and AVS-5 respectively, and have furnished
17 copies to the reporter for that purpose. We would move
18 for their admission now, or if you would prefer, at the
19 conclusion of our testimony.

20 CHMN. FOREMAN: Let's defer admission of those
21 slides until after they're actually used in the
22 proceeding.

23 MR. MOYES: Okay.

24 CHMN. FOREMAN: We'll note their marking as
25 Exhibits AVS-4 and AVS-5.

1 MR. MOYES: Thank you, and with that we will
2 call Mr. Stan Barnes.

3

4

5 STAN BARNES,
6 called as a witness on behalf of the Applicant, having
7 been duly sworn by the Chairman to speak the truth and
8 nothing but the truth, was examined and testified as
9 follows:

9

10

DIRECT EXAMINATION

11

12 BY MR. MOYES:

13

Q. Mr. Barnes, good morning.

14

A. (MR. BARNES) Good morning, Jay.

15

16 Q. I think you're all familiar with Mr. Barnes'
17 background, but there's a slide, and maybe you can just
18 review quickly, Stan, your educational, professional,
19 political experience.

19

20 A. (MR. BARNES) Thank you, Jay, and good morning
21 Judge Foreman and Panel. It's my pleasure to be here. I
22 note that Commissioner Mundell and probably every one of
23 you are smiling inside as I talk to you about solar
24 energy. It's a fun thing to do. Arizona is a small
25 world, and Judge Foreman, I have great respect for and
26 have served with a great many of your Panel in one way or

1 another in public policy matters for years. It's a small
2 world in Arizona, and this is an exciting day to be here
3 talking about this subject.

4 I'm going to offer up a few words about the
5 public policy elements of what we're doing today, and
6 encourage the Panel as you proceed in your deliberations.

7 Stating the obvious, these are exciting times
8 for solar energy development in Arizona. Today's
9 newspaper has yet another story of a manufacturer of solar
10 equipment looking to locate in Arizona. There are dozens
11 of utility scale solar plants at various stages of
12 development with various technologies. The Governor
13 herself in the State of the State Address made quite a big
14 deal out of this phenomenon in Arizona.

15 Rooftop panels are proliferating. I heard on
16 the radio the other day you can actually have them with no
17 money down. And the renewable energy standard, thanks to
18 Commissioner Mundell and others, is solid. There is some
19 discussion of raising it, but it's certainly become a
20 fabric of the politic and the business environment of
21 Arizona.

22 There is a reality though that does not get
23 talked about a lot in this media or the medias like this,
24 but that is the exception to the fun. That is, we've
25 recently completed only one utility scale demonstration

1 facility in Arizona of a megawatt and a half. The ribbon
2 was cut on it just the other day in Peoria. But other
3 than that, there has not been a single utility scale
4 facility that's broken ground or even successfully
5 financed its entire project. And that must be cured if
6 we're going to achieve the things that we all want to
7 achieve.

8 My message to you today, in addition to some of
9 the specifics about the benefits of the two projects
10 you'll see, is that indeed utility scale facilities must
11 have flexibility in the marketplace, because the
12 marketplace is in its infant state, and solar energy
13 development, as exciting as it feels to us all, is, I'm
14 just going to be bold to project, on the very beginning of
15 its run and is still trying to find itself as the market
16 sorts out what technologies and what prices, under what
17 conditions and what customers this is all going to happen.

18 It's important that any project that you
19 consider and permit have the flexibility it needs to enter
20 into that infant marketplace and negotiate terms so that
21 there are successes, so there is ground broken, and there
22 are solar electrons generated and purchased by those who
23 care to purchase them.

24 I've heard for over a decade Commissioner
25 Mundell and others talk about balancing the need and the

1 impact, and I think, Commissioner Mundell, you would agree
2 that the need and impact equation on solar energy is
3 different and perhaps more fun, if you can allow me that
4 layman term. It's yes, about affordability and
5 reliability and, in this case, sustainability, as it
6 compares to its uses and the environmental impacts that
7 this Panel considers.

8 There are self-evident needs that are built into
9 our rules, regulations and even laws; state and federal
10 goals, the renewable energy standard I referenced earlier;
11 the policy debate about reducing our reliance on foreign
12 fuels, fossil fuels, energy security and independence,
13 customer demand, and even doing right by the people of
14 Arizona. In other words, the need is self-evident, and we
15 can't have enough of it because we're replacing things as
16 we go. And the impact in this case is relatively small,
17 and the risk/reward environmental equation is one that is
18 a joy to talk about, and the perspective is easy to keep
19 as this Panel goes forward.

20 Let me talk to you a minute about the project.
21 I've worked for over ten years on siting energy projects,
22 transmission lines and generation facilities in Arizona.
23 I've been involved in some tough decisions that your Panel
24 had to make. I can safely say that this project or these
25 two projects ought to be among the very easiest, most

1 enjoyable this Panel has ever considered. I know that
2 they are, in my professional world, the most unanimously
3 supported I've ever got to work on.

4 The two projects are located in what I call the
5 energy corridor of Arizona. The central hub of renewable
6 energy and transmission in the southwest United States,
7 certainly aligned with all the goals and objectives I
8 referenced earlier.

9 Water conservation and the consciousness of
10 water use is forefront in the project. I don't have to
11 tell this Panel, but I'll state the obvious, that that is
12 a very important issue and that these projects take the
13 water use seriously. Retired farmland, water recycling if
14 the CSP technology is used, water conservation effects are
15 great as you'll hear extended dialogue about as we go on
16 today.

17 The project separately has done something not a
18 lot of projects have done when they come before you, and
19 that is they've gone through the arduous special use
20 permitting process at the Maricopa County level. They're
21 not entirely through it yet, but are nearly through it,
22 and that's an extensive thing. And we have a lot to be
23 proud of in that regard. It puts us ahead toward the
24 reality of breaking ground and getting things done.

25 LS Power is a financially strong company. They

1 are spread out all over the United States. They've done
2 this in different jurisdictions. They've developed
3 generation, and you'll hear all about them from the people
4 that know them best.

5 And as I can attest, there has been nothing but
6 positive political and public support at the grass roots
7 level for this project.

8 So I want to leave you with this conclusion.
9 Only the strongest, most competitive solar generation
10 projects are actually going to come to fruition. We
11 believe the projects before you today, the two, are
12 strong. They are model projects, and they will come to
13 fruition. They will be financed. They will be built,
14 especially if this Panel is in the frame of mind to give
15 the kind of flexibility that this burgeoning industry
16 needs in order to get things moving.

17 We all know Arizona is the solar capital of the
18 country, and I think that's a policy goal under which
19 everyone unites; but the reality is we are competing
20 against California, Nevada, Utah, Colorado, New Mexico.
21 Those states are doing quite a bit because they don't have
22 the resource to the extent we do, and so they're trying to
23 change policy to attract generation.

24 I encourage this Panel to recommend CEC approval
25 for these two projects with the flexibility I've talked

1 about so that we can fulfill the vision that I know you
2 share in harnessing our sun and creating an economic force
3 that powers this state long after we've moved on.

4 Those conclude my remarks. Mr. Moyes. Thank
5 you.

6 MR. MOYES: Mr. Chairman.

7 CHMN. FOREMAN: Member Houtz.

8 MEMBER HOUTZ: I hate to do this out of order.
9 I don't have any questions for Mr. Barnes, but I have to
10 leave for a meeting at 11:00 and will return between 1:00
11 and 1:30. But I had some thoughts that I wanted to give
12 to the counsel about things that I do not see in the
13 prefiled testimony that I will be doing a line of
14 questioning on.

15 The first is a line of questioning to the extent
16 that the Applicant looked at other sources of cooling and
17 cooling water, I see no references in any of the prefiled
18 testimony. I may have missed it. And there's also not a
19 very good description in the testimony of the legal rights
20 to the water proposed for this use and the differences of
21 the Type 1 versus other rights.

22 So I will be pursuing several lines of
23 questioning along those that I do not see here to create a
24 record, and I hate to -- I'll stay while we take
25 attendance, and then I'll leave.

1 CHMN. FOREMAN: That's good. That's always
2 helpful to me when you're here we take attendance.

3 MR. HOUTZ: I tried that in school. They
4 wouldn't let me.

5 CHMN. FOREMAN: It would be helpful, Counsel, if
6 we could have whoever is going to address the water
7 priority issues address them when Member Houtz is here
8 because of his expertise. So if we could do that after
9 1:30 or after 100. I think we spoke about the possibility
10 of having lunch brought in so that we could take a shorter
11 than 90-minute break for lunch.

12 MR. MOYES: Yes, those arrangements have been
13 made and are in process.

14 CHMN. FOREMAN: So, hopefully, Member Houtz, you
15 be back by 1:00?

16 MEMBER HOUTZ: I'll be back by 1:00. I'll try.

17 MR. MOYES: I think that will work well with the
18 way we have sequenced and anticipated. We recognize the
19 water will be an issue of much interest to everyone, and
20 right now the water testimony is staged pretty much near
21 the end of our panels. So I think that will work out well
22 with Mr. Houtz's schedule.

23 CHMN. FOREMAN: Appreciate it. Member Mundell.

24 MEMBER MUNDELL: Whenever it's appropriate, I
25 just have a question for Mr. Barnes.

1 CHMN. FOREMAN: Let me take roll as someone has
2 pointed out my deficiency in that regard again.

3 Member Eberhart?

4 MEMBER EBERHART: Here.

5 CHMN. FOREMAN: Member Houtz.

6 MEMBER HOUTZ: Here.

7 CHMN. FOREMAN: Member McGuire.

8 MEMBER MCGUIRE: Here.

9 CHMN. FOREMAN: Member Mundell.

10 MEMBER MUNDELL: Here.

11 CHMN. FOREMAN: Member Noland.

12 MEMBER NOLAND: Here.

13 CHMN. FOREMAN: Member Palmer.

14 MEMBER PALMER: Here.

15 CHMN. FOREMAN: Member Rasmussen.

16 MEMBER RASMUSSEN: Here.

17 CHMN. FOREMAN: Member Whalen.

18 MEMBER WHALEN: Here.

19 CHMN. FOREMAN: Member Wong.

20 MEMBER WONG: Here.

21 CHMN. FOREMAN: Member Youle.

22 MEMBER YOULE: Here.

23 CHMN. FOREMAN: And I am here. So we're all
24 here.

25 All right. Very good. Member Mundell.

1 MEMBER MUNDELL: Thank you, Mr. Chairman.

2

3

EXAMINATION

4

5 BY MEMBER MUNDELL:

6 Q. Good morning, Mr. Barnes.

7 A. (MR. BARNES) Good morning.

8 Q. Just a couple questions. You indicated that
9 you've never seen so much political support for a project.
10 I know you keep abreast of what occurs politically in the
11 State of Arizona.

12 Do you have any comment on the recent criticism
13 of the siting or the proposed siting of solar facilities
14 in the state because of the use of groundwater usage?

15 A. (MR. BARNES) Judge Foreman, Commissioner
16 Mundell, yes, I have a comment. I think it's incredibly
17 interesting public policy wrestling match that we're all
18 in. We all know where we want to go, and how we get there
19 involves the two-pronged goal of renewable and in
20 exhaustible, inexhaustibly clean electrons and how we
21 produce them with the most precious water resource.

22 I don't have the answers, but I have an opinion
23 that most every bit of electric generation we know of
24 takes some degree of water, even if it's only washing down
25 the mirrors. And so it's something that this Panel and

1 future elected officials will always wrestle with, but I
2 believe the public is ready for the priorities to be set,
3 and it's unavoidable, and we can't wish there was such a
4 thing as a world where we did not need to use at some
5 level water in the production of our food, of our tangible
6 goods and, in this case, electrons.

7 Q. I appreciate that very, I guess, studious
8 answer. I did find it ironic, and in fact, when we voted
9 on the recent facility in Kingman, you know, I stated when
10 I explained my vote whether it was, you know, solar or
11 fossil fuel, natural gas, coal, some other way to generate
12 electricity, I did find it ironic that there's now been
13 criticism of solar for the use of water, but I don't
14 remember that from, you know, certain elements on the
15 political spectrum criticizing the use of water for fossil
16 fuels.

17 And so I agree that it's a balancing -- we have
18 to balance the use of a finite resource, water, when we
19 look at these projects. But I did find it somewhat ironic
20 that there's criticism now of solar facilities, and I
21 don't recall there being criticism, at least from that
22 segment of the political spectrum, on other fuel sources.

23 Would you agree with that, or do you maybe have
24 a different recollection than I do?

25 A. (MR. BARNES) No, Judge Foreman and Commissioner

1 Mundell, I do agree with that. I've been surprised at the
2 level of angst over water use in the solar generation
3 industry or using solar generation technologies. I don't
4 exactly know why that is, other than when we get on the
5 topic of what we all desire, then water and water
6 consumption and its conservation jumps up on the table as
7 well, and it seems unavoidable.

8 Ten years ago when I was sitting with you and
9 trying to permit combined cycle natural gas facilities,
10 water was an issue, but we did not get wrapped up in it
11 and give it a weight it did not deserve in the equation
12 because we all knew that reliable, affordable electricity
13 was a goal that we all supported. And we all acknowledged
14 that water is a factor in all things.

15 Fast forward to today, even this moment, every
16 time we talk about solar generation in Arizona, some in
17 the political spectrum, as you've described, jump up and
18 wave their arms about the water use. I personally think,
19 not speaking for LS Power, but I personally think that
20 angst is misguided and that those who want to short-
21 circuit solar technology in the name of water conservation
22 are not on the correct path of public policy.

23 MEMBER MUNDELL: Thank you. Thank you,
24 Mr. Barnes. Thank you, Mr. Chairman.

25 CHMN. FOREMAN: Member Eberhart?

1 MEMBER EBERHART: Thank you.

2

3

EXAMINATION

4

5 BY MR. EBERHART:

6 Q. Mr. Barnes, I know that you and your company
7 monitor what's going on down at 1700 West Washington.
8 There's a couple bills that I would like to ask you if
9 you're aware of or have been involved in. One is a bill
10 that would eliminate the renewable energy portfolio
11 standard that the Corporation Commission established a few
12 years ago and would cede power from the Corporation
13 Commission to the legislature. Are you aware of that bill
14 and any opinions on that issue?

15 A. (MR. BARNES) Judge Foreman and Member Eberhart,
16 yes, I am aware of the bill. I'm not actively involved in
17 it. I have my own opinions on it. I don't mind stating
18 in a public meeting that I have as recently as opening day
19 of the legislature was telling people when the topic came
20 up that it was a losing political exercise to try to wrest
21 power from the Corporation Commission and put it in the
22 hands of the Arizona legislature.

23 It is my own opinion that the structure we have
24 has served us well and that the legislature is in the
25 wrong direction of public policy by trying to move those

1 decisions down the street from 1200 West Washington to
2 1700. And while I've expressed that to members on a
3 personal level, it's not been on behalf of any client.
4 It's been on just my own opinion of where we are in the
5 regulatory structure of energy generation and line siting.

6 Q. Mr. Barnes, to that bill, in your opinion, what
7 would happen to the efforts to make Arizona the solar
8 capital of the United States if the renewable portfolio
9 standard went away?

10 A. (MR. BARNES) Judge Foreman and Member Eberhart,
11 if the renewable energy standard were somehow magically
12 dissolved, it would be a serious blow to Arizona's
13 reputation nationally, along the lines of renewable
14 energy. It would be bad in a PR set. It would be a bad
15 signal to the globe as to where the center of this
16 technology and its development is going to be.

17 As I said earlier, it's my opinion that we are
18 on the front end of a multi-decade expansion of energy
19 technologies using the sun. And we're in its infancy. I
20 don't think many people dispute that. And where it goes,
21 no one knows. No one can predict even what it's going to
22 take to secure a contract in the near term future because
23 of the fluidity of the marketplace.

24 But sending a political signal, which has
25 meaning worldwide that Arizona somehow wants to be out of

1 at least a portion of mandated solar generation would be a
2 bad public policy move, in my opinion.

3 Q. Mr. Barnes, one last question I have. There is
4 another bill sponsored by Senator Nelson in the Senate and
5 an identical bill in the House that would create
6 significant tax incentives, tax credits for locating
7 solar, I believe utility level solar plants in Arizona.
8 Are you involved in that bill, and do you have any
9 opinions regarding that bill?

10 A. (MR. BARNES) Judge Foreman and Commissioner
11 Eberhart, the short answer is yes and yes. I am involved
12 in it. I'm lucky enough to represent a number of entities
13 that would like to develop solar, utility scale solar
14 generating facilities in Arizona.

15 In order to make solar electrons price
16 competitive -- and as Mr. Moyes pointed out in his opening
17 remarks, it's still a factor in the realities of the
18 marketplace -- there has to be as much support in its
19 infancy of the industry as possible. Federal support has
20 been crucial, and Arizona level support is going to be as
21 crucial.

22 I am personally aware that it will be meaningful
23 to the utilities scale solar development in Arizona if the
24 tax treatment of those generation facilities is in line
25 with other states that we are competing with in the siting

1 of facilities. Presently, our tax structure in Arizona is
2 not in line as a competitive tax structure with some of
3 our neighboring states.

4 And as you can ask the LS Power executives or
5 people responding for the company today, they'll tell you
6 that the bottom line is figured all the way to the last
7 nickel in terms of how these projects are going to make
8 money. And after all, they do have to make money for us
9 to enjoy the value of them. So yes, I'm involved in those
10 bills. I hope they get passed, and I think they will this
11 year.

12 Q. I have one more last question. If those bills
13 or that bill does not pass the legislature this year or
14 similar bills that provide tax credits, do you see that
15 affecting this project as far as whether or not it's
16 viable?

17 A. (MR. BARNES) Judge Foreman and Member Eberhart,
18 I politely defer that to the company to answer. I
19 shouldn't speculate.

20 Q. Thank you.

21 CHMN. FOREMAN: Member Mundell.

22 (NEXT PAGE, PLEASE.)

23

24

25

1 FURTHER EXAMINATION

2

3 BY MEMBER MUNDELL:

4 Q. Mr. Eberhart made me think of it, Mr. Barnes.
5 Would your answers be substantially the same if I asked
6 you what impact the Goldwater lawsuit would have if it was
7 successful on attacking the renewable energy standard?

8 A. (MR. BARNES) Judge Forman and Member Mundell,
9 the same, only it's my own opinion, and my own only, that
10 it is a different matter, slightly different. In other
11 words, if an entity was successful in legally overturning
12 that standard, that's a different message to the world
13 that is paying attention to this industry. It's not that
14 Arizona changed its policy. It is that for some reason
15 the path we took to get there didn't follow our
16 constitution as set out by the Supreme Court of Arizona,
17 and that we have to do it another way. So it would be a
18 setback, but not the same kind of set back and not the
19 same level.

20 Q. But isn't the end result the same? There's
21 legislation pending to take away the authority of the
22 Corporation Commission to enact the renewable energy
23 standard, and as I understand the lawsuit, the premise is
24 basically the same, saying that the Commission did not
25 have the constitutional authority under Article 15 to

1 enact the renewable energy standard. So I honestly don't
2 see a distinction?

3 A. (MR. BARNES) Judge Foreman and Commissioner
4 Mundell, I appreciate your opinion. My distinction I'm
5 drawing is when the world looks at Arizona and judges what
6 we want in the way of energy development, our policy has
7 so far been loud and clear; and if it were upturned
8 legally, that would be a different message than if the
9 legislature or, for that matter, a future Corporation
10 Commission were to decide it wanted to roll back what had
11 been achieved in this arena.

12 MEMBER MUNDELL: Thank you, Mr. Chairman.

13 CHMN. FOREMAN: Counsel, you may proceed.

14 MR. MOYES: Thank you, Mr. Chairman. Our next
15 panel witness in Panel 1 is Mr. John King.

16

17

JOHN KING,

18 called as a witness on behalf of the Applicant, having
19 been duly sworn by the Chairman to speak the truth and
20 nothing but the truth, was examined and testified as
21 follows:

22

DIRECT EXAMINATION

23

24 BY MR. MOYES:

25

Q. Good morning, Mr. King.

1 A. (MR. KING) Good morning.

2 Q. Mr. King, would you review quickly -- there will
3 be an outline on the slide there -- your educational and
4 professional background, and particularly describe for us
5 your role with respect to these projects.

6 A. (MR. KING) Yes, I will. I have a degree in
7 finance. I've been in the energy industry for 16 years.
8 I'm currently the executive vice president Renewable
9 Energy Development at LS Power, responsible for our
10 Renewable Energy Development Program.

11 Prior to LS Power, I worked for twelve years at
12 Calpine Corporation and including roles where I was in
13 charge of development in the western United States.

14 Q. You've prepared some information for us with
15 respect to LS Power and the company and its other
16 activities. Would you just proceed to present that? I
17 will refrain from interrupting you with leading questions.

18 A. (MR. KING) Thank you, Jay.

19 Chairman Foreman and Committee members, thank
20 you for taking the time to hear our case and for inviting
21 me to speak here; and I would also like to thank the
22 community members who took out the time in their day to
23 speak to us this morning.

24 Although LS Power is a business owner in
25 Arizona, not all the Committee members may be familiar

1 with us, so I want to present an overview of our company.

2 LS Power's business is the development,
3 acquisition, and management of power generation and
4 transmission infrastructure. LS Power has a proven track
5 record of success, including completing 7,000 megawatts of
6 successful development projects. We've completed some of
7 the sector's most successful transactions, like our Sandy
8 Creek Energy Station. It's located in Texas. That was
9 2007 Asset Deal of the Year in Project Finance Magazine.

10 LS Power brings significant combined industry
11 experience in developing, financing, constructing and
12 operating power generation facilities.

13 The map that you see on the screen shows some of
14 our historical and current development projects, both
15 generation and transmission, and assets that we own
16 through acquisition.

17 As I mentioned, LS Power has experience owning,
18 managing and developing power generation facilities in
19 Arizona. We're the owner of the Griffith Power Station in
20 Mohave County, Arizona; the Arlington Valley Energy
21 Facility in Maricopa County, Arizona; and of course,
22 Arlington Valley Solar I and II are located on land owned
23 by Arlington Valley Energy Facility.

24 LS Power is in the electric power business.
25 Everything we do is focused on electric power. Our first

1 two lines of business are power generation and
2 transmission, and they are development focused. Our third
3 line of business, private equity is an acquisition driven
4 business.

5 LS Power has been involved in the development,
6 construction and operation of over 20,000 megawatts of
7 power generation throughout the U.S. We currently own
8 4,500 megawatts. As I mentioned previously, we've
9 developed over 7,000 megawatts of power generation that's
10 either in operation or currently in construction.

11 We are working on over 5,000 megawatts of
12 Greenfield Development Projects similar to Arlington
13 Valley Solar I and II. We developed both fossil fuel and
14 renewable energy projects.

15 On the renewable side we're focused on solar and
16 on wind. And our first solar development project that
17 will go into commercial operation is the 10 megawatt Dover
18 SUN Park located in Dover, Delaware. Ten megawatts watts
19 my not sound like a lot, but in the eastern U.S., that's
20 quite a large solar project, given their solar resource.
21 Nothing like you have here in Arizona. We've been very
22 lucky to work with all the three major utilities in
23 Delaware and structure power purchase agreements.

24 And we are releasing our EPC bid package this
25 week and expect to start construction in May 2010. So

1 it's a good project. It's very timely, and it gives us
2 great experience for what we're doing, working to do here
3 at Arlington Valley Solar I and II.

4 I'll mention real briefly, we are involved in
5 transmission development. It historically has been part
6 of our power generation development business; but as we
7 recognize the need to bring remote renewable generation
8 resources to load centers, we found that our skill set was
9 well matched with transmission development, and we're
10 actively developing several long distance high voltage
11 transmission projects throughout the U.S.

12 And what I'll point out, because I think some of
13 the experience we have there is relevant to how we
14 accomplish building Arlington Valley Solar I and II is the
15 Southwest Intertie Project which stretches from midpoint
16 in Idaho to Harry Allen in Nevada, and there that line
17 will bring wind generation from remote resources to the
18 western load center.

19 And we are working with NB Energy, the local
20 utility in Nevada, as both a customer and a co-owner in
21 the project. This was just announced two weeks ago. But
22 we've structured a PPA with them, and financing
23 arrangements with the Western Area Power Authority and the
24 Department of Energy.

25 So we've been able to work through and take

1 advantage of the DOE's loan guarantee and the stimulus
2 funds available. We've done a lot of work, and this, I
3 believe, is the first transmission project that's moving
4 forward utilizing those funds, and, of course, that's a
5 source of potential financing for large solar projects
6 such as Arlington Valley Solar I and II. So we have very
7 relevant experience there.

8 Speaking of financial experience, LS Power is in
9 a strong financial position. We're highly respected
10 within the financial community. We've raised over 13
11 billion dollars since 2005 in both debt and equity.
12 Including over 7 billion dollars in structured project
13 finance, similar to how projects like Arlington Valley
14 Solar I and II would be financed.

15 We have over 4 billion dollars in currently
16 available private equity capital that's dedicated to the
17 energy sector. And something we're very proud of -- every
18 project that LS Power has taken to the financing community
19 has been successfully financed.

20 We list our functional expertise on the slide.
21 It's an important point. LS Power is a private company.
22 We have approximately 150 employees. We have experts in
23 project development. We have a very strong marketing and
24 origination group which is, of course, as Stan pointed
25 out, very important to get the power sold in order to be

1 able to move this project forward. We cover the entire
2 country and call on and work with the Arizona utilities
3 very frequently, both --

4 CHMN. FOREMAN: Let me stop you there. We're
5 going to take a brief break to give our court reporter an
6 opportunity rest his fingers. We'll resume again shortly
7 before 11:00 a.m. We're in recess.

8 MR. MOYES: Thank you.

9 (Recessed from 10:44 to 11:00 a.m.)

10 CHMN. FOREMAN: All right. Let's go back on the
11 record now and continue with the direct examination of
12 Mr. King. Sir, you may proceed.

13 A. (MR. KING) Thank you, Chairman Foreman. As
14 Stan mentioned, LS Power sees the need to meet the needs
15 of our customers in designing these projects, and we work
16 with the communities on our projects, and first and
17 foremost, we work to develop and manage plants that are
18 safe and environmentally friendly, and this is largely
19 accomplished by selecting the right sites and locations
20 suited for power development with minimal environmental
21 issues, in areas where investment and tax base are
22 important and welcomed.

23 Arlington Valley Solar Energy I and II are
24 located in the right place. They're on land that was
25 predominantly farmland in the Arlington area where there

1 are other industrial projects and in close proximity to
2 Hassayampa and Palo Verde transmission hubs, reducing the
3 length of the gen-tie routes.

4 We do work with communities. We are grateful to
5 the community members who spoke today, and we do seek
6 local input; and we've held open houses for this project
7 and meetings, and we take into consideration the input
8 from the community.

9 I'll just make a couple points here and keep the
10 process moving. As I mentioned, we are an asset owner.
11 We've been participating in the energy industry within the
12 state since I've been with LS Power the last four years
13 when we acquired the Griffith and Arlington Valley
14 generation facilities.

15 We've been working to develop Arlington Valley
16 Solar I and II for the past two years. We've committed
17 serious time and resources to develop these projects. We
18 think the Arlington location is in the top handful of
19 sites for solar power in the country. We're working
20 toward investing half a billion dollars each in these
21 projects and in Arizona, and we have the demonstrated
22 capability to secure a power purchase agreement, arrange
23 financing, and build two world class generation
24 facilities.

25 So I'll just leave you with the thought that

1 LS Power has the ability to execute and to build these
2 significant infrastructure projects, and they will bring
3 significant economic development to Maricopa County and
4 Arizona.

5

6

EXAMINATION

7

8 BY CHMN. FOREMAN:

9 Q. Mr. King, in some of the previous applications
10 we have received, we've had an indication from the
11 applicants that they had a business plan that basically
12 involved developing the site with the idea of selling it
13 within a time period that would optimize the tax
14 consequences of their building, which we've had estimated
15 before to be something in the five to six-year range.

16 Is that part of the plan for this development?
17 For either one of the two?

18 A. (MR. KING) We don't have a plan to sell. We
19 are in the power development business. We're an asset
20 owner. We do sell plants. We don't have -- I'm not quite
21 aware of what the optimized business plan is that selling
22 within five or six years would trigger that.

23 There is tax equity financing where you bring in
24 a tax equity provider who, in effect, becomes the owner of
25 the facility or a co-owner of the facility, enjoying the

1 tax benefits, which the accelerated depreciation is earned
2 over the first five and a half years of the project life,
3 and that may be the structure that you're talking about.

4 In that case, you bring in a tax equity provider
5 who has a lot of taxable income and can utilize the tax
6 depreciation, which a private company like LS Power
7 cannot. But I don't consider that a full sale because we
8 would still be the manager of the project. I consider
9 that more like a financing.

10 Q. Without getting too deeply into this, you've
11 indicated that LS Power is a private company. Can you
12 help us understand who the owners of the company are?

13 A. (MR. KING) LS Power is -- it's approximately
14 150 employees. It's a partnership. Our CEO, Mike Segal,
15 is the principal owner of the company, and we've also got
16 other employee owners in the company. And then we've got
17 third-party equity that's involved through our private
18 equity funds.

19 Q. So is the majority of the ownership investors,
20 or is the majority of the ownership owner operators, we'll
21 call them?

22 A. (MR. KING) The majority of the ownership is
23 employee owned.

24 Q. Thank you.

25 CHMN. FOREMAN: Member Eberhart.

1 MEMBER EBERHART: Thank you, Mr. Chairman.

2

3

EXAMINATION

4

5 BY MEMBER EBERHART:

6 Q. You mentioned a power agreement. Have you
7 contracted with a utility company for your PPA?

8 A. (MR. KING) no, we do not have a PPA contract
9 with a counterparty.

10 Q. Are you looking at Arizona utility companies for
11 a PPA and/or outside of Arizona, utility companies?

12 A. (MR. KING) Chairman Foreman and Committee
13 members, we have responded to Arizona utility RFPs. We've
14 responded to RFPs from other southwest utilities. We have
15 been in -- we would -- how would I phrase it? We have
16 often called on the Arizona utilities and even put term
17 sheets in front of them with regard to power sales from
18 these projects. But we are currently not in a PPA or
19 advanced PPA discussions with any counterparty on these
20 projects.

21 Q. Do you have a time line or when do you expect to
22 constant make a deal with a PPA?

23 A. (MR. KING) We don't have specific time line.
24 We have had parties express interest in this project, and
25 we hope to engage in much more advanced discussions with

1 counterparties over the next year, especially as these
2 projects secure their permits, both the CEC permit and the
3 special use permit. I think that shows to the market and
4 proves that our projects are very advanced and viable, and
5 I think that should accelerate the process of securing a
6 power purchase agreement.

7 Q. You mentioned very shortly, you should be
8 issuing an RFP for the EPC. Could you, just for the
9 Committee's benefit -- we've heard that acronym before,
10 but could you define what that is?

11 A. (MR. KING) I apologize. There's a lot of
12 acronyms in the power business. That's an engineering
13 procurement and construction contract, and that was with
14 reference to our 10 megawatt Dover SUN Park project in
15 Delaware.

16 Q. What about this project? Maybe I misunderstood.
17 I thought you were in preparation to issue an EPC for this
18 project, or no?

19 A. (MR. KING) No, we have had discussions with EPC
20 contractors with regard to this project to help us
21 estimate the costs of constructing the project and help us
22 price our output for potential load-serving entity
23 off-takers; but we would not engage an EPC contractor
24 until right before financial close when we are ready to go
25 into construction on the project, and we would need to

1 secure a power purchase agreement before we would be able
2 to reach that stage.

3 Q. Two more questions, and hopefully the Committee
4 members won't hold me to that. But in our latest --

5 CHMN. FOREMAN: It's interesting that our
6 engineer seems to be one of our more enumerate of us.

7 MEMBER EBERHART: I've been told that I don't
8 act like an engineer.

9 CHMN. FOREMAN: I'm sorry.

10 BY MEMBER EBERHART:

11 Q. In our latest CEC that we issued a couple weeks
12 ago, there was, I want to say a first-time provision, if
13 you will, requirement that encouraged the applicant to
14 hire locally and work with local labor unions and
15 organizations and so forth, and local materials providers
16 and things like that.

17 Would the Applicant be prepared to do that as
18 well if that were a requirement of the CEC? Are you aware
19 of that provision that was in the latest CEC?

20 A. (MR. KING) I've seen that provision, yes.

21 MR. MOYES: Mr. Chairman, may I just interject,
22 not to displace the answer or substitute for the answer;
23 but in our pro forma proposed CEC that we have filed
24 that's one of the exhibits that we'll get to later, there
25 is a provision that addresses the topic.

1 CHMN. FOREMAN: The language that we crafted for
2 Number 151 is not in here, but there is language that
3 addresses the issue.

4 MR. MOYES: Thank you.

5 BY MEMBER EBERHART:

6 Q. A question that just naturally arises, this is,
7 I believe, the Committee's fifth utility level solar
8 project in the last twelve months or so; and to date, none
9 of them have, to my knowledge, moved forward.

10 What would give the Committee comfort that this
11 project is different than the previous four that we've
12 approved?

13 A. (MR. KING) I think, as Stan pointed out, we are
14 very advanced in securing our special use permit from
15 Maricopa County, which, you're probably all aware, is a
16 major hurdle in and of itself. We've had to do a lot of
17 engineering work, a lot of work on grading and drainage,
18 and we have a very well-designed project, and we're
19 advanced in that process. I won't presuppose an outcome
20 there, but we're very encouraged as to how it's gone so
21 far.

22 So upon securing our CEC and our SUP, our
23 project will be permitted and ready to be built, should we
24 secure a power purchase agreement. We do continue to work
25 with Arizona utilities and other southwestern utilities.

1 Those discussions are ongoing. We're hopeful that that
2 will be a catalyst to allow us to secure a PPA, and then
3 LS Power has a very strong footing in the financial
4 community, and I'm going to touch on this in future
5 testimony, but we've designed these projects to be two 125
6 megawatt projects for a reason. A five hundred million,
7 half a billion dollar project is a significant
8 infrastructure project.

9 You've seen some mega solar projects come
10 through that are 250 megawatts or more. That's a billion
11 dollar project or more. And that requires almost every
12 project finance bank that's currently active to be
13 involved in order to get it done. The market, the
14 financing market, as you know, has been very difficult in
15 the past two years.

16 We made a conscious decision to design smaller
17 projects to make them more flexible for our customers,
18 make them easier for our utility customers to sign a PPA
19 with, and to make them more financeable. And a project
20 that size, it's not easy, but you can get relationship,
21 two or three relationship lenders to lead a financing, and
22 you don't need every financial institution that's active
23 in project finance to participate and where you end up
24 with the lowest common denominator in terms of price and
25 terms on the financing.

1 So we have purposely designed two smaller
2 projects so that we'll have a greater opportunity to
3 secure financing and move these projects further.

4 Q. And one follow-up question to that point. Is
5 this project planned to be phased in any way? In other
6 words, is AVSE I going to be built first to get some cash
7 generated and then build the second phase, or do you
8 anticipate building it all at once?

9 A. (MR. KING) That's a very good question. It's
10 possible they could both be built at the same time. It's
11 also possible that they could be built in phases. One
12 project could be built first, and then the construction
13 crews move over to the second project. Or depending on
14 how we secure the PPAs, there may be some period of time
15 between when AV Solar I and AV Solar II are built.

16 MEMBER EBERHART: Thank you.

17 MEMBER YOULE: Mr. Chairman.

18 CHMN. FOREMAN: Member Youle.

19

20 EXAMINATION

21

22 BY MEMBER YOULE:

23 Q. Member Eberhart's question, I had questions as
24 well. If you secure a PPA for the initial project, the
25 one unit, will you go ahead -- is your plan to go ahead

1 and build it? So it's severable or at that point staged,
2 or do you have to wait till you get PPAs on both units
3 before you build one?

4 A. (MR. KING) That is a good question. No, that
5 is why we are pursuing two separate permits. We have two
6 legal entities so that one project could move forward
7 without the other project having to have a PPA and
8 financing secured. So we think it gives us a greater
9 opportunity for success.

10 Q. So I understand then that if you do get a PPA
11 for the output of one unit and the financing, obviously,
12 you would go ahead and proceed with that unit, even though
13 you don't have a PPA in place for the second unit?

14 A. (MR. KING) Yes, that is correct.

15 Q. My other question is, in whose control area will
16 this plant be?

17 A. (MR. KING) This plant connects with the
18 Hassayampa substation, and that is controlled by SRP. It
19 is likely that we would have a generation-only control
20 area that we would set up to service these plants.

21 Q. So, would you have to be in the California ISO
22 if you secured a PPA with a California utility?

23 A. (MR. KING) No, you would not have to be.

24 Q. Would you plan to be?

25 A. (MR. KING) No, I don't think in any instance we

1 would be in the Cal ISO. You may deliver to the Cal ISO.

2 Q. As a participating generator?

3 A. (MR. KING) Something like that, yes.

4 Q. Okay, thank you.

5 CHMN. FOREMAN: Member Wong.

6 MEMBER WONG: Thank you, Mr. Chairman.

7

8

EXAMINATION

9

10 BY MR. WONG:

11 Q. Mr. King, in line with some of the questions
12 asked earlier about the -- I apologize, I was late for the
13 opening statement. But I think it's important that we
14 understand as well as have for the record the direct
15 economic impact of this project from a financial
16 perspective.

17 And Mr. Eberhart had asked about job creation.
18 I'm sure that was part of your earlier opening statement.
19 Job creation, job benefit, benefits to the local economy,
20 businesses, suppliers of hardware, software, and whatever
21 you need to produce this. I don't see putting hard and
22 fast targets of dollars and cents that I think is
23 important and instrumental to understand the direct
24 benefit, because here, and Mr. Barnes stated earlier about
25 the production of electrons in this facility and in the

1 production of electrons to meet the overall goal of the
2 governor. Governor Brewer stated in her recent speech
3 about establishing Arizona as the solar and renewable
4 energy capital of this country, if not the world. It's a
5 cost benefit, is that we're allowing the usage of a
6 natural resource, whether it's the land itself or the
7 water as well as the air shed in this area.

8 So I think that's instrumental, not only for us,
9 but also for the five-member Commission that will
10 ultimately have a second look at this project.

11 So if there's anything else you would like to
12 add based on the statement I just made, whether it's labor
13 force or the suppliers, whether this is backed by the
14 county or municipal officials or the economic development
15 like the Greater Phoenix Economic Council. Would you add
16 to that, my statements, please?

17 A. (MR. KING) Yes, Chairman Foreman and Committee
18 members, these are substantial economic investments, large
19 infrastructure projects. I think each project is upwards
20 of a half a billion dollars of investment, and it is going
21 to create opportunity and economic stimulus in Maricopa
22 County and Arizona.

23 I think we estimate that the peak construction
24 work force for a CSP project is approximately 900 persons,
25 and peak work force for a PV project is upwards of 300

1 people. And in terms of operations, the permitted jobs
2 related to a CSP project would be approximately 40, up to
3 40 people, and for a PV project is up to 15 full-time
4 equivalents.

5 MR. MOYES: Mr. Chairman again, or Mr. Wong, if
6 I may interject, the second part of your question went to
7 some indications from other governmental agencies, I
8 believe; and we do have subsequent testimony and in fact
9 some communications that we will visit at that time. So
10 we will come back to that part of your question.

11 BY MEMBER WONG:

12 Q. And I'll get to more specifics as we move
13 forward on the testimony. But with regard to the
14 equipment, when you assemble this project, the parabolic
15 mirrors and the structures that hold them, are those all
16 produced out of state? All the components have been
17 shipped in, imported to the state, or will there be
18 actually a factory that will manufacture the parabolic
19 mirrors and the structures that hold them and the trackers
20 and all the other hardware? Would you talk about that?

21 A. (MR. KING) Yes. First, we have purposely --
22 and I'll discuss it later -- put two technologies forward,
23 both concentrating solar power, or CSP, and PV. So
24 necessarily, we're not certain who the equipment provider
25 will be, depending on which technology it is.

1 Secondly, we need to be very competitive
2 economically in order to secure a power purchase agreement
3 and have these projects and this investment go forward at
4 all. The way that LS Power manages that as a business is
5 to go through a competitive process.

6 And so when we have our power purchase agreement
7 secured, we will run a competitive process with various
8 engineering procurement and construction or EPC
9 contractors, and get competitive bids. So we're not
10 certain between technologies and even within those
11 technologies who the ultimate counterparty will be that's
12 supplying.

13 Now, I would think as more renewable projects
14 move forward in the State of Arizona, it will attract
15 business; and those suppliers, you know, there's a number
16 of PV projects and a large number of CSP projects that
17 have been proposed. To the extent that there's a
18 concentration of business in this state, there will be
19 incentive for those contractors to locate and produce
20 within the state. But that is a third-party business.

21 Q. You mentioned the photovoltaic. So you're
22 positioning this project as an either/or based on the cost
23 effectiveness, right?

24 A. (MR. KING) That will be the primary driving
25 factor. It also has to do with customer desire. There's

1 different utility -- even the Arizona utilities have
2 stated preferences for various technologies, and within
3 those technologies for firming capacity. So it's really
4 going to be dependent upon what the customer wants to buy
5 from us, whether it's power from a CSP or a PV; and then
6 within those technologies, it will be dependent upon who
7 the best supplier is to meet that requirement, both from
8 an economic standpoint and from the creditworthiness of
9 that contractor as well, because they have to be able to
10 provide a guarantee to complete construction in order for
11 us to be able to secure financing for these projects. So
12 that supplier has to have a good balance sheet as well.

13 Q. I want you to explore further the PV technology,
14 since you raised that as a possibility. You're familiar
15 with the thin film technology that First Solar produces?

16 A. (MR. KING) Yes, I am.

17 Q. And then there's a company, the second largest
18 producer, as I understand it, next to First Solar, is
19 Suntech out of China. You're familiar with that company?

20 A. (MR. KING) Yes, I am.

21 Q. And you're familiar with their intent to BUILD
22 their first u.s. factory in Phoenix, in the Phoenix metro
23 area? You're aware of that?

24 A. (MR. KING) I was not aware of that.

25 Q. In fact, in two days, the Governor in

1 conjunction with Suntech will be announcing which city
2 within the Phoenix metro area will be the site of their
3 factory.

4 I raise that issue -- have you been tracking the
5 cost per watt, wattage -- I don't know what the proper
6 term is. But are the prices coming down on the PV side
7 with the increase in capacity?

8 A. (MR. KING) That is a good question. Yes, we
9 have been tracking that very closely, and that is really
10 what brought us to the decision to move forward with both
11 the CSP and PV technology options in our applications.

12 The pricing for PV has been coming down
13 dramatically over the past 18 months. You know, it was
14 once considered -- it's common knowledge that CSP was more
15 cost competitive for large utility scale projects, and I
16 would say that that's no longer the case.

17 So because the technology landscape has been
18 moving so quickly, to ensure the greatest probability for
19 success of these projects, we felt it was important to put
20 in our application both technologies.

21 Q. Let me jump over to parabolic, the concentrating
22 technology. Where is that product manufactured? The
23 hardware for the parabolic reflectors and the hardware
24 that holds those mirrors? Is that U.S. manufactured or is
25 that imported from Europe or Asia?

1 A. (MR. KING) There's a number of different
2 answers to that question. The curved mirrors,
3 historically, the leading manufacturer of those, Flagsol,
4 has been a European operation, as well as the heat
5 collection elements.

6 The actual balance of the system could really be
7 produced anywhere. And, you know, it would be an economic
8 advantage to produce it closer to the project location,
9 because it's really raw materials and parts.

10 Now, that landscape has changed. Many other
11 parties have entered into the curved mirror business,
12 including U.S. manufacturers, and one of the heat
13 collection element manufacturers, Schott, has opened a
14 manufacturing facility for heat collection elements here
15 in the United States.

16 Q. As to heat collection, is that the tube that
17 holds the fluid?

18 A. (MR. KING) That is.

19 Q. So the mirror itself you envision purchasing
20 that from the European manufacturer?

21 A. (MR. KING) No, I did not say that. I said
22 historically, Flagsol has produced most of the curved
23 mirrors for the industry. However, many new competitors
24 have entered the field, including U.S. based
25 manufacturers.

1 Q. So there are suppliers in the U.S. for that, the
2 curve mirror?

3 A. (MR. KING) There are now.

4 Q. And in your bid process, there would be multiple
5 potential suppliers, both U.S. and foreign?

6 A. (MR. KING) Yes. And in our bid process, we
7 would really go out to bid to the EPC contractors who
8 would then have subcontractors. They would be the parties
9 that supply mirrors and heat collection elements. So we
10 would not procure directly from the manufacturers. We
11 would work with a large creditworthy, experienced
12 engineering and procurement and construction firm that
13 would then subcontract for those materials.

14 Q. In another application, we had, this Committee
15 had included as a condition to a CEC that -- I forgot the
16 wording, but basically strongly encouraged the applicant
17 to buy local and hire local. Is that something that you
18 would be in opposition or adverse to?

19 A. (MR. KING) One, as the project proponent, we
20 are going to hire an EPC contractor, and that's going to
21 be the party that hires and procures for the project. So,
22 you know, we won't be doing that directly.

23 Q. You have no influence on your EPC contractor,
24 you're saying?

25 A. (MR. KING) No, I'm not saying that. I think

1 that we have put in that we will encourage or EPC
2 contractor to do business locally.

3 CHMN. FOREMAN: Mr. King, let me jump in and
4 follow up on Member Wong's question to point out the
5 proposed Paragraph 15 in the CECs that Counsel provided us
6 with, that proposed paragraph commits the Applicant to use
7 commercially reasonable efforts, where practical, and
8 consistent with relevant laws to use qualified Maricopa
9 County and Arizona legal resident contractors and
10 laborers.

11 Would you have an objection to adding language
12 that would encourage the similar use of Arizona suppliers
13 and manufacturers?

14 MR. MOYES: Let me just jump in here and add
15 that, again with the qualification of consistency with
16 applicable laws and regulations because I believe there
17 are some local opportunity kinds of things --

18 CHMN. FOREMAN: Not a mandatory?

19 MR. MOYES: Yes, I think it's sort of implicit
20 in the same context that contractors and laborers --
21 contractors we would include to mean vendors, suppliers,
22 parties with whom contracts would be entered into. That
23 was our intent with respect to that paragraph.

24 CHMN. FOREMAN: Lawyers always feel better when
25 something is explicit. Again, I'm not wanting -- I was

1 just pointing that out that that language is there and
2 suggesting that maybe when we get to that stage we can
3 craft some language that would be encouraging rather than
4 requiring the use of Arizona suppliers and manufacturers
5 along with Arizona laborers.

6 And again, we've had this promise before in the
7 sales of these projects that this will enrich the local
8 economy, and we have people here from the community who
9 are very interested in supporting this project because of
10 the fact that it will stimulate the local economy.

11 And so what we're concerned about and interested
12 in in the past, and I'm sure, we've heard Member Wong talk
13 about this before on multiple occasions, is finding some
14 way that that interest can be tangibly encouraged with
15 explicit language in the CEC.

16 MR. MOYES: I would just respond briefly -- I
17 know we'll visit this later that the word "encourage" is
18 the word that we use, and that's the approach that we
19 think is appropriate.

20 Certainly, our intent, as we've discussed this
21 and my understanding -- Mr. King can elaborate further if
22 he wants, but is the company appreciates this issue, is
23 very much committed to the concept that local economic
24 activity is a bi-product of these projects.

25 MEMBER WONG: Mr. Chairman.

1 CHMN. FOREMAN: Member Wong. I'm sorry to poach
2 in --

3 MEMBER WONG: No, thank you for the
4 clarification. Mr. King, no further questions on this
5 particular line of questioning. But thank you for your
6 testimony. Mr. Chairman, thank you.

7 CHMN. FOREMAN: Member Mundell.

8 MEMBER MUNDELL: Thank you Mr. Chairman.

9 Counsel, just to follow up. Have you had an
10 opportunity to read the CEC that we did just recently up
11 in Kingman on the Hualapai case on this issue?

12 MR. MOYES: Yes, I have. Very recently, I would
13 say. Obviously, we weren't participating in that
14 proceeding.

15 MEMBER MUNDELL: So you saw the language that
16 was passed by the Committee dealing with, for lack of a
17 better word, hire local issue.

18 MR. MOYES: Yes.

19 MR. MUNDELL: And are you opposed to that
20 language being in this CEC?

21 MR. MOYES: As counsel to the Applicant, I'm
22 concerned about the language from the standpoint of its
23 consistency or inconsistency with concepts of
24 constitutional protections that frankly preclude
25 preferential hiring, preferential contracting as a matter

1 of Commerce Clause issues and some Arizona law issues as
2 well that are at least raised by the context. I think we
3 have to and we want to tread carefully so that we give as
4 much comfort, and we are not trying to back away from the
5 concept by any means; but by the same token, I can hardly
6 advise my clients to agree to a condition nor can I
7 frankly consider it appropriate for the Committee to
8 present a condition that, as I read it, sort of could be
9 construed to be violative of those constitutional
10 concepts.

11 And then goes, if I may, just in response, and
12 then, as I read it at least, one of the conditions sort of
13 goes a step farther and requires some quarterly reporting
14 of one's activities. It's sort of like write me a report
15 and tell me to what extent you may be violating the law
16 here.

17 So there's a little sensitivity there. I think
18 when we get to the negotiating of the condition language,
19 we will certainly work with you on that. But I do raise
20 the fact that, and I have consulted with the client
21 regarding the legal element that's -- you know, we're
22 getting close to, some of this language is getting pretty
23 close to things that could be problematic legally.

24 MEMBER MUNDELL: Let me just respond. You know,
25 we sit here as a Committee, and we hear about all the

1 benefits of the project and jobs and the tax -- the
2 superintendent of the school district came in and talked
3 about the tax revenue, and I'm assuming we'll have some
4 additional testimony on some specific dollar figures. But
5 as I said up in Kingman, I don't want to be a pig in a
6 poke.

7 I mean, you come out and you go out and hold all
8 these public forums and get all the community in support
9 of the project, and I guess I really have a problem with
10 the second part of your answer saying you don't even want
11 to have to report on what you've done. I look at it
12 totally different than how you just discussed it.

13 I mean on the front end, if you're saying
14 there's going to be all these benefits, then why on the
15 back end wouldn't you want to have to come in and tell us
16 that yes, what we told you and what we told the community
17 in the public forums is accurate and here, the proof is in
18 the pudding and this is what we've actually done?

19 I just have -- then don't tell us about all the
20 good things that are going to happen unless you're willing
21 to support it on the back end. That's the problem I had
22 up in Kingman and the problem I'm hearing now.

23 MR. MOYES: I appreciate the point that you're
24 making. A couple of points in response, just again from
25 the legal aspect.

1 We have been careful, and I think appropriately
2 so, to not overstate the issue with respect to jobs. But
3 we also have given testimony -- and perhaps we can examine
4 this further on some cross-examination -- as to the
5 implicit effect on the local economy that bringing a
6 couple of half billion dollar projects to this locale will
7 have that should be understood and taken into account,
8 concepts such as the degree to which a local provider, if
9 he is available, can probably beat the bid of a remote
10 provider just because he doesn't have the same
11 transportation costs.

12 To the extent that you have local labor force
13 that's qualified and lives there, they're going to be the
14 more stable, the more desirable employee, and I think
15 perhaps Mr. King could elaborate a little bit with LS
16 Power's experience with EPC contractors as to the implicit
17 and frankly inevitable good consequence that comes with
18 respect to these issues by this kind of major capital
19 investment in a very localized project, very much -- you
20 know, the dollars go on the site, and a lot of work has to
21 be done on the site. And by definition, it's going to be
22 much easier to be economically competitive, bringing back
23 to our theme.

24 My concern, again personally, frankly with the
25 reporting aspect of it is that it creates a significant

1 burden on the applicant, the EPC contractor, to keep track
2 of all of these things so that the reports can be made and
3 be accurate, one. They therefore, have to increase their
4 bid to cover that cost, to make sure they've estimated it
5 and covered it. But thirdly, what we need to be concerned
6 about is the effect, the good consequence of the effort
7 that's made, not a report that gets filed to the Docket
8 Control and the Compliance Division where Staff is already
9 overworked and probably gets put on a shelf somewhere.

10 MEMBER MUNDELL: Well, I disagree. I got to
11 disagree having been there ten years. Okay? I got to
12 disagree with you. Put that on the record. Having been a
13 commissioner for ten years, if there was a condition in a
14 CEC that said that we want you to back up with
15 documentation what you've told the community about all the
16 jobs that are going to occur and all the benefits, we can
17 draft a document that isn't burdensome.

18 If the argument is it's going to be too
19 burdensome, we can figure out how to do that. But to say
20 that you shouldn't have to report after the fact to live
21 up to the promises that you're making to this community, I
22 have a strong disagreement. I mean I just can't -- if
23 it's burdensome, that's one thing. Now you're saying the
24 Staff is not going to read it. I disagree with that,
25 having been there for ten years.

1 And then number 3, you're making promises, and
2 I'm not saying you're not going to keep them. All I'm
3 saying is, like Ronald Reagan said, trust but verify. I
4 want to see the information. I think the Commissioners
5 will want to see the information, because we hear this in
6 every case; and we finally, in the Kingman case, said
7 let's put some meat on the bones and make the applicants
8 at least on the back end say what they've done with facts
9 and figures.

10 CHMN. FOREMAN: Member Noland.

11 MEMBER NOLAND: Thank you, Mr. Chairman. I just
12 wanted to say, too, because I know you'll be talking about
13 this before we get to the CEC, I think the reporting
14 requirement is a very reasonable request. I don't think
15 it's going to add much cost because there's regulations
16 right now of verifying employees and the right to be in
17 this country that all of us have to do everyday in Arizona
18 and other places. So I think that that's not -- that will
19 be minuscule in the whole scheme of things.

20 We have heard this over and over, and we have
21 seen the solar plants located in areas that are under
22 economic stress or under stress with people really wanting
23 to work, wanting to supply, wanting to do business,
24 wanting to benefit from it. Maybe you haven't sold it as
25 heavily as others, but it's already been mentioned, and

1 it's obviously been mentioned out in the community
2 meetings because people are interested in that, and you
3 need to respond to it.

4 So I think that we're trying to be reasonable
5 and rational, reasonable and rational in our request for
6 consideration of Arizona first in jobs and supplies, and
7 that we get some feedback and have some ability to look
8 and see how this has benefited Arizona and what people
9 have been hired that live in our state. So we have an
10 idea.

11 And then if that's not going to happen, if it
12 isn't happening and it's not a big deal, then we won't
13 consider that as part of the benefits of any type of
14 generating plant.

15 So I think that the reporting is important.
16 Could it be modified from what we did in the last CEC? Of
17 course. But that is important to us, because we need to
18 go back into these communities and probably will go back
19 into these communities. In fact, we're going to hear from
20 these people, and they're going to say, you know, that was
21 not true what they told you. And we've already heard that
22 in one community, that they brought in all out-of-state
23 people and we're not seeing any local jobs. Maybe some
24 benefit to businesses, but we're not seeing the local jobs
25 that they said they were going to present with their new

1 generating plant, and it hasn't been that big a benefit.

2 We're walking a fine line, and I understand
3 that. But I think that if you're backing away from even a
4 reporting requirement, I suggest maybe you look at a
5 modification to the reporting requirement, if you think
6 that's onerous.

7 MR. MOYES: I appreciate that, Member Noland,
8 and as I said, we will be revisiting it. What I expressed
9 was sort of my personal sense of what we should focus on
10 is the effect of the things that you're concerned about,
11 and not paperwork. But I understand the reasoning for the
12 request for the paperwork, and hopefully, this won't be my
13 decision. It will be my client's decision.

14 MR. KING: Chairman Foreman, may I address the
15 Committee?

16 CHMN. FOREMAN: Certainly, Mr. King.

17 MR. KING: Chairman Foreman and Committee
18 members, I don't want a positive to seem like a
19 negative --

20 CHMN. FOREMAN: Right.

21 MR. KING: -- to the Committee members here. We
22 will -- and you've heard testimony. LS Power, you know,
23 we've grown up from being a small company, a private
24 company, and we've work with communities, and you've heard
25 testimony, we are a good community member. We have, you

1 know, talked with EPC contractors. We will encourage our
2 EPC contractor to hire locally. We'll encourage them to
3 have a job fair.

4 And in talking to the EPC contractors and just
5 from experience in the industry, local workers are more
6 productive than travellers. It's more economic. In solar
7 projects, unlike some of the fossil fuel projects, there's
8 a lot of different skill levels on the jobs. So the EPC
9 contractors, they're going to look to hire locally because
10 they get more productivity. It's more economic. So it's
11 a natural part of the process in making the large
12 investment in these projects.

13 We're necessarily concerned about -- I know
14 Arizona is a right to work state, and I don't want to, you
15 know, end up on the wrong side of that law; but we are, we
16 will encourage our contractor, and we put language to that
17 effect to, you know, hire qualified local workers where
18 available.

19 I'm concerned -- you recently approved a line
20 siting for a Sempra 500 megawatt solar PV plant which is
21 located in the same area. If there's two or three of
22 these projects moving forward at the same time, that's
23 going to put a tremendous strain on resources in terms of
24 both human resources and contractors and suppliers. So I
25 don't want to be put at an economic disadvantage that's

1 not going to allow my project to move forward for lack of
2 labor either.

3 So I think it's important to -- we recognize
4 that we need to be a good community neighbor, and we'll
5 encourage our contractor to use local labor resources.
6 But I just don't want to fall on the wrong side of any
7 laws, and I don't want to put ourselves in a bind where
8 our project is at a disadvantage or can't move forward
9 because of a shortage of resources.

10 CHMN. FOREMAN: Member Mundell.

11 MEMBER MUNDELL: Thank you, Mr. Chairman.

12 Mr. King, I'll just make a couple more statements on this
13 issue, and then I have one other question for you. I
14 believe it is a positive that you're committed to hiring
15 locally; but I guess from my perspective I just want to
16 see on the back, end as I said, what has occurred, and if
17 there is a shortage of labor because the other projects
18 are being built, I think it's pretty easy to document
19 based on what Member Noland said. I mean you can filling
20 out where the people are from pretty easily, and you can
21 make a statement in the report that we attempted to hire
22 locally, but because of ABC project and XYZ project we
23 were up able to do that.

24 I mean I just -- the reporting requirement -- we
25 can debate the constitutionality of the other provision

1 and the other statutes in Arizona and the right to work.
2 But the reporting requirement is, to me, verifying what
3 has been said on the front end to this community and other
4 communities throughout Arizona.

5 So again, if it's burdensome, we can work on the
6 language to make it easy to fulfill. But also, I think
7 it's important so that going forward we know we have some
8 data to see what in fact is right now fairly speculative,
9 based on not only this plant, but every plant I've ever
10 been involved in.

11 Now, Number 2, just so we have some context, the
12 Griffith facility up in Mohave County, you were involved
13 in that project?

14 MR. KING: Yes, we're the owner of Griffith.

15 MEMBER MUNDELL: And that was in December of
16 1988?

17 MR. MOYES: Let me just jump in because I
18 represented that project. That project was developed by
19 PPL and Duke jointly. Duke then bought out PPL's interest
20 and subsequently sold the plant to LS. So LS wasn't a
21 participant in the development stage of the project.

22 MEMBER MUNDELL: Thank you, Mr. Moyes for that
23 clarification.

24 That CEC, as I recall, was issued in December of
25 1988; is that correct, Mr. Moyes?

1 MR. MOYES: I believe that's the correct date,
2 certainly the correct time frame.

3 MEMBER HOUTZ: '88, '98.

4 MR. MOYES: '98.

5 MEMBER MUNDELL: '98. What did I say? '88?

6 MR. MOYES: '98. You said it. I heard it.

7 MEMBER MUNDELL: '98. Thank you for that
8 correction. December of 1998.

9 Do you recall or do you know how much water that
10 facility uses? Acre-feet?

11 MR. KING: I'm not currently aware. But I have
12 general knowledge of what a combined cycle gas-fired plant
13 of that size would use.

14 MEMBER MUNDELL: Go ahead and based on your
15 expertise, what do you recall or what do you think it uses
16 based on your expertise?

17 MR. KING: Approximately, a 570 megawatt
18 combined cycle gas-fired plant with wet cooling would,
19 depending on how many hours it's utilized, use up to 4,000
20 acre feet per year.

21 MEMBER MUNDELL: 4,000 acre feet per year?

22 MR. KING: That's my understanding.

23 MEMBER MUNDELL: And that facility, as I
24 recall -- hopefully you'll recall -- that was groundwater.

25 MR. KING: That is groundwater.

1 MEMBER MUNDELL: Thank you. Thank you,
2 Mr. Chairman.

3 CHMN. FOREMAN: We've had kind of a diversion
4 here, but it's a topic that I hope you all know is of
5 importance to the Committee and the Committee has spent a
6 great deal of time on in the last couple of applications
7 that have come through. So I'm sure that the discussions
8 that we have will be helpful at the ultimate stage of
9 dealing with the language in the CEC.

10 I, in listening to everyone here, think that
11 we're on the same page. I think this is a matter of
12 wordsmithing. And so I think we should be able to get the
13 Applicant's expressed desires articulated in a concrete
14 way that will meet the requirement of the Committee to do
15 its due diligence in balancing the interests of the folks
16 of the State of Arizona. So let's point towards that and
17 hope we can get that done.

18 Now, Counsel, you want to proceed, or Mr. King,
19 you want to proceed with your --

20 MR. MOYES: Well, I think Mr. King has completed
21 his direct, and I'm taking your signal to indicate that
22 the Committee questioning with respect to him as to this
23 Panel at least is complete.

24 Because we won't have Mr. King on the stand at
25 the time that we negotiate with respect to the issue we've

1 just spent some time on, I do have a couple of follow-up
2 questions just to have in the record, a couple of points
3 that I think are very relevant to that, and I'm not trying
4 to beat a dead horse to death here.

5 I just -- in the sequence of getting the
6 information which we then use when we deliberate as
7 opposed to calling him back on the stand later, if I may
8 ask a couple of questions.

9 CHMN. FOREMAN: You certainly may ask some
10 additional questions, and you certainly may express your
11 optimism that the Committee is finished with its
12 questioning. Proceed.

13 MR. MOYES: As you see, Mr. King is the first
14 witness on the next panel, so you'll have plenty of
15 opportunities yet.

16

17

FURTHER EXAMINATION

18

19 BY MR. MOYES:

20 Q. But I would just ask, Mr. King, you alluded to
21 experience in Delaware with a solar PROJECT, both with
22 respect to securing a PPA and some federal, what I'll just
23 refer to as Recovery Act funding with respect to that
24 project.

25

In regards to that, are you aware of federal

1 requirements associated with those grants or loan programs
2 that would mandate compliance with federal laws with
3 respect to the topic we've just been discussing in terms
4 of preferential contracting or hiring?

5 A. (MR. KING) Yes, just to correct the record, the
6 reference to the federal funding was to the Southwest
7 Intertie Project, which was the transmission project.

8 Q. Thank you.

9 A. (MR. KING) However, our project in Delaware
10 we'll also be pursuing, because it's going to be built in
11 2010, the Cash Grant Program which is made available under
12 the American Recovery and Reinvestment Act. And yes,
13 there is a strict obligation to comply with federal law,
14 including employment laws.

15 Q. Another question, just quickly, I think I just
16 wanted to revisit. I think you said this or you confirmed
17 this previously. Within the LS Power family, the land on
18 which these projects will be located is owned by the
19 company at this point in time.

20 Are you aware of one perhaps deviation from the
21 absolute truthfulness of that statement as it relates to a
22 piece of property owned by a third party that we've been
23 negotiating with?

24 A. (MR. KING) Yes. Okay. The majority of the
25 Arlington Valley Solar Energy and Arlington Valley Solar

1 Energy II projects are located on land currently owned by
2 Arlington Valley Energy Facility.

3 In addition to those lands, we have several
4 third-party parcels under option, and another that we are
5 in negotiations with and hope to secure. And in addition,
6 we also have applications in with the State of Arizona to
7 lease additional properties that would also be part of
8 this Arlington Valley Solar Energy and Arlington Valley
9 Solar Energy II project sites.

10 Q. Thank you, Mr. King. I know the subsequent
11 testimony will address those, but I just wanted to be sure
12 we didn't create any misimpression or untrue statement
13 with respect to that land and investing status.

14 MR. MOYES: That concludes Panel 1, and Mr. King
15 being the first witness on Panel 2, I suggest we just move
16 directly into his presentation that is a little more
17 focused on the project itself. Much of what he will or
18 has prepared and what the slides will present to you has
19 already been discussed. So I think we can probably move
20 through this pretty quickly.

21 CHMN. FOREMAN: Again, I always appreciate your
22 positiveness and your optimism. I think Member Wong had a
23 question or two before we move on.

24 MEMBER WONG: I know you want to move on to
25 Panel 2, Mr. Moyes.

FURTHER EXAMINATION

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BY MEMBER WONG:

Q. Committee Member Mundell addressed the subject matter in a previous project in Kingman about a school, the school district asking about the impact.

Let me ask this question of Mr. King. In addition to all the other tax concessions or credits or rebates, let me talk about the land. Is there a plan to apply for or designate these lands that you'll be using as enterprise zones or any type of special type of designation that would reduce the property taxes? Is that part of the overall plan?

A. (MR. KING) No, there is no plan or discussions with Maricopa County with regard to any enterprise zone.

Q. Are there any other types of --

A. (MR. KING) Or anything similar to that.

Q. Thank you.

MEMBER WONG: Thank you, Mr. Chairman, Mr. King.

CHMN. FOREMAN: Now you may proceed, Counsel.

MR. MOYES: Having already been sworn in and talked about a fair amount of this, let's proceed to your Panel 2 testimony dealing with the project, per se.

CHMN. FOREMAN: Counsel, do you want the other witnesses on Panel 2 available now, or do you want to

1 swear them later?

2 MR. MOYES: We can do the swearing in now or
3 when I get to them. If you want to do it now, that's fine
4 with me.

5 CHMN. FOREMAN: I have no preference. I was
6 thinking whether it would make sense as far as the subject
7 matters of your presentation to have the other witnesses
8 available in case there's a question that relates to
9 something that would be in their area of expertise.

10 MR. MOYES: Certainly. We have Mr. Schroeder
11 and Mr. Otahal.

12 CHMN. FOREMAN: Why don't we have you folks step
13 up, if you would. Mr. Schroeder, would you prefer an oath
14 or affirmation?

15 MR. SCHROEDER: Oath, please.

16 (Randy Schroeder was duly sworn by the
17 Chairman.)

18 CHMN. FOREMAN: For the record, give us your
19 full name and spell your last name for the court reporter,
20 please.

21 MR. SCHROEDER: Randy Schroeder,
22 S-C-H-R-O-E-D-E-R.

23 CHMN. FOREMAN: And Mr. Otahal, do you wish an
24 oath or affirmation?

25 MR. OTAHAL: Oath, please.

1 (Joe Otahal was duly sworn by the Chairman.)

2 CHMN. FOREMAN: Again, for the record, please
3 tell us your name and spell your last name for the court
4 reporter.

5 MR. OTAHAL: My full name is Joe Otahal. Last
6 name is spelled O-T-A-H-A-L.

7 CHMN. FOREMAN: All right, very good. Now,
8 Counsel, you may proceed.

9 MR. MOYES: Thank you.

10

11 JOHN KING, RANDY SCHROEDER, and JOE OTAHAL,
12 called as witnesses on behalf of the Applicant, having
13 been duly sworn by the Chairman to speak the truth and
14 nothing but the truth, were examined and testified as
15 follows:

16 DIRECT EXAMINATION

17

18 BY MR. MOYES:

19 Q. Mr. King, if you would, please describe for us
20 the specific facts that are relevant for this Committee
21 with regard to the projects themselves, recognizing that
22 with respect to some of the engineering and technical
23 details, those will be addressed further by Mr. Schroeder
24 and then by Mr. Otahal.

25 A. (MR. KING) Yes. As Mr. Moyes said, I have

1 covered a fair amount of the materials on these slides, so
2 I will try and be brief.

3 These projects are located in an excellent
4 location dominated by industrial uses, including power
5 generation and transmission. You can see there's a
6 detailed map on the right here which identifies the
7 project sites, AVSE and AVSE II; and as you notice,
8 there's also four large generating, gas-fired generation
9 facilities nearby and the Hassayampa substation, very
10 close in location.

11 There's both gas transportation and supply in
12 the immediate area, rail access and electric transmission.
13 The vast majority of the site is on previously disturbed
14 farmland, mitigating environmental impacts.

15 I've already made reference to site control in
16 the previous panel, but the majority of the land is
17 currently owned by LS Power.

18 We have held three public meetings, and to date,
19 have received no negative comments. Kenda Pollio will
20 give more testimony later on the public process.

21 We've done a fair amount of engineering and
22 design work to support our Special Use Permit application
23 with Maricopa County. We've worked with EPC contractors
24 to understand our costs and feel we are in advance of most
25 projects in understanding our site attributes and our

1 costs to construct.

2 LS Power's marketing strategy is to provide
3 maximum flexibility to meet our customers' needs. That is
4 the reason we're permitting both these projects for two
5 technologies, concentrating solar power and PV. As
6 mentioned previously, the market price for these
7 technologies has been changing. And the peak demand
8 requirements and comfort level with different technologies
9 varies among utilities.

10 As it's important for these projects to be
11 successful to secure a PPA, we've entered into this
12 process trying to maintain that flexibility so we can meet
13 our customers' needs.

14 As you notice, too, the two sites are
15 geographically separated by a rail line, and that's one
16 reason we have two projects, but also the commercial
17 reasons that I mentioned previously. We've created two
18 separate project companies, and we're individually
19 permitting each of these projects so they can be marketed
20 and financed as individual projects and move forward as
21 previously asked as an individual project if we can secure
22 a PPA for one but not the other in the same time frame.

23 I mentioned before, we're in frequent
24 discussions with project finance lenders and leaders in
25 the industry, and we really think this approach is going

1 to allow us to move forward more quickly with our projects
2 that one single large project.

3 The location is in an excellent location from a
4 market standpoint. Hassayampa substation is a common bus
5 with the Palo Verde hub, and that's an important and
6 liquid electric power trading location. It's an important
7 renewable energy load center in Arizona as confirmed in
8 the recent study completed by the Renewable Transmission
9 Task Force. So we're very optimistic about our site and
10 our location and our ability to market this power.

11 We've talked a lot about this. We just think
12 these are well designed projects in the right locations
13 with minimal impacts. We do think that projects like this
14 have the potential to bring in new industries to the
15 state. The more projects like this there are in Arizona,
16 the greater incentive there is for manufacturers to locate
17 in the state.

18 You know, two projects together, close to a
19 billion dollars in investment, will bring a major capital
20 infusion into the county and state and create a permanent
21 tax base, as well as opportunities for business and
22 economic development.

23 And of course, with solar energy, there is a
24 large benefit to the environment, and the solar energy
25 will be replacing generation from and the need to build

1 fossil generation resources.

2 CHMN. FOREMAN: Counsel, I would like to stop
3 Mr. King here for a moment, and I'm not sure who was going
4 to address this, so Mr. King has raised the issue, and let
5 me throw it out so he and/or Mr. Schroeder or Mr. Otahal
6 can comment on it.

7 You designed the project, as I understand it, so
8 the -- projects, so that they could be sold to the same,
9 in the same financial project and be developed as one
10 integrated piece or developed separately; is that true?

11 MR. KING: The two 125 megawatt projects,
12 Arlington Valley Solar Energy and Solar Energy II, could
13 be developed as separate projects, that's correct.

14 CHMN. FOREMAN: You have one gen-tie option with
15 each project; and that gen-tie project, if I understood
16 what I believe you said earlier, or perhaps it was
17 Mr. Moyes that made reference to this earlier, each one of
18 those gen-tie projects could operate as a generator tie-in
19 for both projects; is that true?

20 MR. KING: That is correct.

21 CHMN. FOREMAN: All right. Let's say that you
22 sell one project to Mr. Otahal's company and one project
23 to Mr. Schroeder's company, and Mr. Otahal wants to have
24 general-tie option 1 and Mr. Schroeder wants to have
25 gen-tie option 2. How do we decide which general-tie is

1 used?

2 MR. KING: Let me start with --

3 MR. MOYES: Again, Mr. Otahal will get into the
4 specifics of the gen-tie option, but I think what the
5 Chairman is looking for is what we've discussed with
6 respect to the concept of joint ownership of the one
7 common 500 kV switchyard.

8 CHMN. FOREMAN: This is an issue that I raised
9 earlier --

10 MR. MOYES: Yes.

11 CHMN. FOREMAN: -- at the prehearing conference,
12 and I would just like some clarity on this. This is a
13 legal question or a legal policy question rather than an
14 engineering priority question.

15 If you have two different companies who disagree
16 about the engineering desirability of the two different
17 gen-tie options, how do we decide which one is used, or do
18 we end up with this problem of two duplicative options
19 being used or one option being used and there being a
20 fight over priority between the two now -- the two solar
21 project operators whose interests are now inconsistent?

22 MR. MOYES: Because I addressed this in my
23 opening statement and I may have confused -- I tried to
24 say it in a way that was short but clear. Each project --
25 and Mr. Otahal will get into this in more detail. But

1 each project has its own preferred route for the gen-tie
2 line for that project.

3 So our ideal will be two routes, one that is the
4 preferred route for AVSE II, one that's the preferred
5 route for AVSE I; and those two routes will connect to a
6 single switchyard which will be under a joint ownership
7 structure and joint ownership rights as between the two
8 LLCs that will own the separate projects so that either/or
9 can construct first and will be required to provide joint
10 ownership rights to the second entity.

11 We would only have one corridor if for some
12 reason we couldn't get the other one, in which case we
13 would incur more expense, as you'll see, to put them both
14 through the same corridor route. But there will only be
15 one 115 to 500 kV switchyard, and that's where the joint
16 ownership issue would arise.

17 MR. SCHROEDER: If I could perhaps point it out
18 graphically on the map that's up on the screen right now,
19 you'll see that we have color-coded this corridors. From
20 AVSE II there is a green corridor that goes up toward the
21 Hassayampa substation. That is the preferred route for
22 the interconnection for AVSE II.

23 And for AVSE, there is a green route here that
24 likewise goes up toward the Hassayampa substation. That
25 is the preferred route for AVSE.

1 And in the event that right-of-way negotiations
2 perhaps couldn't be or rights-of-way couldn't be secured
3 on the preferred route, we have the second route for AVSE
4 that would basically follow this preferred corridor for
5 AVSE II as a potential option to it; and likewise, for
6 AVSE II, if for some reason you weren't able to secure
7 rights-of-way on its preferred option, then you have this
8 option in there to allow you another way of getting into
9 the Hassayampa switchyard.

10 But each project would be a project with an
11 interconnection to Hassayampa which could potentially
12 utilize the same corridor, but not the same line.

13 CHMN. FOREMAN: All right. So let me see if I
14 understand that, and I am wanting to try and tie this
15 down, and it may be that I'm just not grasping it. So
16 help me here.

17 If -- we'll say you've got on the left AVSE,
18 we'll call that project 1; AVSE II, project 2. So
19 project 1 people come in and they say they want
20 corridor 1. And then they start building and using
21 corridor 1. If they make that choice, they do not prevent
22 the number 2 people from coming in and making a decision
23 about using their preferred corridor; is that true?

24 MR. SCHROEDER: Yes, I would say that is true.

25 CHMN. FOREMAN: So the only time then you'll

1 have an area of potential conflict is the use of the
2 Hassayampa substation; is that true?

3 MR. SCHROEDER: Right, there's this 115 -- these
4 will be 115 kV lines built from each project to a common
5 location where a 115 to 500 switchyard would be built; and
6 from that switchyard, one interconnection would be made
7 into the Hassayampa substation.

8 CHMN. FOREMAN: Is that the only place where the
9 property description of the corridor and rights-of-way
10 would conflict, where they would come together?

11 MR. SCHROEDER: They would overlap in that
12 location because they would be using that common
13 switchyard.

14 CHMN. FOREMAN: So the only question then we
15 have is who has priority of use or control in the area
16 around the switchyard and with the switchyard, and how is
17 that problem solved?

18 MR. SCHROEDER: I think that the thought --

19 MR. KING: I can answer that.

20 MR. SCHROEDER: Okay.

21 MR. KING: The plan is that the first project to
22 proceed would own and construct, but the second project
23 would have a right to participate, basically an option to
24 become a co-owner in that facility. So at that point
25 there would be co-ownership in the facility of both

1 projects moving forward.

2 CHMN. FOREMAN: And you're satisfied that that
3 ownership priority is something that would not adversely
4 impact the economic desirability of your projects?

5 MR. KING: We are, because it would be a direct
6 ownership interest in that facility by both parties.

7 CHMN. FOREMAN: Because that's a potential cost
8 or risk that you assume by bifurcating your projects,
9 correct?

10 MR. KING: It is, but we've evaluated, it and
11 we're comfortable that the co-ownership structure works.

12 CHMN. FOREMAN: Are there historical precedents
13 that can support that confidence?

14 MR. KING: Yes, there are. I can't cite them
15 personally, but I know there are jointly owned generation
16 intertie facilities.

17 MEMBER YOULE: Mr. Chairman.

18 CHMN. FOREMAN: Member Youle.

19 MEMBER YOULE: There are frankly tons of jointly
20 owned both generating stations, transmission lines,
21 switchyards. That's the common pattern, frankly, in the
22 southwest and the western interconnection as opposed to
23 the eastern interconnection.

24 CHMN. FOREMAN: Okay. My only concern is that
25 if you happen to sell it to two, you know, to the

1 Hatfields, one of the Hatfields and one of the McCoys, I'm
2 hoping that that's not going to create a problem as far as
3 the ultimate smooth and harmonious operation of the
4 projects, and just to make sure that I understood how that
5 works.

6 MR. KING: I understand. By our analysis, it
7 won't because both parties would have an undivided
8 interest, ownership interest in the facilities.

9 MEMBER YOULE: And you're going into one bay at
10 Hassayampa?

11 MR. KING: Yes, we are.

12 MEMBER YOULE: Okay.

13 CHMN. FOREMAN: That sounds very much like a
14 community property interest which we know here in Arizona
15 can never engender conflicting feelings.

16 Would now be a convenient time to take the lunch
17 recess.

18 MR. KING: This is my last slide.

19 CHMN. FOREMAN: Okay. Why don't we do that and
20 then we'll take the lunch recess.

21 MR. KING: And I can be really quick because
22 this is really going to be addressed in detail by both
23 Randy and Kenda in later testimony.

24 But we've done considerable work with these
25 projects with Maricopa County. We've got our county plan

1 amendment proved in 2008 amending the zoning for Arlington
2 Valley Solar I and II to be compatible with solar power
3 generation.

4 As previously testified, we've put a
5 considerable amount of work into our Special Use Permit,
6 filed that in July of 2009. We've had our scoping
7 meeting, and again, Kenda will discuss our progress in
8 detail.

9 Of course, we're involved in the CEC process
10 here. We have substantial site control and made
11 substantial progress in securing all our gen-tie
12 right-of-ways, as well as having done considerable public
13 outreach. And today, we have no public opposition or
14 negative comments received. So we're very happy about
15 that.

16 CHMN. FOREMAN: All right. Very good on that
17 appetizing note, we'll break for lunch.

18 MR. MOYES: I think I can just add a postscript
19 what Ms. Youle said. I think the Hassayampa switchyard
20 may be the classic example of a very complicated,
21 multi-ownership substation facility.

22 MEMBER YOULE: As well as the Palo Verde
23 generating station.

24 MR. MOYES: Right.

25 CHMN. FOREMAN: All right. We will reconvene

1 then at 1:00 and resume hopefully at 1:00, and you say
2 that the Committee Members --

3 MS. POLLIO: Yes. Do you want to go off the
4 record?

5 CHMN. FOREMAN: We can go off the record, yes.

6 (Recessed at 12:20 p.m. and reconvened at 1:00
7 p.m.)

8 CHMN. FOREMAN: Let's see if we can go back on
9 the record now.

10 MR. MOYES: Thank you, Mr. Chairman, if I could
11 just deal with a couple of quick housekeeping items before
12 Mr. Schroeder begins his testimony.

13 Mr. Schroeder, did you prepare a virtual tour of
14 the project sites in these cases using the aerial
15 photographs and related technology, digital technology?

16 MR. SCHROEDER: Yes.

17 MR. MOYES: Is the DVD that's enclosed in the
18 exhibits binders in the front pocket and referenced as
19 AVS-6 in the exhibits binders provided to the Committee an
20 accurate digital copy of that presentation that you will
21 make in a few minutes?

22 MR. SCHROEDER: Yes, it is.

23 MR. MOYES: Did you also prepare written
24 testimony that was prefiled in these cases regarding, one,
25 a brief overview of the AVSE and AVSE II projects and

1 their sites, and two, the project's water and air quality
2 characteristics relevant to determination of environmental
3 compatibility.

4 MR. SCHROEDER: Yes.

5 MR. MOYES: Is that testimony included in the
6 exhibit binders as AVS-7?

7 MR. SCHROEDER: Yes, it is.

8 MR. MOYES: And if you were presenting all of
9 that prefiled testimony orally today, would your testimony
10 be the same as what was prefiled?

11 MR. SCHROEDER: Yes, it would.

12 MR. MOYES: Mr. Chairman, I would note that
13 Mr. Schroeder's prefiled testimony, as indicated, deals
14 with two categories of topics, only one of which will be
15 addressed in this Panel 2, and then later in Panel 3.

16 I offer a copy of the virtual tour DVD as
17 Exhibit AVS-6 -- and again the court reporter has one --
18 and Mr. Schroeder's prefiled testimony as Exhibit AVS-7 to
19 be marked accordingly by the reporter, and if there are no
20 objections, move for admission at such time you think most
21 appropriate.

22 CHMN. FOREMAN: I'll take those under
23 advisement, also, and rule on them when the testimony is
24 completed and we've seen the tour.

25 MR. MOYES: We can proceed with the marking as

1 indicated?

2 CHMN. FOREMAN: Yes, go ahead and mark them.

3 MR. MOYES: Thank you.

4 CHMN. FOREMAN: And just remind me to make sure
5 that I make a formal ruling on the record at the end.

6

7 RANDY SCHROEDER,

8 called as a witness on behalf of the Applicant, having
9 been previously duly sworn by the Chairman to speak the
10 truth and nothing but the truth, was examined and
11 testified as follows:

12

13 DIRECT EXAMINATION

14 BY MR. MOYES:

15 Q. Mr. Schroeder, I know that you are a well-
16 acquainted witness in previous proceedings to this Panel.
17 So for the record, if you would just state your -- I
18 think you already did that when you were sworn in.

19 A. (MR. SCHROEDER) Yes.

20 Q. So if you could give us a brief review of your
21 background, and then proceed with your prepared testimony
22 regarding the physical aspects of this project, please.

23 A. (MR. SCHROEDER) Yes, I have about 30 years
24 experience, 30 plus years experience in the environmental
25 field, and I have worked primarily in the energy sector

1 and worked on over a hundred generation and transmission
2 projects.

3 And in Arizona, I have testified before the
4 Siting Committee in numerous other cases that are
5 referenced here on this slide. I won't go into that
6 detail.

7 But what I'm here to talk about right now and
8 provide to you is a virtual tour of the project, and I
9 might refer you to your place mats because they might be
10 useful. They provide maps and visual renderings which
11 you'll see on the virtual tour; but again, it might be
12 useful for you to reference them as we go. So with that
13 I'll end the slide show here temporarily and go into the
14 first of the two virtual tours.

15 And this is the AVSE solar project. And I pause
16 this at any time if you should so desire. I will pause it
17 at a few locations to point out certain aspects of the
18 project.

19 This provides an aerial overview of the project,
20 and as you can see, it will pop up here on the screen here
21 shortly, and has been testified to earlier. This is the
22 location of the AVSE site, and as you will see in just a
23 moment, it is surrounded by significant amounts of other
24 energy projects and energy infrastructure.

25 You will see the Arlington Valley Energy

1 Facility owned by LS Power in this location, the Mesquite
2 generating facility right up here to the northeast side of
3 the AVSE site. The Red Hawk power station nearly due east
4 of the site, and up here in is the Palo Verde Nuclear
5 Generating Facility. Here is the Hassayampa switchyard or
6 substation from which multiple high voltage lines emanate
7 and traverse through this entire area.

8 As we go forward here, we'll zoom in to the
9 project site itself, and you can get a closer look at what
10 it looks like.

11 I'll pause it there for a moment; and as you can
12 see, as has been testified earlier, the majority of this
13 site is previously farmed land that has been retired from
14 agricultural production, and you can see the former
15 outlines of the fields without the project superimposed on
16 it, which will occur here shortly.

17 And there you can see its relative location to
18 the Arlington Valley Energy Facility that we showed on the
19 more wide view just a moment ago.

20 This is a rendering of what the site would look
21 like if developed using PV technology. You can see that
22 the majority of the site is PV panels with a small O&M
23 area within the central portion.

24 Now we'll take a look at what it would look like
25 if it were developed as CSP technology.

1 And here, as you can see, the majority of the
2 site again is the solar field, but were the CSP project to
3 be developed, you would also have a power block that
4 you've seen before associated with some of the other
5 projects that you've had before you, and then also an
6 evaporation pond associated with the wastewater.

7 Now we will zoom in to the viewpoints from which
8 we did visual simulations, and these simulations are
9 included in Exhibit E of the application. We're flying
10 over to the intersection of Wintersburg Road and Elliot
11 Road. Wintersburg Road is the primary access from I-10 to
12 this area. It passes by the Palo Verde Nuclear Generating
13 Facility. And this is the existing view from that
14 location at that road intersection. As you can see, the
15 high voltage transmission lines are in the foreground.
16 Not seen in this picture just to the left is the existing
17 Mesquite Generating Facility and just to the right a bit
18 of a ways down the road is the existing Arlington Valley
19 Energy Facility.

20 And now this is the proposed view. This is what
21 the project would look like using CSP technology from this
22 location. And as you can see, there wasn't a significant
23 change in the photograph, but we will zoom in to show that
24 the only evident structures are those associated with the
25 power block located in this specific location in the

1 picture. And as I said, we'll zoom in to show you that
2 they are indeed out there but difficult to see from this
3 distance.

4 You can see a little bit of the solar field just
5 over the existing vegetation as well.

6 Now we're going to go to the second viewpoint
7 that we looked at which is also on Elliot Road, but
8 between, a little bit closer to the Arlington Valley
9 Energy Facility because Elliot Road is about the only
10 location that's frequently traveled by people in proximity
11 to this project; and again this is the existing view, and
12 while you can't see the structures of the transmission
13 facility, you can see the conductors in the near view.

14 Again, this is the proposed view, and as you can
15 see there, not much of a change, but we'll zoom in to show
16 you that the power block can faintly be seen in that
17 location.

18 A little bit of the solar field will be visible,
19 but not very much because of the intervening vegetation.
20 And that is AVSE.

21 Now we will take a look at AVSE II. As was
22 testified earlier, same general location, but as you can
23 see here, we're south of the railroad tracks that run
24 here. This road is alternately referred to as Southern
25 Pacific Terrace and Narramore Road that runs to the

1 northeast. You can see the approximate distance between
2 AVSE and AVSE II; and again one of the reasons there are
3 two separate projects, not only are they on the opposite
4 sides of the railroad tracks from each other, but they're
5 almost a mile apart as well. But all the same existing
6 infrastructure can be seen there.

7 Like we did for AVSE, we'll zoom in to take a
8 look at the lands.

9 And there you can see, just as was the case with
10 AVSE, the majority of the lands at AVSE II were previously
11 farmed and retired from agriculture and have been retired
12 for some period of time.

13 CHMN. FOREMAN: Excuse me, Mr. Schroeder, when
14 was the last time any of the land in either parcel was
15 actively under cultivation and irrigation?

16 MR. SCHROEDER: I'm not sure of the exact date,
17 but it would be probably the early 2000s would be my best
18 guess at that. I could find out at the next recess. But
19 it's in that time frame. It's during the time frame that
20 the other power stations were under development.

21 CHMN. FOREMAN: I'm sorry, Member McGuire?

22 MEMBER MCGUIRE: Was it retired because somebody
23 bought it for this, or was it already retired?

24 MR. SCHROEDER: Yeah, the farmland in this
25 particular case, and many of the farmlands in this area,

1 because as you saw in our more zoomed-out photographs, a
2 lot of the lands in this area are retired farmlands, and
3 they were acquired back in the time frame of the
4 development of the other power projects and retired from
5 agriculture to convert the water rights for industrial
6 use.

7 CHMN. FOREMAN: Member Wong.

8 MEMBER WONG: Mr. Chairman, you started a trend
9 here.

10 CHMN. FOREMAN: I'm sorry.

11 MEMBER WONG: In line with Mr. Chairman's
12 question and Mr. McGuire, you said that the farmland was
13 retired from its agricultural use in the early 2000s. And
14 the question is, was that retired by the owner who
15 operated the farm and was that retired in conjunction with
16 the acquisition by your company, or was there a period of
17 time that the farmer owned the land and did not use it for
18 any agricultural use? I'm trying to understand the gap in
19 time there.

20 MR. MOYES: John --

21 MR. SCHROEDER: John might be better to the
22 explain that.

23 MR. MOYES: John, go ahead, but there's a
24 certain legal element to this that I'll add to if we need
25 to.

1 MR. KING: My understanding is that the
2 properties were acquired by Arlington Valley Energy
3 Facility and then retired and the water rights converted
4 into Type 1 water rights for industrial use, to be used
5 for cooling at the gas-fired facility.

6 MR. MOYES: Legally, the process was that the
7 land was acquired when it was farmland by the developers
8 of the gas-fired power plant to have both a supply for the
9 Arlington Valley Energy Facility and an adequate bank, if
10 you will, of additional Type 1 rights supplied for future
11 projects just like this one.

12 The legal process the company has to go through
13 after it acquired the lands from the farmers was to file
14 what's called a development plan, which really is the,
15 it's a legal term under the Code for that conversion
16 process. And in that conversion process, the department
17 takes into account the historical irrigation water use
18 during a five-year period that was specified by the Code;
19 and the amount of water that was used to irrigate that
20 total farm with respect to these lands was something just
21 shy of five acre-feet per acre.

22 Then in the conversion process, those irrigation
23 rights that were grandfathered and protected under the
24 Code, which no new ones can be created, were converted
25 through a conservation concept in the Code that gives you

1 a starting point of 3 acre-feet per acre, but then that
2 figure gets further reduced by the degree to which there
3 may have been roads and ditches and farmhouses and other
4 things that weren't using water.

5 So the total water use attributable is reduced
6 down below that three acre-foot level, and in this case
7 with these lands, that figure I think is 2.88 acre-feet
8 per acre.

9 So that's sort of the legal process that the
10 purchasers of the land from the farmers went through to
11 create what is now the Type 1 rights that LS Power has
12 control of and a portion of which would be used for these
13 projects.

14 CHMN. FOREMAN: Member Houtz.

15 MEMBER HOUTZ: This might be an appropriate time
16 to build upon that, and Mr. Moyes or Mr. Wene, these
17 grandfathered irrigation rights were appurtenant to lands.
18 Could you explain what appurtenancy is to the Committee?

19 MR. MOYES: Appurtenancy is a concept that in
20 simplified terms says the water runs with the lands. And
21 with respect to grandfathered rights inside of an Active
22 Management Area -- and this is part of the Phoenix Active
23 Management Area -- there are three types of, without
24 getting into things that don't involve us or here, there
25 are basically three types of rights that were protected

1 under the Code based on historical use. An irrigation
2 right, and then that can be converted or might have prior
3 to the Code been converted to a nonirrigation use that
4 gives rise to a Type 1 right. And then there were certain
5 other nonirrigation rights that were recognized called
6 Type 2 rights which are fungible and can be moved around.

7 But for our purposes, the irrigation right and
8 the Type 1 right that grows out of it through this
9 conservation and shrinking of the right process and
10 investing in the right is a appurtenant to each acre of
11 land. So if the land is transferred, the right that's
12 appurtenant to it goes with it.

13 And there are rules and regulations that the
14 Department and policies that govern how those rights can
15 be exercised as it relates to pumping from those
16 appurtenant lands using them on or off those appurtenant
17 lands, et cetera, which are complicated but have to be
18 complied with and will be complied with.

19 MEMBER HOUTZ: So generally, Mr. Moyes, the
20 water that's pumped under these Type 1 rights generally
21 have to be used within the boundaries of the lands that
22 Arlington Valley has acquired here.

23 MR. MOYES: That's correct.

24 MEMBER HOUTZ: And cannot be transported more
25 than a few feet off, if anything.

1 MR. MOYES: That's correct. And the concept is
2 that the water is there. It's appurtenant to that land.
3 It was earned by the irrigation history of that land and
4 can be used only on that land in its reduced amount.

5 And just by way of contrast, and maybe your
6 questions are going to go there. But in contrast to
7 outside of an AMA where you've just heard a proceeding,
8 the Department under current law has no regulatory control
9 and ability to prevent any number of industrial users from
10 coming into an area and pumping as much water as they can
11 pump, as fast as they can pump it. We call it a race to
12 the aquifer. That creates a situation of questionable
13 reliability for one of those industrial users.

14 In the context of an AMA, we're dealing with a
15 very tightly regulated --

16 MEMBER HOUTZ: And again, and AMA is?

17 MR. MOYES: I'm sorry, Active Management Area.
18 In this case, the Phoenix Active Management Area. We're
19 dealing with a very regulated, constrained, structured
20 opportunity to use water; and when one owns these Type 1
21 rights that are appurtenant to the land, there's the
22 degree of security that says I know no new industrial user
23 can come in on the desert land next to me and start
24 pumping away the water that I'm counting on using and
25 that, frankly, the studies and analyses that go into this

1 conversion counted on being available.

2 So there's a different measure of security,
3 reliability, and importantly, regulatory control that
4 entails conservation measures. Within each Active
5 Management Area, there is a conservation requirement
6 that's part of what we call a management plan. And the
7 management plans are prepared by the Department and are
8 imposed annually in ten-year -- for each decade.

9 MEMBER HOUTZ: Mr. Moyes, these lands have been
10 converted to Type 1s which is a retirement of farmland.
11 Can these lands ever be irrigated again with groundwater?

12 MR. MOYES: No, I don't believe so. I think
13 with respect to these lands -- certainly if we build our
14 power plant on them, they won't be.

15 MEMBER HOUTZ: Even if there is no power plant
16 there, these lands now can only be used for municipal and
17 industrial purposes, or they could just sit idle?

18 MR. MOYES: That's correct.

19 MEMBER HOUTZ: Okay.

20 MR. MOYES: There are some situations in the
21 state where people just quit irrigating, where the farmer
22 decides he can't afford to irrigate anymore, and he quits
23 irrigating; and within certain time periods, that could be
24 revived later.

25 A property for which the irrigation right has

1 been converted to nonirrigation use can't be reestablished
2 as irrigation rights.

3 MEMBER HOUTZ: That's all the legal education
4 for now.

5 CHMN. FOREMAN: Let me, before you go back to
6 Member Wong, just for the record indicate that Counsel's
7 avowal -- and I will treat it as an avowal -- contained
8 both factual and legal materials. So if members of the
9 Committee wish to ask Counsel questions that relate either
10 to the legal opinion that he has offered or the historical
11 perspective that he has because of his prior association
12 with this area, I'll allow that.

13 MEMBER WONG: Thank you, Mr. Chairman and
14 Mr. Houtz, Member Houtz for that Water Law 101 discourse.

15 MEMBER HOUTZ: CLE credit will be given.

16 MEMBER WONG: Thank you. Please give me a
17 certificate.

18 What I'm getting at is, I think it's important
19 for my analysis to understand the gross water usage under
20 the agricultural use, the last agricultural use upon which
21 you, the applicant, had acquired or the current owner had
22 acquired the land, and then comparing to what is the
23 anticipated water usage under this project and trying to
24 understand what is the demand for the valuable natural
25 resource that the project will incorporate.

1 MR. MOYES: Mr. Wong, if I could interrupt, just
2 to say that that will be covered very specifically in the
3 balance of the material in this panel, so --

4 MEMBER WONG: Very good. Then I'll defer to
5 that presentation. Thank you.

6 MR. MOYES: The water demand side of the
7 equation for the project is something that we will be
8 talking about further fairly shortly.

9 MEMBER WONG: Very good, thank you.

10 MR. MOYES: May I just for the record,
11 Mr. Chairman, I do avow to the accuracy of those
12 statements, and my background with respect to this project
13 grows out of the historical experience I had with these
14 various gas plants and representation of Duke in its
15 Griffith project which preceded this, but was somewhat
16 co-terminus in time with the Arlington Valley facility
17 during which these lands were acquired as we've discussed.

18 CHMN. FOREMAN: Very good. You may proceed.

19 MR. SCHROEDER: And again, this particular
20 rendering shows what the PV technology would look like on
21 AVSE II, again similar to AVSE I, almost all solar field
22 with a small O&M, operations and maintenance area.

23 Then the CSP technology, again, also showing the
24 location of the power block, the evaporation pond in this
25 area, and again predominantly the solar field itself.

1 One other thing I will point out on this
2 particular view, as you can see through here the existing,
3 there are two 500 kV lines that run through here
4 currently, and that's what that particular corridor is in
5 that location, that goes to the Hassayampa substation.

6 MEMBER HOUTZ: Mr. Chairman.

7 CHMN. FOREMAN: Member Houtz.

8 MEMBER HOUTZ: I can see a big wash there on the
9 left, and it looks like from a previous slide, the land
10 between what I see as the project and that wash is also
11 owned by Arlington or would be owned by the Applicant, but
12 it's set back. Is that because of floodplain issues? Is
13 it a significant rise from the wash? Is it in a
14 floodplain?

15 MR. SCHROEDER: There is a designated
16 floodplain. This is Centennial Wash that you can see
17 here. And that probably carried a little bit of water
18 over the last week. And this area around Centennial Wash,
19 there is a floodplain and a designated floodway where the
20 majority of the floodwaters go, and this entire project is
21 outside that floodway, and for the most part in this case
22 is outside the actual floodplain as well. But we are
23 working very closely with the Maricopa Flood Control
24 District as part of the SUP project, and then
25 independently as well. And we're providing all the

1 drainage and grading plans and everything that were
2 alluded to earlier to that agency, as well as to the
3 drainage agency within the county as well. And so they're
4 very directly involved.

5 And just like we did for AVSE, we did do photo
6 simulations which again are found in Exhibit E.

7 BY MR. MOYES:

8 Q. Mr. Schroeder, let me interrupt you, if I might,
9 before you move from here. I think this may be a good
10 vantage point from which to point out the very similar
11 characteristics of the proposed transmission corridor,
12 just from a viewshed standpoint, from these sites to the
13 Hassayampa switchyard, the general pathway.

14 A. (MR. SCHROEDER) Yeah, if you were to look here,
15 our proposed -- we now have up on the right screen the map
16 that we had on previously, and you can see that the
17 proposed interconnection to Hassayampa is here along this
18 green route; and if you look at that same outline of the
19 AVSE II project as it sits on the land here, you can see
20 that it approximately follows in this direction here,
21 which is coincident with, as you can also see, this line
22 that goes all the way through there, the existing high
23 voltage transmission lines that already exist in that area
24 and make their way up to the Hassayampa substation.

25 Q. Thank you.

1 A. (MR. SCHROEDER) Okay. On to the photo
2 simulations that were done. In this particular location,
3 there aren't any well traveled roads in the immediate
4 vicinity of the project.

5 In this particular location we're zooming in on
6 is the corner of 355th Avenue and Narramore Road, which is
7 the primary intersection point in this area and is located
8 approximately right over in this location.

9 And this again shows the existing view which
10 also has transmission structures in it, not as high a
11 voltage as we saw from the previous view on AVSE.

12 And again, this is the proposed view, and you
13 saw nearly no change in the photograph taken from this
14 distance; but again we zoom in here where you can see
15 where the project is located out there. Very difficult to
16 see, as I said, from this distance and location, but that
17 one shot shows where the power blocks would be located.

18 Now we took a second simulation closer to, from
19 the Narramore or Southern Pacific Terrace Road that runs
20 adjacent to the railroad track. This is a dirt road or a
21 gravel road, not a paved road and only sees local use.
22 And again, you can see from this location the presence of
23 the existing two 500 kV lines that run north and south,
24 not only through the foreground, but through the edge of
25 the project site as we showed earlier.

1 And this is the proposed view from this
2 location, and likewise very difficult to see from this
3 distance, but again, we zoom in to give you an idea what
4 it does look like out there.

5 So you can see a bit of the solar field and the
6 power block.

7 CHMN. FOREMAN: Could you stop there a moment?
8 Now, does the simulation contain a simulation of the
9 gen-tie lines?

10 MR. SCHROEDER: No, the gen-tie line is not
11 simulated in this view. However, it would follow the same
12 route as these two lines that are in the foreground as we
13 showed on the previous slide.

14 CHMN. FOREMAN: And would the plan be to put it
15 on one side or the other of the larger towers?

16 MR. SCHROEDER: I'm not sure that that final
17 decision on which side has been made yet.

18 MR. OTAHAL: Actually, I can shed some light on
19 that. If you look at the pathways that we've selected as
20 far as routes, it's illustrated that the pathway and the
21 easement is located to the west of those two lines. So
22 that would be to the left from this view.

23 CHMN. FOREMAN: I'm sorry, wouldn't it be to the
24 right?

25 MR. OTAHAL: I'm sorry, to the right.

1 CHMN. FOREMAN: We're facing south, correct?

2 MR. OTAHAL: Yeah, you're facing south, exactly.

3 So, in other words, the project gen-tie lines would pass
4 beneath those existing transmission lines, and then head
5 directly north on the western edge.

6 CHMN. FOREMAN: Okay. All right. Thank you,
7 that helped me.

8 MR. SCHROEDER: I think that is the end of the
9 virtual tour.

10 CHMN. FOREMAN: Let me stop you then and poll
11 the members of my Committee. Is there anyone who wants to
12 take a physical tour, an actual tour of this area? It's
13 one that we've seen by simulation before on, I guess this
14 would be the third occasion.

15 (No response.)

16 CHMN. FOREMAN: There's no enthusiasm. We will
17 cancel the tour, if it's not already been canceled. All
18 right, we have that issue resolved.

19 Please proceed, Counsel.

20 MR. MOYES: Thank you. Thank you,
21 Mr. Schroeder. I believe that then moves us on to
22 Mr. Otahal.

23 (NEXT PAGE, PLEASE.)

24

25

1 JOE OTAHAL,
2 called as a witness on behalf of the Applicant, having
3 been duly sworn by the Chairman to speak the truth and
4 nothing but the truth, was examined and testified as
5 follows:

6

7 DIRECT EXAMINATION

8

9 BY MR. MOYES:

10 Q. Mr. Otahal, you've stated your name for the
11 record and been sworn in.

12 Would you like to review for us quickly your
13 educational and professional background and particularly
14 address your role in connection with these two projects
15 that we're hearing today?

16 A. (MR. OTAHAL) My background is mechanical
17 engineering, registered professional mechanical engineer
18 in California. Prior experience was in the generating for
19 utilities, electric production, so I've worked in a power
20 plant before and know what it takes to operate a CSP
21 plant. I've got about ten years of experience supporting
22 developments throughout the West, LS Power, both for
23 fossil and renewable projects.

24 Q. In connection with your work with this project,
25 are you the authority as it were on some of the technology

1 issues?

2 A. (MR. OTAHAL) Well, I don't want to sell myself
3 as the authority, but my job is to support all of the
4 western area developments for LS Power, whether they be
5 solar technology or fossil technology, principally
6 gas-fired technology.

7 Q. Could you then just briefly review for us the
8 proposed technologies taking into account, as I mentioned
9 in my opening statement, that the Committee is pretty
10 familiar by now with CSP, PV and even thermal salt
11 storage, but just the highlights of those very quickly,
12 and then into the things that are maybe more peculiar to
13 our project that they might not have seen before.

14 MR. SCHROEDER: Yeah, and I think I was actually
15 going to cover this slide and then Joe was going to get
16 into the more detail.

17 MR. MOYES: Okay.

18 MR. SCHROEDER: Again this is reiteration of
19 testimony you've already heard from Mr. King. As was
20 testified earlier, these are two separate and independent
21 125 megawatt projects for all of the reasons stated
22 earlier -- their physical separation, their marketability
23 and flexibility, and so on.

24 Each project is proposed to use either of the
25 two technologies, either CSP or PV, and the determination

1 of which technology will be ultimately selected will be
2 determined by the customer. It will be market-driven, and
3 each potential customer, as was alluded to earlier, has
4 its own preferences.

5 Then as Mr. Moyes mentioned, one of the things
6 that makes this a little bit unique is for the CSP option,
7 that provides an opportunity to firm the intermittent
8 nature of the project. And then Mr. Otahal will talk
9 about the two different firming options that are being
10 evaluated.

11 BY MR. MOYES:

12 Q. Please proceed, Mr. Otahal.

13 A. (MR. OTAHAL) As you folks know, solar plants
14 provide electric energy on an intermittent basis, and that
15 depends on the time of day and the cloud cover. The
16 load-serving utilities, of course, prefer to have a
17 predictable generation that corresponds to system load.

18 In the Southwest, that summertime peak occurs in
19 the late afternoon and the early evening hours. This is
20 the time when the incremental costs of conventional
21 electric production is the highest, and the solar
22 generated power is needed most.

23 The AVSE and AVSE II projects propose
24 technologies that allow plant output to be independent of
25 solar radiation. It smooths out the bumps and extends

1 plant output to later in the daily cycle to sync up with
2 peak system loads.

3 The output of our CSP projects are firmed up or
4 managed independently from the amount of solar radiation
5 by using either thermal energy storage or co-firing with
6 natural gas.

7 MEMBER MUNDELL: To that point, Mr. Chairman.

8 CHMN. FOREMAN: Member Mundell.

9 MEMBER MUNDELL: Thank you, Mr. Chairman. I
10 read that, and when will that determination be made? It's
11 one thing to say, you know, you're going to use natural
12 gas. It's another thing to say you're going to have solar
13 storage. So I mean -- and I read this. This is so
14 generic -- not generic, but the way it's written right
15 now, it's pretty general and it's pretty broad. So what
16 is the thought process on that?

17 MR. OTAHAL: Well, I think quite honestly we
18 won't have a technology decision until we have a PPA in
19 place.

20 CHMN. FOREMAN: Well, if I might follow up, is
21 your PPA going to delimit -- going to place a limit on the
22 amount of natural gas generation that you're using here?
23 In other words, I guess the question is, are we facing an
24 application for a solar project or a natural gas project?

25 MR. SCHROEDER: I can maybe answer that in very

1 general terms, and then we actually have a follow-up slide
2 that kind of graphically represents that.

3 In this particular case, both the solar thermal
4 option and the gas co-firing option is only there to
5 provide backup when the solar resource is not available.
6 It does not allow for additional generation to take place.
7 And as was discussed, they're separate 125 megawatt
8 projects; and during the course of a day, if a cloud event
9 comes through and say you have two or three hours of
10 clouds that would preclude solar generation, then you
11 could use the thermal storage or the gas co-firing to
12 still maintain a firm 125 megawatt output. That's why
13 they call it firming, is you keep the output constant.

14 And so likewise, you do that when there are
15 cloud events of any magnitude, and also as Mr. Otahal
16 mentioned, at the end of the day when peak demand is the
17 highest, late afternoon, early evening, and the solar
18 resource starts not generating electricity because the sun
19 is no longer available, both technologies, solar thermal
20 and gas co-firing, could extend the generation day after
21 the sun goes down.

22 CHMN. FOREMAN: I think the concept is something
23 that I understand. What I'm searching for is a
24 quantification of natural gas use.

25 MEMBER MUNDELL: Can I help, Mr. Chairman?

1 CHMN. FOREMAN: Yes.

2 MEMBER MUNDELL: When you go to get your air
3 permits from the county, what is the limitation that
4 you're going to have on those air permits for emissions?

5 MR. SCHROEDER: I can answer that. Each of
6 these projects would be getting -- and we've initiated the
7 process with Maricopa County, who has air quality
8 jurisdiction in this area, to get a minor source permit
9 for the CSP option, because you would have a need for an
10 air permit, whether you're using solar thermal or gas
11 firming.

12 And the minor source permit under the federal
13 and local codes limits you to 250 tons of any one
14 pollutant per year. And given the technology of gas
15 co-firing, it's estimated the maximum you could run a
16 gas-fired boiler of this size would be roughly up to about
17 1,500 hours a year. That would be the maximum.

18 CHMN. FOREMAN: At what capacity?

19 MR. SCHROEDER: The 125 megawatts.

20 CHMN. FOREMAN: 125 megawatts?

21 MR. SCHROEDER: Yes.

22 MR. MOYES: Mr. Chairman, may I inject? I was
23 bit confused by an earlier answer, just trying to put
24 myself in the Committee's shoes. It's clear that we would
25 only use one or the other. We wouldn't have both solar

1 thermal and co-firing in this project.

2 MR. SCHROEDER: Correct, yes, these are
3 either/or options.

4 MR. MOYES: And the selection will be determined
5 by the customer and the economic comparisons of the two.

6 CHMN. FOREMAN: Well, yes, and --

7 MR. MOYES: At pre-construction, obviously well
8 before construction in the process of the PPA negotiation,
9 that decision would be reached.

10 CHMN. FOREMAN: Let me see if I understand the
11 math here. You just said that this would authorize 1,500
12 hours of operation at 125 megawatts. So that would be
13 maximum capacity. So are we talking about ten hours a day
14 for a little less than half of the year as being the top
15 end natural gas use here?

16 MR. SCHROEDER: That would be the limit of the
17 permit. But it would be dispatched according to the solar
18 resource needs and variability.

19 CHMN. FOREMAN: Well, let me come back to the
20 question that I asked at the very beginning, and that is,
21 we've already heard about one of these plants where they
22 wanted this backup ability to be available on days when
23 the price of electricity on the spot market might be very
24 good, and so they could run it in addition to the solar
25 technology.

1 MR. SCHROEDER: This wouldn't even have that
2 ability, because the steam turbine is the same. So the
3 solar project feeds the 125 megawatt steam turbine and
4 creates 125 megawatts of power; and then the use of the
5 thermal storage unit in the absence of the solar field
6 providing the heat to that steam turbine to make steam or
7 the steam to that steam turbine from the solar energy, the
8 hot salt would create the steam that feeds that 125
9 megawatt steam turbine to create energy.

10 And in the case of a gas co-firing, there is a
11 separate gas-fired boiler which makes steam which feeds
12 into the 125 megawatt steam turbine. So at any one point
13 in time it can only create the maximum output of the steam
14 turbine.

15 CHMN. FOREMAN: Okay. So the sun comes up at
16 6:00. By 8:00 it's heated the system up enough so that it
17 can generate electricity. The sun's intensity increases
18 till noon. Electricity increases up to a maximum of 125
19 megawatts at noon. The sun continues and goes down in the
20 afternoon in intensity, but because of the stored
21 energy --

22 MR. SCHROEDER: In the salt.

23 CHMN. FOREMAN: -- in the salt --

24 MR. SCHROEDER: For thermal storage.

25 CHMN. FOREMAN: -- for thermal storage, it

1 continues near peak capacity for a while. Now, if you had
2 the natural -- you say the salt will be an alternative to
3 the natural gas?

4 MR. SCHROEDER: Correct.

5 CHMN. FOREMAN: But if you had natural gas
6 there, then the natural gas would kick on, say 2:00 in the
7 afternoon as the sun's intensity is going down. And then
8 you would gradually bring the natural gas up in intensity
9 so you could maintain your 125 megawatt peak on into the
10 evening?

11 MR. SCHROEDER: Yeah, I jumped ahead a couple
12 slides here. Mr. Otahal was going to talk about this.

13 MR. MOYES: I was going to ask you to do that.

14 MR. OTAHAL: Let me just jump in with the nuts
15 and bolts of how the thing works. This is a typical --
16 well, not a typical day. It's a sample day in July for
17 actual Arlington Valley ambient conditions.

18 On this particular day, you see at somewhere
19 around 10:00 we had the beginning of a cloud event. I
20 don't know how long that cloud event lasted, but it was
21 significant. The blue line is how the power plant would
22 have operated without thermal energy storage or co-firing.
23 And what happens, of course, when you lose your solar
24 energy resource, you immediately have a transient that
25 drops you down in load. And in this case, it's bringing

1 you down to, looks like 40 megawatts, if I can read it
2 from here, from the 125 megawatt rating. That's almost
3 low enough to cause the steam turbine to want to trip off
4 line. So not a good situation.

5 Then it recovers, and then it continues
6 throughout the day, and as the solar resource dissipates,
7 so does the output.

8 Now, what happens with the red line, this is
9 thermal energy storage. You do not -- you sacrifice a
10 little early generation while you're collecting energy and
11 storing it thermally in the morning hours. So that's more
12 or less in the bank. You can call on that energy whenever
13 you want to in during the day.

14 And in this case, there is the instance where
15 yes, you would like to have that energy. So you start
16 drawing from that bank. The net effect is to hold the net
17 output from the plant pretty level throughout the day.
18 And then it can continue because you've collected more
19 thermal energy, which is represented by the area
20 underneath this line, into the later evening hours.

21 So three effects here. First effect is you
22 don't have this transient here. You level out your
23 output. You extend the useful generation into the later
24 part of the evening when peaks occur. And your area under
25 the curves here is greater for the thermal energy storage

1 case, which means you have a higher utilization of your
2 balance of plant. That's the steam turbine and everything
3 else except for the solar field. So it's good news.

4 CHMN. FOREMAN: Quantify for me the percentage
5 of electrical generation that you anticipate would occur
6 from natural gas if natural gas was used as a firming
7 technology.

8 MR. OTAHAL: What we've done is we've looked at
9 what it would take -- the perspective we took is, well,
10 thermal energy storage is something we want to achieve.
11 Then we asked ourselves a question. If we wanted to
12 duplicate that thermal energy storage with natural gas,
13 how much would I have to have throughout the day? And
14 we've come up with we can live within a limit of 25
15 percent of the total plant output burning natural gas in
16 order to mimic what we would see with the benefit of
17 thermal energy storage, and that would be something that
18 would be written into the air permit limits.

19 CHMN. FOREMAN: So if I'm understanding what you
20 just told me, you're telling me that you would agree not
21 to use natural gas to the extent that it would generate
22 more than 25 percent of the energy in any one day,
23 correct?

24 MR. OTAHAL: That's correct -- oh, for a year,
25 that's an annual basis, on an annual basis.

1 CHMN. FOREMAN: Annual, 25 percent annually?

2 MR. OTAHAL: Yes.

3 MR. SCHROEDER: And again, another point that
4 I'll make that we made earlier is that the benefit of this
5 and this is determined by the customer. Some customers
6 that have a preference, for example, for PV don't put a
7 lot of importance in this; but for CSP being the only one
8 of the two technologies that provides it, this is one of
9 the advantages that CSP provides.

10 And then one of the other points I was going to
11 make in the just general scenario we were discussing is,
12 as you can see, this part of the curve doesn't kick in
13 until much later in the day because this heat transfer
14 fluid stays warm and actually can generate for a short
15 time after the sun goes down, because it maintains its
16 heat long enough to provide steam for a certain duration
17 of time. And it's when it really starts dropping off
18 while the peak demand is still high during the day that
19 has value to some clients. And I think Arizona utilities
20 have expressed at least some potential interest in that
21 technology.

22 CHMN. FOREMAN: Would I be fair in
23 characterizing the CSP/natural gas firming option as being
24 a 75 percent solar/25 percent natural gas power generator?

25 MR. KING: I'm not sure I would put it that way.

1 It's got a potential for that to happen, but --

2 CHMN. FOREMAN: If you've done economic
3 analyses, you've done projections. What is your
4 projection then -- and you're telling -- suppose you have
5 a customer that says, you know, I kind of like natural
6 gas. I would like to know how much natural gas I can burn
7 during the night on this project. What's my maximum here?
8 So what do you tell that person?

9 MR. KING: What we're really looking at is
10 responding to the customer here. The reason --

11 CHMN. FOREMAN: What I'm really asking is, what
12 if the customer says I want 25 percent natural gas and 75
13 percent CSP? Is that within the --

14 MR. KING: That would be within the permit
15 limits.

16 CHMN. FOREMAN: Permit?

17 MR. KING: Yeah. And if I can, the Arizona
18 utilities have been very up front that their peak goes --
19 it goes beyond the daylight hours, and it goes into the
20 evening. And what you're really talking about here -- you
21 know, I find it highly unlikely that you would utilize up
22 to the limits. If you look at the existing gas-fired
23 plants that are combined cycle plants in Arizona, they
24 don't operate as often as I would assume that this project
25 would.

1 What you have is you've got a 125 megawatt steam
2 turbine. That's available capacity. But solar thermal is
3 an intermittent resource, so you can't really rely upon
4 that capacity. That's why so many projects have looked at
5 solar thermal, particularly for this market where the
6 Arizona utilities have been very outspoken that they're
7 looking for capacity and firming capacity to help deal
8 with those on-peak, you know, summer peak days where it
9 stays hot so late and their load stays high through the
10 evening. And in addressing that, we've designed this for
11 solar, for thermal energy storage; but if you follow that,
12 the cost of molten salt has nearly tripled. It's a very
13 small amount -- I don't know if you would call it a
14 monopoly, but it's a near monopoly in that business, and
15 that cost has tripled with only one or two projects being
16 built with thermal energy storage in the world, and these
17 are 50 megawatt projects in Spain.

18 And we've spoken with lenders. There's really
19 no appetite among lenders currently, and to them, it's not
20 a proven technology; and so it would be very difficult to
21 secure financing for a thermal energy storage system in
22 the current market. If several more projects get done,
23 that could improve.

24 But in looking at what the customers in Arizona
25 want, what's important to them, this firming option, we

1 believe this gas co-firing is going to help them meet
2 their needs. And to the extent that you can make this 125
3 megawatts firm and more secure during those critical
4 on-peak hours, we think it eliminates the need to build a
5 peaker, a peaking gas-fired plant on top of every solar
6 megawatt you build. Because if solar megawatts are
7 intermittent, then the utilities still need capacity to
8 meet the peak load when the sun is not shining.

9 So you end up with two power plants to the
10 extent you need to meet capacity requirements versus if
11 you can add firming on the back of a concentrated solar
12 power plant, then that can meet those capacity
13 requirements.

14 CHMN. FOREMAN: Let me see if I understood your
15 answer correctly. You're indicating now because of market
16 conditions with regard to the thermal salt, that you think
17 the most likely option that would be selected by a bidder
18 now would be the gas/CSP option, if it was going to be a
19 CSP option?

20 MR. KING: I think it's very difficult to get a
21 thermal energy storage project financed in the current
22 market.

23 CHMN. FOREMAN: And the CSP firming option that
24 you have is essentially a 75 percent CSP, 25 percent
25 natural gas generator; is that true?

1 MR. KING: If you want to characterize it that
2 way, because we are saying yes, 25 percent on the gas
3 co-firing, it would have that ability.

4 CHMN. FOREMAN: Okay. Okay. Just trying to
5 understand.

6 MEMBER YOULE: Mr. Chairman.

7 CHMN. FOREMAN: Member Youle. Oh, I'm sorry,
8 Member Mundell wasn't done. I beg your pardon.

9 MEMBER MUNDELL: I yielded to you for a second,
10 and then I lost my turn.

11 CHMN. FOREMAN: I'm sorry.

12 MEMBER MUNDELL: No, the Chairman asked the
13 questions much better than I would have.

14 In any event, I just want to make sure I
15 understand. You know the way the CEC is written, it
16 implies, it says -- I'm looking on page 3, between lines
17 16 and 17, it says, "include equipment to provide firming
18 generation capability during limited peak electric
19 demand."

20 So it really should say include a natural gas
21 backup unit or something? I mean when it says "include
22 equipment" -- again, I'm not trying to be disparaging, but
23 it's sort of my style. I mean this is being sold as a
24 solar project, but we're going to have, as I understand
25 it, you could have up to 1,500 hours per year of natural

1 gas generation. Is that a correct statement or not,
2 because I wasn't really clear when you were talking to the
3 Chairman.

4 MR. KING: Yes, it's in that range, correct.

5 MEMBER MUNDELL: So that, if my math is right
6 and you deal with 365 times 24, you come up with how many
7 hours a year?

8 MR. KING: 8760.

9 MEMBER MUNDELL: I had approximately 8700, okay.
10 So then if we were to grant the CEC the way it's written,
11 you would have the ability to have maybe have 18 or 19 or
12 20 percent generation from natural gas? 1,500 hours, what
13 is -- 8760, and then you've got 1,500.

14 MR. KING: Yes.

15 MEMBER MUNDELL: Okay. I just want to make sure
16 we get all this on the record because again, it's being
17 sold as a solar project, which it is mainly, but it's also
18 got a very strong component of natural gas; and then based
19 on the Chairman's questions, which were some of the
20 similar ones I was going to ask, you're really not going
21 to do the other option based on financing?

22 MR. KING: Yes. You know, understand as the
23 owners of Arlington Valley and Griffith power plants,
24 those plants don't run all the time. And it's because,
25 you know, the demand for power really comes in the peak

1 periods in Arizona. And that's when they're called on.
2 And those are combined cycle, the most efficient gas-fired
3 plants that can be built.

4 MEMBER MUNDELL: And I appreciate that,
5 Mr. King. Again, the way this is written though, it says
6 in limited peak time periods, basically. Limited peak
7 electric demand. And as the other witness indicated, I
8 always used to joke, yeah, it's 5:00 on Thursday in July.
9 And I used to use the old Huey Lewis song, "Everybody's
10 Working Hard for the Weekend," because they're working
11 late in Phoenix in the big buildings downtown, trying to
12 get everything done so probably they can take off early on
13 Friday afternoon. But 5:00 in Phoenix on a Thursday in
14 July is peak.

15 So your example though was just showing a cloudy
16 day. So all I'm trying to say is, whatever we do, we need
17 to be clear about it. We're not just talking about
18 peaking at 5:00 in July. We're talking about cloudy days.
19 Aren't we? That was your example.

20 MR. KING: Yes, yes.

21 MEMBER MUNDELL: We need to clarify the
22 language, in my opinion, in the CEC if we approve this.
23 Then number 2, let me just be clear because I want to
24 follow up on the Chairman's questions because again, I had
25 some of the same thoughts. Are you saying that -- strike

1 that.

2 What happens if natural gas is a lot cheaper to
3 generate electricity than solar? You're going to opt out
4 and try to get all the 1,500 hours, aren't you? You've
5 done those analyses, haven't you?

6 MR. KING: The one thing with solar, I don't
7 think that one is a concern because the fuel is free. So
8 you're always going to generate as much as you can with
9 solar; and with solar, you're earning renewable energy
10 credits. I mean it's always going to be the preferred
11 product for everybody.

12 MEMBER MUNDELL: So the only time that you would
13 really then use the natural gas backup is at peak when you
14 need to provide the electricity or a cloudy day?

15 MR. KING: When the solar fuel is not available.

16 MEMBER MUNDELL: We need to clarify it then
17 because it says -- I'll read it again to you. It says,
18 "include equipment to provide firming generation
19 capability during limited peak electric demand."

20 MR. MOYES: But Mr. Mundell, reading on, the
21 balance of the sentence does address, I think, your
22 concern, and I would like Mr. --

23 MEMBER MUNDELL: No, it's all in conjunction,
24 Counsel, when --

25 MR. MOYES: When solar radiation is

1 insufficient.

2 MEMBER MUNDELL: But you're not going to have
3 peak electricity at 10:00 in the morning in Arizona even
4 in the summertime. It doesn't start till 10:00 as his
5 diagram showed.

6 MR. MOYES: I'm not arguing against what you're
7 saying.

8 MEMBER MUNDELL: I'm arguing against the way
9 it's written because I thought you were going to try to
10 justify the rest of the sentence said when the Sun is not
11 available.

12 MR. MOYES: Well, that's what it says, when
13 solar radiation is insufficient, during those limited peak
14 electric demand periods, like the cloud event or whatever,
15 the storm.

16 MEMBER MUNDELL: But it's not a peak electric
17 demand period at 10:00 in the morning.

18 MR. MOYES: Okay.

19 MEMBER MUNDELL: Even in Arizona in the
20 summertime. It's 5:00 in the afternoon. It starts at
21 10:00 and then ramps up from 10:00 to 5:00 or 6:00 or
22 whatever. That's all I'm saying. The way it's written it
23 makes it sound like, at least in my opinion --

24 MR. MOYES: It's only peak period? And that's
25 not what you mean.

1 MEMBER MUNDELL: Well --

2 MR. MOYES: You're right, I'm agreeing with your
3 point. We need to clarify that.

4 I think the other thing that would be helpful
5 here is some discussion -- you've alluded to it briefly,
6 and that's the issue of dispatch of various different
7 resources and heat rate differentials, and how this gas
8 component would compete or not with other gas facilities
9 and resources that could be brought in and would be
10 dispatched early. Could you elaborate on that?

11 MEMBER MUNDELL: I wasn't finished.

12 MEMBER YOULE: I'm in line, too.

13 MR. MOYES: I did not mean -- I'm sorry, I did
14 not mean to foreclose the rest of your questions. We can
15 do that later.

16 CHMN. FOREMAN: Let's do that, Member Mundell.

17 MEMBER MUNDELL: Thank you. Maybe you're going
18 to get to this, and I don't know if it's one of these
19 witnesses or not. When you get to your water usage, are
20 you going to have testimony telling us what the water
21 usage would be at 1,500 hours utilizing the natural gas
22 versus the solar technology?

23 MR. OTAHAL: Yeah, the water usage numbers that
24 are in the application correspond to the maximum water
25 usage which would either be thermal energy storage or gas

1 co-firing.

2 MEMBER MUNDELL: I wasn't clear about that.
3 Thank you, sir, for confirming that. I guess we'll
4 elaborate on that as we go forward. Thank you,
5 Mr. Chairman.

6 CHMN. FOREMAN: Member Youle.

7 MEMBER YOULE: What's the time amount of thermal
8 storage you have under this?

9 MR. OTAHAL: What we've done, we're permitting
10 for six hours of full load thermal energy storage, the
11 equivalent of. That doesn't mean that we're going to
12 operate for six hours at full load. That just means that
13 we could possibly operate it twelve hours at half load.
14 So it's a proportionate.

15 MEMBER YOULE: Okay. My concerns are sort of
16 dovetailing with Member Mundell's. To me, I mean I don't
17 know how you're planning on selling this on a PPA. If
18 you're planning on selling it 24/7 for twelve months at X
19 number of hours and getting that much transmission, you're
20 going to be using much more natural gas. You're going to
21 have margins for using natural gas in the wintertime to
22 sell on the wholesale market, I presume.

23 Say your solar works perfectly all summer long
24 when you're at peak. You haven't used up the 1,500 hours
25 of natural gas; and you hit wintertime, and then you've

1 got some natural gas margin under your air permit. I mean
2 is there some way we can sort of pin this down? Are you
3 willing to define "peak"? You're only going to be using
4 natural gas between the hours of X and Y for such and such
5 months? Or, you know, is there some way to limit this so
6 that you're not getting the advantage of the natural gas
7 firing when it's really not firming because you're not at
8 peak, you don't have peak demand?

9 MR. KING: I'll just try and address that. I
10 understand your concern. We probably haven't considered
11 all these concerns because we consider this, this is going
12 to be at the top of the resource stack. I mean we're
13 providing this because we think the Arizona utilities want
14 the ability to meet these peak periods, and it would
15 really be a sustained heat wave or going into the summer,
16 you know, evening hours after the --

17 MEMBER YOULE: But it's evening; it's not
18 nighttime.

19 MR. KING: Nighttime. Okay, evening, I'm sorry.

20 MEMBER YOULE: That's not peak load.

21 MR. KING: So that the asset has capacity value
22 for them, they can count it in the resources, the capacity
23 value. But in terms of the heat rate stack in Arizona, I
24 mean our combined cycle gas-fired plants that will be
25 sitting right next to this facility, they don't run during

1 the nighttime unless it's a sustained heat wave. They
2 don't run during the winter on peak hours, and they're the
3 most, among the most efficient gas-fired plants in the
4 country. The market has no demand for that here.

5 So, you know, this plant which is a steam
6 turbine, we're taking advantage that there's a steam
7 turbine capacity there and our customers may desperately
8 need power, and to have a 125 megawatts drop right off at
9 6:00 p.m. is doing them a great disservice, and they're
10 going to have to go out and build a peaker or buy a peaker
11 or do something else.

12 MEMBER YOULE: I hear you totally, but it's not
13 necessary to have 125 megawatts at 2:00 a.m.

14 MR. KING: I agree. No one will ever want it
15 from the this plant, I guarantee you.

16 MEMBER YOULE: Well, let me get at it this way.
17 When you apply for transmission, what hour blocks are you
18 going to apply for, for output of this?

19 MR. KING: We don't plan to apply for firm
20 transmission rights, FTRs. We're looking to sell under a
21 power purchase agreement and sell it at the delivery
22 point.

23 MEMBER YOULE: You're just going to sell it to
24 Palo Verde, basically do an exchange.

25 MR. KING: That's right. So I understand the

1 concern. We really view this as something that the
2 utilities want to be able to manage their peak load
3 scenario, and we --

4 MEMBER YOULE: I don't think anybody is taking
5 issue with peak load, that concept. It's just a matter of
6 when does peak load stop.

7 MR. KING: And my only concern would be, I would
8 be concerned about limiting its value for them if, let's
9 say there's a sustained heat wave. You wouldn't want to
10 say that it couldn't run past a certain hour and then
11 because of an permit condition, it's still 110 degrees at
12 midnight and they've got to shut it down. I don't know
13 the scenario, but, I mean I think they're going to look at
14 it as an emergency resource or something like that. But I
15 really don't, you know -- this is not the type of facility
16 someone would want to run --

17 MEMBER YOULE: That's different from firming.
18 That's generation, not firming.

19 CHMN. FOREMAN: We have to have one person talk
20 at a time here for our court reporter.

21 Another question?

22 MEMBER YOULE: No.

23 CHMN. FOREMAN: Member Noland.

24 MEMBER NOLAND: Thank you, Mr. Chairman, as one
25 of the nonlawyers here, I would like to be sure I

1 understand all this that's been bandied around.

2 First of all, I think we're down to the nitty-
3 gritty of flexibility, are we not?

4 MR. KING: Uh-huh.

5 MEMBER NOLAND: That's a nonlawyer term.

6 MEMBER YOULE: Flexibility or nitty-gritty?

7 MEMBER NOLAND: Both. So what you're talking
8 about is like the parabolic mirror type solar system with
9 thermal storage, that's one option?

10 MR. KING: Uh-huh.

11 MEMBER NOLAND: Now you're talking about
12 parabolic with a gas-fired or a co-fired enhanced and no
13 salt storage; Is that correct?

14 MR. KING: Yes.

15 MEMBER NOLAND: Are you talking about parabolic
16 with thermal storage and co-fired?

17 MR. KING: No.

18 MEMBER NOLAND: No, so that one is out. What
19 about the PV, is that --

20 MR. KING: No storage of any type.

21 MEMBER NOLAND: You don't have any kind of
22 backup with that?

23 MR. KING: No.

24 MEMBER NOLAND: On your air quality permit, is
25 that 1,500 hours for each site?

1 MR. SCHROEDER: Yes.

2 MEMBER NOLAND: And then the last thing I need
3 to clear up is, I thought I heard you say the contractor
4 is going to decide which option when the contract is let?
5 I may have misheard that.

6 MR. KING: No, the question was asked when the
7 decision would be made as to what to build, and the
8 response there was, I think someone said may, have said
9 contractor. It was customer.

10 MEMBER NOLAND: With the PPA?

11 MR. KING: The customer entering into the power
12 purchase agreement.

13 MEMBER NOLAND: Okay. I did mishear that, I'm
14 sure. So they're going to decide which --

15 MR. KING: Someone would have to choose to buy
16 it. If he we can sell the output to a counterparty and
17 they choose that they want gas co-firing, then really it
18 would be us as the project that would agree to enter into
19 that power purchase agreement or not.

20 So it's not that the decision is taken out of
21 our hands. But we're saying we want to have that option
22 if a customer -- if the customer is looking to buy that,
23 we want to be able to sell it to them.

24 MEMBER NOLAND: And the last thing I need
25 clarification, you kept saying Arizona utilities. But it

1 could be other state utilities, also. It's not just
2 Arizona that wants that certainty?

3 MR. KING: It's possible, but we haven't seen
4 any demand from utilities outside of Arizona. I mean
5 people really want capacity closer to their load center as
6 opposed to trying to import it from out of state.

7 MEMBER NOLAND: I'm sorry, because that's
8 completely opposite of what we heard two weeks ago. So
9 now I am --

10 MR. MOYES: I think I can help. I think what he
11 meant to say is demand for CSP with the thermal storage as
12 opposed to demand for solar projects, but --

13 MR. KING: In our experience, out-of-state
14 utilities are interested in the renewable energy. You
15 know, these large load-serving entities have other ways of
16 procuring capacity resources, and they give much more
17 value for capacity resources that are located within their
18 state. And they're not -- our experience is they don't
19 have the interest in capacity products or firming products
20 from solar projects out of state.

21 MEMBER NOLAND: That's still different, I think,
22 than what we've heard previously, unless I misunderstood
23 what I heard two weeks ago. Thank you.

24 MR. SCHROEDER: I might add one clarification as
25 well to your question about flexibility. Really the

1 project flexibility here has three primary options. PV is
2 one. CSP with thermal storage is another; and CSP with
3 gas co-firing is another.

4 MEMBER NOLAND: That's exactly what I said.

5 MR. SCHROEDER: Okay.

6 CHMN. FOREMAN: Member Whalen.

7 MEMBER WHALEN: Thank you, Mr. Chairman.
8 Mr. King, in reference to the gas-fired, is it my
9 understanding that you would also use the gas-fired to
10 keep the oil at about a hundred degrees during cold times,
11 or is that a separate boiler?

12 MR. OTAHAL: Yeah, that's another function of
13 the co-fired boiler. It has a dual purpose. One is to
14 provide that fill-in capacity, and the other is to, on
15 extremely cold days or periods of extreme cold, to keep
16 the oil from freezing.

17 MEMBER WHALEN: Would you then pre-fire the gas
18 in the morning to get the steam started before the solar
19 comes up also?

20 MR. OTAHAL: Right. And there will be some
21 mornings, I suppose, when there won't be any solar at all.
22 So it's just a safety feature that you have to design into
23 the system to keep from freezing your miles of heat
24 transfer piping.

25 MEMBER WHALEN: This gas boiler comes on line

1 relatively quickly?

2 MR. OTAHAL: A hot start is less than half an
3 hour. Whenever you're off overnight, you may be looking
4 at an hour.

5 MEMBER WHALEN: But you basically are watching
6 the weather and know what's going on.

7 MR. OTAHAL: Yeah, I think that's part of the
8 trick of operating the solar plants, yeah, having a good
9 forecast.

10 CHMN. FOREMAN: Member Mundell.

11 MEMBER MUNDELL: You know, as the CEC talks
12 about PV, as a practical matter based upon what I just
13 heard, are you really going to use PV if you're talking --
14 I mean obviously, if you're talking about having firming
15 generation, you know, or using it for that function during
16 peak?

17 MR. KING: I think the choice is really for the
18 customer, is PV or CSP, I think it's what's going to be --
19 their driving force from what we've seen from load-serving
20 entities is what is most economical. So if PV is more
21 economical than CSP, I would expect them to choose that.

22 Now, if they are selecting CSP, what we've heard
23 from them is they like firming capacity. Now, a lot of
24 doubt has been raised on thermal energy storage and
25 whether it's financeable and the viability of that.

1 Therefore, that's why we're, you know, proposing a gas
2 co-firing option.

3 MEMBER MUNDELL: I understand they're going to
4 look at the price. I'm trying to understand from a
5 practical standpoint if you were to build -- I mean if
6 you're going to go out there and market, without telling
7 me the names of the entities, are you saying there has
8 been some interest in having PV when we just heard about
9 how important it was to be able to provide electricity,
10 you know, at peak periods of time, firm on cloudy days?

11 MR. KING: I don't want to overstate what
12 anybody's, any other company's position is. I'm just
13 giving you feedback that we've gotten from counterparties.
14 I do think there's tremendous interest in PV because I
15 think PV has really come down the cost curve.

16 What we're trying -- this is a very good
17 location for CSP or PV.

18 MEMBER MUNDELL: And to that point, Mr. King,
19 what are you estimating the cost to be for PV? Since the
20 cost has come down, and now it's competitive with what?

21 MR. KING: It's competitive with CSP on a
22 capital cost, and it may be less than CSP on a capital
23 cost basis.

24 MEMBER YOULE: How many cents per kilowatt hour?
25 Ballpark? Range?

1 MR. KING: I'm uncomfortable. We don't have a
2 PPA yet. If I knew that exact number, we probably would.

3 MEMBER YOULE: That's why I was saying range.

4 MR. MOYES: He could guarantee you they would.

5 MR. OTAHAL: I'll say that our application does
6 state some price ranges in there, capital cost ranges for
7 PV and CSP.

8 MEMBER MUNDELL: Thank you, Mr. Chairman.

9 CHMN. FOREMAN: All right. Proceed.

10

11

FURTHER EXAMINATION

12

13 BY MR. MOYES:

14 Q. Let me ask some redirect of -- I'm not sure
15 which of the three of you is best qualified to answer, but
16 I think it would be helpful in the context of the
17 discussion we just had to explore a little bit more the
18 concept of heat rate and the dispatch priority curves that
19 utilities look to when they decide that they need some
20 more of a resource to meet a peak load situation.

21 John or Joe, either one of you are qualified to
22 answer that, I know.

23 A. (MR. OTAHAL) Sure, the heat rate on the
24 gas-fired proposal that we have here isn't a very good
25 heat rate to stand alone. It doesn't compete head to head

1 with any other kind of peaking resources that you normally
2 find. That would be like a combustion turbine, say 40
3 megawatt combustion turbine which has a ten-minute start
4 and has a lot of operating flexibility. So it's a very
5 poor competitor for pure peaking capacity.

6 Q. So if I can interrupt you, if a utility has
7 acquired the rights to the output of this project and even
8 though your air permit has still got 1,250 hours of gas
9 capability left in it, but they will compare the heat
10 rates of all the other facilities that are available to
11 them, you're saying this project will come in as the last
12 choice, the gas-firing component would be the last choice
13 because of its bad heat rate?

14 A. (MR. OTAHAL) That's correct, and its limited
15 operating really flexibility, because you really want to
16 operate this boiler at the tail-end or at the beginning of
17 your solar cycle. You're not going to just willy-nilly go
18 in in the middle of the night and dispatch it. I can
19 virtually guarantee that's never going to happen.

20 Q. So when you apply, Mr. Schroeder, for a minor
21 source air permit, do we specify what that upper limit of
22 hours is, or is that just the nature of a minor source
23 permit? It has a certain number of hours capability
24 within it?

25 A. (MR. SCHROEDER) It's a function of the

1 mathematics. It's based on the emission output of that
2 size boiler when it's operating, and then you multiply
3 that by the number of hours it could operate, the number
4 of starts it could have, and then mathematically it has to
5 stay under that 250-ton threshold. So it's just math.

6 Q. But that's not a product of us going in and
7 saying we would really like to be able to run this
8 gas-fired unit 25 percent of the time?

9 A. No.

10 Q. It's just the phenomenon of the permit itself
11 would allow that in a worst case use of this facility?

12 A. (MR. SCHROEDER) Correct.

13 CHMN. FOREMAN: Before we perpetuate that, I did
14 a little math. 1,500 hours divided by 8750 hours, by my
15 math, is about .1714. So assuming that you used it every
16 hour that you could, it seems to me that would make it a
17 17 percent rather than a 25 percent.

18 MR. KING: Can I answer that? Chairman Foreman,
19 your math, I believe, is correct. We're talking 25
20 percent of what the Arlington Valley Solar Energy would
21 produce in a year. The solar project itself obviously
22 operates at less than full capacity. It's about a 30
23 percent capacity factor.

24 And the reason for the 25 percent is, I believe
25 it's under WRGIS, which measures renewable energy credits,

1 that you can't produce more than 25 percent from
2 nonrenewable resource and still be able to register a
3 renewable energy credit.

4 CHMN. FOREMAN: So in order to get the renewable
5 energy credits, this would have to be -- the natural gas
6 generator would have to be used less than 25 percent of
7 the time; is that correct?

8 MR. KING: That's correct.

9 CHMN. FOREMAN: And again, doing the math, it
10 appeared to me that if the natural gas unit, if the air
11 permit would allow 1,500 hours per year of usage, divided
12 by 365, that would allow up to a maximum of about 4.1
13 hours per day. Does that seem consistent with your
14 estimates?

15 MR. SCHROEDER: Yeah, it would be close to that,
16 yes.

17 CHMN. FOREMAN: And again, to follow up on
18 questions that were raised by my fellow Committee members,
19 when you talked about the relative inefficiency of the
20 gas-fired option as a firming technology, is another way
21 of saying that is that it costs more to generate a
22 kilowatt hour of energy with this natural gas option than
23 it would with another more efficient natural gas option if
24 you were just comparing natural gas generation to natural
25 gas generation?

1 MR. OTAHAL: That's correct, and rough numbers
2 are for a peaker -- and we're talking about a simple cycle
3 peaker -- you can get close to a 9,000 heat rate. We're
4 going to have about a 13,000 heat rate.

5 So given the dispatcher's choice that he has to
6 make on what has the least incremental cost, the lower
7 heat rate unit is preferred.

8 CHMN. FOREMAN: So can you give me a percentage
9 then? Would that be -- what would it be --

10 MR. MOYES: It would be a linear proportion.

11 MR. OTAHAL: 40 percent.

12 CHMN. FOREMAN: 40 percent?

13 MR. OTAHAL: 30, 40 percent heat rate, that's a
14 big differential.

15 CHMN. FOREMAN: More expensive to generate your
16 electricity through natural gas with this option than
17 through your other natural gas peaking facility that you
18 have there closeby; am I understanding the math and the
19 way the economics works?

20 MR. OTAHAL: That's right.

21 CHMN. FOREMAN: Thank you.

22 MR. MOYES: Thank you, Mr. Chairman. Going on
23 with this little bit more direct question.

24 BY MR. MOYES:

25 Q. If you were to opt for the CSP with thermal

1 storage, you used the graph to indicate that you would use
2 up a little bit of that energy in the early hours to build
3 up the heat in the salt.

4 Does the project itself with that thermal salt
5 storage component require more land and more mirrors in
6 order to be able to create that additional heat to have
7 available for storage as compared to a CSP plant that has
8 a 125 megawatts using the gas co-fired boiler?

9 A. (MR. OTAHAL) Absolutely, the amount of the heat
10 gathering surface or the parabolic mirrors has to be
11 greater with the thermal energy storage with the same
12 output rating of 125 megawatts so that you can bank that
13 energy for use later.

14 So effectively you're covering a -- you know,
15 the footprint as we have presented on the arrangement
16 drawings is reflective of that. It's a larger footprint
17 with thermal energy storage than without thermal energy
18 storage.

19 Q. So if we were to do the graphic with the CSP
20 with the gas boiler alternative, it would reflect a
21 smaller footprint, assuming the same 125 megawatt output?

22 A. (MR. OTAHAL) Yeah.

23 Q. Do we have that graphic? I don't know that we
24 need to see the graphic, but --

25 Mr. King, perhaps you could elaborate for us a

1 little bit more on what you said about the -- and I think
2 we use these terms very commonly, the difference between
3 capacity and energy. But perhaps you could explain that
4 in a little more detail to us from the standpoint of the
5 consuming utilities purchasing and procurement activities
6 and give us a sense for why a California utility might be
7 looking more strictly for an energy product and what that
8 means versus an Arizona utility looking for a capacity
9 product and what that means.

10 A. (MR. KING) I'll answer it two ways. One, for
11 the gas co-firing, anything above two percent nonrenewable
12 wouldn't qualify as renewable in California for renewable
13 portfolio standard compliance. So that would probably not
14 be very interesting to a California utility, given that it
15 wouldn't qualify as renewable. The entire solar output
16 wouldn't if the use of nonrenewable energy was more than
17 two percent.

18 But on the thermal energy storage example, the
19 California utilities, for example, they get resource
20 adequacy credit, a certain amount of credit for projects,
21 and projects that are located outside of the state, that
22 credit is discounted. And the resource adequacy is, it's
23 a measure -- every load-serving entity has to meet a
24 certain amount of, you know, have a certain amount of
25 capacity relative to their peak capacity requirement. And

1 so that's really how they measure their capacity value.
2 And that's why an import would qualify as less capacity
3 than an in-state resource.

4 And, you know, also my statements just based on,
5 you know, knowledge and conversations with the utilities,
6 and it's just our experience. I don't know what anybody
7 else's experience is. But it's really not -- we don't
8 think it's an attractive resource for out-of-state
9 utilities.

10 Q. And when you say capacity, you're talking about
11 the capability of a unit to generate when it's needed as
12 opposed to the energy that it does produce when it is
13 operating; and if I understand correctly -- and correct me
14 if I'm wrong, but the PV product is by definition more of
15 an energy product. When they get it, they'll buy it and
16 pay for it; but it's by definition intermittent?

17 A. (MR. KING) That's right.

18 Q. If you're seeking a capacity product, then the
19 firmness of that capacity has a tremendous impact on its
20 value to a customer who wants a capacity product; is that
21 a correct characterization?

22 A. (MR. KING) Yes, the capacity of Arlington
23 Valley Solar Energy I or II would be a 125 megawatts. The
24 value of that capacity as measured by the utilities will
25 be tied to the technology. You know, if there's no

1 firming, then, you know, I don't know exactly how they'll
2 count it, but it would be severely discounted, and they'll
3 view it as an energy product. And PV is generally looked
4 upon as a product that most of its value is the energy
5 that's delivered.

6 CSP with firming can have capacity value because
7 a utility can count on it being there within, you know,
8 certain restrictions. Like the six hours or whatever the
9 air permit says on the gas co-firing.

10 Q. And when you're marketing this, would you expect
11 a utility to pay you any premium at all for the fact that
12 under the air permit and under the physical capabilities
13 of the plant, it could produce gas generation 25 percent
14 of the time as opposed to something that was restricted to
15 only be able to produce gas generation at a much smaller
16 increment of time at just those points when the peak
17 resource is needed because, even in the dispatch curve of
18 higher heat rate or better heat rate plans, they need it?
19 Can you give us a sense for that market value
20 differential?

21 A. (MR. KING) Yes, I can. Because as the owners
22 of Arlington Valley Energy Facility and Griffith, we've
23 been in the marketplace, you know, selling capacity.
24 Arlington Valley has a ten-year contract with Arizona
25 Public Service to sell its output summer peak only. They

1 didn't want it the balance of the year, even though that
2 heat rate is about 7,000 BTUs per kilowatt hour, which
3 compares to, as Joe testified about, a 13,000 heat rate
4 here.

5 Q. Almost -- if I can interrupt, almost twice as
6 attractive in the market from its dollar value to be run
7 when they need energy?

8 A. (MR. KING) Yes.

9 Q. Thank you king?

10 A. (MR. KING) So when a utility evaluates a
11 combined cycle facility like that, it's going to have both
12 capacity value, the fact it can be there when they need
13 it, and energy value, meaning it's going to be a low cost
14 resource as well.

15 I would expect this, the real value of the gas
16 co-firing is capacity value. I doubt it would really
17 measure out as having much, if any, energy value. It's
18 more the fact that it can be there when the system is
19 severely strained and they need resources.

20 Q. So they wouldn't pay you much for -- the fact
21 that you could run it all those other hours isn't going to
22 be worth anything to them?

23 A. (MR. KING) It shouldn't measure out
24 economically on anyone's calculator, no.

25 Q. Thank you.

1 CHMN. FOREMAN: We're going to take a break here
2 for our court reporter. Take about a 15-minute break.
3 We'll resume at 2:45.

4 (Recessed from 2:30 to 2:45 p.m.)

5 CHMN. FOREMAN: All right. Let's go back on the
6 record. Member Whalen. Did you have a question?

7 MEMBER WHALEN: Yes. Thank you, Mr. Chairman.

8 Whoever wants to answer this. In the past in
9 the Palo Verde hub area, there has been some concern about
10 availability of natural gas to that hub because of
11 capacity on the pipeline.

12 Have you at least done some preliminary work on
13 the fact that you would have an assured gas supply?

14 MR. KING: I believe that there has been another
15 pipeline that -- TransWest did an expansion, runs through
16 the area, and I think capacity availability is much better
17 than maybe it was before that pipeline.

18 A project like this I wouldn't see having firm
19 gas transportation because it would not run often enough
20 to justify the expense.

21 MEMBER WHALEN: So you would have a spot market
22 your gas.

23 MR. KING: Yes.

24 BY MR. MOYES:

25 Q. Mr. King, just to follow up to that if I might.

1 Would this more likely be a tolling arrangement where the
2 purchasing utility would assume the responsibility to
3 bring the gas when and if they needed it?

4 A. (MR. KING) Most likely. It could work either
5 way, a tolling arrangement. We could provide it or the
6 other party could bring it. But I think the interest from
7 the counterparty would more than likely just be capacity,
8 and we dispatch when they tell us to.

9 MEMBER WONG: Mr. Chairman.

10 CHMN. FOREMAN: Member Wong.

11 MEMBER WONG: Mr. Chairman, I would like to have
12 a clarification further to what Member Noland had earlier
13 inquired about. I'm now not clear about what this
14 application is about. I understand it's a solar CSP
15 project. But now I'm not clear whether it's plus a
16 thermal storage, or is it CSP and a natural gas, or CSP
17 and coal, or CSP and natural gas and coal? I'm not clear
18 now. There's a lot of discussion, but I need
19 clarification, please.

20 MR. KING: I will clarify it that there is no
21 coal planned. The options that we've presented were
22 concentrating solar power with thermal energy storage or
23 concentrating solar power with gas co-firing. Those two
24 are mutually exclusive, one or the other, or photovoltaic.
25 So those are the three potential technology mixes.

1 MEMBER WONG: But Mr. King, is that -- you said
2 natural gas coal. That's natural gas and coal.

3 MR. KING: Co, C-O, co-firing.

4 MEMBER WONG: Oh, Co, C-O?

5 MR. KING: Excuse me if I wasn't clear.

6 Co-firing, that means natural gas co-firing.

7 MEMBER WONG: As a supplement?

8 MR. KING: As a supplement.

9 MEMBER WONG: I kept hearing coal.

10 CHMN. FOREMAN: One at a time for our court
11 reporter. We now have --

12 MEMBER WONG: I'm sorry, Mr. Chairman, I'm not
13 sure how we're going to vote on this because I can
14 understand the PV side because that's outside of our
15 specific jurisdiction, the PV specific project.

16 However, a thermal project, which is what this
17 is on the CSP side, you wanted a CSP plus a thermal
18 storage or a CSP and natural gas co-generation; is that
19 right? How would we position that, Mr. Chairman?

20 CHMN. FOREMAN: Both are thermal technologies,
21 and I believe that we have jurisdiction over both.

22 Counsel, you would agree with that?

23 MR. MOYES: I would, yes.

24 CHMN. FOREMAN: So I don't think it's an issue.

25 MEMBER WONG: So a potential CEC would then -- I

1 know we would have to wordsmith it later, but it would
2 just say that if this Committee elects to approve of this
3 project, it would say CSP thermal or CSP natural gas are
4 approved? Something to that effect?

5 CHMN. FOREMAN: Yes, and we have done that
6 before on a couple of occasions, indicated that the option
7 for selection is left to the Applicant. We have talked
8 about what the options are. And I note that in the CEC
9 application that has been made this time, there is
10 language that is similar to some of the language that we
11 have used before about exercising options.

12 MEMBER WONG: Thank you, Mr. Chairman, for the
13 clarification.

14 CHMN. FOREMAN: Member Noland.

15 MEMBER NOLAND: Mr. Chairman, I just had one
16 further clarification. On the CSP with thermal storage,
17 do you have to have any kind of use of the natural gas in
18 case of the temperature dropping and having to keep that
19 heated, so would you have to have that option even with
20 the CSP with thermal?

21 MR. OTAHAL: No, with CSP with thermal you can
22 pretty much do without -- that functions as the freeze
23 protection.

24 MEMBER NOLAND: It will hold enough of the
25 energy to be able to keep that circulating and at a

1 certain heat?

2 MR. OTAHAL: Correct.

3 MEMBER NOLAND: Okay. Thank you.

4 CHMN. FOREMAN: Member Eberhart, just one
5 question.

6 MEMBER EBERHART: Just one question. Tell me
7 why it wouldn't be feasible to have a plant that has both
8 thermal salt, the molten salt and gas.

9 MR. OTAHAL: I think that's an economic --
10 technically, it is feasible, but I think that now you get
11 into the realm of what would be an economic salable
12 product; and when you compound building the two separate
13 systems to perform the same function, you probably don't
14 have an economic product.

15 MR. EBERHART: I think -- and this is not a
16 question. It's a follow-up statement that --

17 CHMN. FOREMAN: Just one follow-up.

18 MEMBER EBERHART: Just one follow-up. I think
19 the Committee has a certain comfort level with the molten
20 salt concept because we understand it acts like a battery
21 and kind of after about three or four hours kind of dies
22 down and that's it. But with the relative unlimited with
23 the gas option, I think that, at least for myself, gives
24 me some measure of uncertainty, and I know you've tried to
25 address this. But that's the struggle, I think, that

1 Mr. Wong was referring to on how do we vote for this, that
2 some of the Committee members are probably experiencing
3 right now.

4 CHMN. FOREMAN: Any other questions for this
5 panel?

6 MEMBER MUNDELL: Are they done with their
7 presentation? I was going to wait till the end.

8 MR. MOYES: What a novel idea. I'm sorry, I
9 couldn't resist.

10 As you've seen, it's very challenging sometimes
11 because these issues that are really important to you get
12 sort of pulled up early, and --

13 MEMBER HOUTZ: Should I pull my issues up now?

14 CHMN. FOREMAN: Just wait.

15 MR. MOYES: Sure, we're ready to move to water
16 issues.

17 CHMN. FOREMAN: Are there further questions for
18 the members of this panel --

19 MEMBER HOUTZ: My questions are for this panel.

20 CHMN. FOREMAN: Very good. Are there further
21 questions for this panel from Counsel for the Applicant?

22 MR. MOYES: Thank you. But again, if you want
23 to take other questions for the Committee, I'm not going
24 to try to foreclose it. But we aren't finished with this
25 panel's direct testimony yet --

1 MEMBER HOUTZ: I'll wait.

2 MR. MOYES: -- to be more precise.

3 CHMN. FOREMAN: Member Mundell, do you want to
4 ask your question now, or do you want to wait until after
5 the of --

6 MEMBER MUNDELL: I'll ask it now. I might
7 forget it if I wait for Mr. Moyes to finish his direct.

8 MEMBER MUNDELL: Just to close the loop for me,
9 on a minor source permit, you said you just do the math
10 and you'll figure out how many hours.

11 Just explain that to me. Have you done the
12 math? I mean when will the math be done? Is it 1,500
13 hours maximum, or is it going to be something less than
14 that?

15 MR. SCHROEDER: No, we have done the math, and
16 we're in the process -- like I said, we've been working
17 with the county to draft an air permit which wouldn't be
18 submitted until such time as a technology option is
19 selected because you have to permit what you're going to
20 build.

21 But in having those discussions with them, we
22 did do the math on the type of gas turbine or the
23 gas-fired boiler that would be used and what its expected
24 emissions are. Those mathematical calculations have
25 yielded the approximately 1,500 hours as a cap it could

1 run to stay under the 250-ton minor source limit.

2 MEMBER MUNDELL: Thank you.

3 CHMN. FOREMAN: All right. Member Houtz, now or
4 later?

5 MEMBER HOUTZ: I'll let him finish his direct.

6 CHMN. FOREMAN: Please conclude your direct,
7 Counsel.

8 MR. MOYES: Thank you, I think we're back to
9 Mr. Schroeder who is going to move on.

10 BY MR. MOYES:

11 Q. We already saw the graph with respect to the
12 solar firming, and the next topic is water use. Looking
13 at sort of the demand picture and the -- go ahead,
14 Mr. Schroeder. I'm babbling. I apologize.

15 A. (MR. SCHROEDER) Yes, we just have this slide up
16 to address the relative differences in water consumption
17 from the PV technology versus the CSP technology. You've
18 probably seen something similar to this in other cases.

19 PV technology is estimated to use approximately
20 11 acre-feet per year for each 125 megawatt project. And
21 the CSP technology is up to 1250 acre-feet per year for
22 each project using wet cool technology. And as was
23 previously discussed in earlier testimony, the water would
24 come from an on-site well at each location that would be
25 drilled and would be using the existing Type 1

1 nonirrigation rights, grandfathered rights that are
2 appurtenant to these project lands.

3 MEMBER HOUTZ: Mr. Chairman.

4 CHMN. FOREMAN: Member Houtz.

5 MEMBER HOUTZ: Mr. Chairman, I'm going to take
6 back my statement because this is a perfect slide for my
7 question.

8 EXAMINATION

9

10 BY MEMBER HOUTZ:

11 Q. I have a series of questions, and I'll address
12 it to all three of the Panel, but I'll first start with
13 the Mr. Schroeder in some of this.

14 Earlier today, we actually had what I called my
15 CLE or continuing legal education. Everybody wants to
16 know about Type 1 rights, and Mr. Wene and I have had
17 those discussions over the years about what they are or
18 not.

19 But my issue here and what I want to, as
20 Mr. Moyes will attribute, I try and make a record of what
21 the legal rights are and then have a discussion about the
22 policy issues.

23 And so Mr. Schroeder, I'm going to ask you a
24 series of questions, and if you're not the proper one,
25 maybe Mr. King or whoever.

1 I'm assuming that as the consultant on the
2 project, you were asked to do some studies about water
3 use, and you hired a groundwater expert to do the modeling
4 and stuff, and we'll have that witness in the final panel?

5 A. (MR. SCHROEDER) correct.

6 Q. Were you directed to look at all types of
7 cooling technology?

8 A. (MR. SCHROEDER) Actually, our next slide
9 addresses different cooling technologies, and I'll go
10 there. And actually Mr. Otahal is prepared to discuss
11 this slide and the accompanying graphic.

12 Q. Well, then I'll let him talk about it.

13 A. (MR. OTAHAL) This is going to be a technical
14 discussion. It's just how this thing works. As you've
15 heard in the earlier remarks, the success of the project
16 is going to depend on achieving the highest levels of
17 financial viability.

18 Now, the way to achieve that on our projects is
19 apply wet cooling, because that's the most efficient way
20 of generating electricity with a steam turbine, and that's
21 what we've got here.

22 Now, alternatives to the wet cooling, of course,
23 are dry cooling, and then there's hybrid cooling which is
24 kind of a compromise between wet and dry cooling. It's
25 kind of half and half.

1 Now, the significant negative impacts of dry
2 cooling or hybrid cooling are extremely high capital
3 costs, and that's because you have to buy a lot more
4 equipment, a lot larger equipment to do the same heat
5 removal duty that you do with wet cooling. You're talking
6 about a large radiator, fundamentally.

7 Other effects are that you decrease the steam
8 turbine efficiency. That's related to back pressure. You
9 can't get the back pressure as low as with wet cooling.
10 And you increase the plant auxiliary load. There's a lot
11 of fan power associated with dry cooling. A lot of fans
12 drawing electricity. So this all translates into the big
13 negative. The big negative is lower plant output.

14 Plant performance is most degraded during the
15 hot summer months, and that's precisely the period when
16 you want to be fully utilizing your abundant solar energy
17 and meeting peak levels of system load.

18 The economic penalty is much more severe for a
19 CSP plant than our neighboring plants, combined cycle
20 plants for the simple reason that we're one hundred
21 percent steam-generated electricity. Combined cycle
22 plants are approximately 30 percent steam-generated
23 electricity. So the impact is much greater than combined
24 cycle gas plants.

25 Now, what I want to show you here is the graph

1 illustrates exactly that on output. You've got -- this is
2 for a hundred megawatt CSP plant. This is the
3 relationship that you get when you plot the differential
4 in output of wet versus dry for varying ambient
5 temperatures, and this is for a desert condition very
6 similar to Arlington Valley.

7 What happens here is that you've got -- this is
8 data scatter because this represents actual hourly data
9 for a particular site. But the important thing to note
10 here is that you've got this tremendous heat rate penalty
11 or efficiency penalty at the high temperature areas, high
12 temperature periods. That's the summer pedestrians.

13 So in actuality, in your worst case on a 110
14 degree day, which I think is not too uncommon, you're
15 going to get a reduction in output of that power plant of
16 40 megawatts. That's 40 percent of the capability of that
17 power plant is going to be lost because of the compromise
18 of using a lower efficiency cooling system.

19 CHMN. FOREMAN: The source of this data, sir?

20 MR. OTAHAL: The source of this data was a paper
21 that was presented last year by Nexant. It was a model
22 run that they did on a Mohave Desert plant in California.

23 CHMN. FOREMAN: There was a recent federal study
24 conducted. Was this data included in it, or is it
25 consistent with the federal study concerning the viability

1 of dry cooling?

2 MR. OTAHAL: I'm not sure what federal study
3 you're referring to.

4 MEMBER MUNDELL: The one we saw two weeks ago.

5 CHMN. FOREMAN: Department of Energy?

6 MR. OTAHAL: Yeah, I believe that the graphs
7 that you saw from two weeks ago were from the same
8 technical paper.

9 MEMBER HOUTZ: Is the next slide going to show
10 the various water sources?

11 MEMBER WONG: Mr. Chairman, a point of order, I
12 know we're referring -- and I did the same, was referring
13 to some of the issues that were addressed in the Kingman
14 project. I just wanted to make sure that if the witnesses
15 address it as well, shouldn't that be part of any type of
16 evidence, or can they freely refer to that without any
17 reservation?

18 CHMN. FOREMAN: No, I don't think it would be
19 appropriate for us to make reference to part of the record
20 in the Kingman case, Number 151, to make our decisions,
21 per se.

22 However, since we have gone over multiple
23 presentations in this area, I don't think it's
24 unreasonable for us to ask these witnesses whether they're
25 familiar with testimony that we've heard in another case;

1 and if they are, then we can make use of it. If they
2 aren't, then it seems to me we have to either pursue the
3 reason why or ignore that.

4 MEMBER WONG: I just thought if we're creating a
5 record and it's not part of the record, somebody reading
6 the record would not necessarily know what had transpired
7 two weeks ago unless they actually read the previous
8 transcripts.

9 CHMN. FOREMAN: And that's true, and that's why
10 it would only be appropriate for us to make reference --
11 to make use of what is part of the record in this case.
12 But again, we can try to use just like we all use things
13 that we read in the paper and things that we have in our
14 natural bank of experiences in asking questions in this
15 case. But it's to develop the record in this case, not to
16 make use of the record in the other case.

17 MEMBER WONG: Yes, I just want to make sure when
18 we refer to a document of two weeks ago that it's clearly
19 stated in the record what was that document and describe
20 the document so somebody understands it when they read the
21 record.

22 CHMN. FOREMAN: Well, since he's not familiar
23 with it, I'm leaving that alone, and I'm going to make
24 reference only to what's in the record in this case.

25 MEMBER WONG: Thank you. Thank you.

1 CHMN. FOREMAN: Member Eberhart.

2 MEMBER EBERHART: Mr. Chairman, Mr. -- my eyes
3 are bad.

4 MR. OTAHAL: Otahal.

5 MEMBER EBERHART: Otahal, the slide on the
6 screen to the right where there's a relatively small
7 inefficiency up to about 80 degrees Fahrenheit, it would
8 seem to me that yes, we do have extremes at 110 almost
9 half the year. But that leaves the other half of the year
10 where our temperature most of the days is probably around
11 80 degrees or so or less.

12 Would it make sense or would it be economically
13 feasible to have dry cooling during the non-summertime of
14 the year and then have the wet cooling only during the
15 extremes?

16 MR. OTAHAL: That's exactly what hybrid cooling
17 is. Hybrid cooling does use dry cooling whenever the
18 ambient temperature is low enough, and when you're beyond
19 the design point of your condenser, you kick in wet
20 cooling.

21 CHMN. FOREMAN: Member Mundell.

22 MEMBER MUNDELL: I may have missed it. You
23 indicated that there's much more equipment involved in the
24 dry hybrid cooling system than wet cooling. Could you
25 quantify the dollar figure for me?

1 MR. OTAHAL: I have some rough numbers here.
2 This is from a study from a California instance of wet
3 versus dry cooling, and the numbers are for the increased
4 capital costs associated with one hundred percent pure dry
5 cooling, and this is for a 250 megawatt plant. It is
6 approximately a 16 percent capital cost increase.

7 The hybrid cooling case, which -- and you can
8 pick any amount of dry cooling you want to hybridize, for
9 any extreme, but for the 40 percent case where you're
10 using 40 percent for dry cooling, 60 percent wet cooling,
11 is 9 1/2 percent.

12 Now, the corresponding decrease in the annual
13 output, energy output, this is going to be what's
14 culminating from not being able to operate at these higher
15 operating loads, is about 7 1/2 percent for dry cooling
16 over the period of a year, and for the hybrid case, as you
17 would expect, it's lower, 4 1/2 percent.

18 MEMBER MUNDELL: So they've done the analysis,
19 sort of following up on the previous question about before
20 the temperature gets over 80 in coming to that conclusion,
21 the 4 1/2 and 7 1/2 percent figures you just gave me.
22 So -- okay, thank you. Thank you, Mr. Chairman.

23 MEMBER HOUTZ: Mr. Chairman.

24 CHMN. FOREMAN: Member Houtz.

25 MEMBER HOUTZ: Following up on this and what I

1 did two weeks ago to make a record -- and Mr. King and
2 Mr. Otahal are the proper people for this. If this
3 Committee required that you have -- hold on just a second.

4 If the Committee required dry cooling, would the
5 proponents go forward with building this plant?

6 MR. KING: No, we would not.

7 MEMBER HOUTZ: If the Committee required hybrid
8 dry/wet cooling, would the proponents go forward with this
9 plant?

10 MR. KING: No, we would not.

11 MEMBER HOUTZ: I was joking about the next
12 slide, but I'm not going to be surprised, but
13 Mr. Schroeder, did you --

14 MR. MOYES: Explore other sources of water?

15 MEMBER HOUTZ: That's correct.

16 MR. MOYES: I think I know where you're going
17 here.

18 MEMBER HOUTZ: And I say this because just north
19 of you is something called Palo Verde, and they happen to
20 have a pipeline that comes from the 91st Avenue water
21 treatment plant, and I don't know what the capacity issue
22 is or whatever. But you're in the neighborhood of a
23 pipeline that has access to effluent. There's a canal
24 that we spent 7 billion dollars building, bringing
25 Colorado River water that is not that far away. And so I

1 always like to know if anyone looked into utilizing those
2 type of waters for cooling?

3 MR. SCHROEDER: Yes, but we do not have a slide
4 that addresses that. Yes, we did. We looked at one of
5 those options. We did not look at the other one directly
6 because, as we had mentioned, we do have water rights
7 associated with the land. But we did look into the
8 reclaimed water option, specifically Palo Verde, knowing
9 that that water pipeline did exist, and contact was made
10 with APS about the potential for excess reclaimed water;
11 and as you know, there's some consideration for expansion
12 at Palo Verde. And so the general answer was there
13 wouldn't be any excess water available from that source.

14 MEMBER HOUTZ: And I would assume that there
15 aren't any local communities that generate enough effluent
16 that could be used at this plant, such as -- I'm assuming
17 Tonopah does not generate enough effluent for this plant.

18 MR. SCHROEDER: That's correct. There's nothing
19 within, I believe, 15 miles.

20 MEMBER HOUTZ: Thank you. I thought there might
21 be a slide though.

22 MR. MOYES: Mr. Chairman, Mr. Houtz, I might
23 just avow for the record as well that the client did
24 instruct us and we did examine the legal aspects, which
25 really get very much entangled in legal things when you're

1 talking about CAP water or other surface water rights, to
2 the same conclusion; and I also had personal conversations
3 with APS at the very top of the company about their
4 willingness to discuss with us some sharing of the rights
5 in the pipeline or that effluent, and you might guess
6 their answer. You know, they weren't interested; and as
7 Mr. Schroeder indicated, they alluded to potential future
8 needs over and above what they have now, and, you know,
9 sharing -- and that's a perfectly understandable answer on
10 that part.

11 CHMN. FOREMAN: Member Noland.

12 MEMBER NOLAND: I'm sure this is probably on the
13 next side slide. But I was wondering if you could compare
14 the water usage when this was agricultural land to the
15 amount that you are projecting to use for your sites?

16 MR. SCHROEDER: Actually, we will be getting
17 into that in Panel 3 where we talk about the water study
18 that was done.

19 MEMBER NOLAND: Thank you.

20 CHMN. FOREMAN: Any other questions?

21 (No response.)

22 CHMN. FOREMAN: All right. Very good. I
23 hesitate to ask, are we concluded with this panel?

24 MR. MOYES: We originally had a couple of other
25 slides that we've already covered with respect to the

1 locations, et cetera, of these two projects. I think we
2 are done. I think we're prepared to -- any more questions
3 for Panel 2? If not, we can move to Panel 3.

4 CHMN. FOREMAN: Very good. Thank you,
5 gentlemen.

6 MR. MOYES: For Panel 3, we'll add two
7 additional witnesses along with Mr. Schroeder -- Kenda
8 Pollio, and Mike Tietze. Mike tells me it's spelled just
9 like pizza. I'm sorry, pronounced like pizza. It's been
10 a long day.

11 CHMN. FOREMAN: Must be the German spelling.

12 MR. MOYES: And Mr. Chairman, we would offer
13 these two additional witnesses to be sworn in.

14 CHMN. FOREMAN: Ms. Pollio, do you wish an oath
15 or affirmation?

16 MS. POLLIO: An oath, please.

17 (Kenda Pollio was duly sworn by the Chairman.)

18 CHMN. FOREMAN: Please state your name and spell
19 your last name for the court reporter.

20 MS. POLLIO: Kenda Pollio, P-O-L-L-I-O.

21 CHMN. FOREMAN: And Mr. Tietze, do you wish an
22 oath or affirmation?

23 MR. TIETZE: An oath, please.

24 (Mike Tietze was duly sworn by Chairman.)

25 CHMN. FOREMAN: Tell us your name, and spell

1 your last name for the court reporter, please.

2 MR. TIETZE: Mike Tietze, T-I-E-T-Z-E.

3 MR. MOYES: Thank you.

4 CHMN. FOREMAN: That's not even close to pizza.

5 I'm sorry, Counsel, you may proceed.

6 MR. MOYES: Thank you.

7

8 KIM POLLIO, RANDY SCHROEDER and MIKE TIETZE,
9 called as witnesses on behalf of the Applicant, having
10 been duly sworn by the Chairman to speak the truth and
11 nothing but the truth, were examined and testified as
12 follows:

13 DIRECT EXAMINATION

14

15 BY MR. MOYES:

16 Q. Ms. Pollio, again, you're a familiar face and
17 witness to this panel; but for the record, if you would
18 just review quickly your educational background and
19 professional experience, particularly with respect to this
20 project.

21 A. (MS. POLLIO) Yes. As you can see, I have a
22 bachelor's degree in urban and regional planning and
23 Master's degree in environmental planning. I'm an AICP,
24 which is the American Institute of Certified Planners,
25 with 19 years of experience. I've worked on eight solar

1 generation projects and overall about a hundred different
2 utility projects.

3 I've testified before the Siting Committee in a
4 number of cases, and you can see those up on the screen.
5 Most recently the Hualapai Valley Solar Project and the
6 Agua Caliente Solar Project.

7 Q. And Ms. Pollio, your testimony today has been
8 largely prefiled. Under Tab 8 in the Exhibit book that
9 the Committee members have, we have a copy of the prefiled
10 testimony that was docketed for you. If you were to
11 present all of the information that's in that prefiled
12 testimony today, would it differ from what you wrote and
13 what was prefiled for you?

14 A. (MS. POLLIO) No.

15 Q. Do you have any substantial corrections or --

16 A. (MS. POLLIO) No, I do not.

17 Q. -- fixes? If I messed up when I typed it out.
18 You typed it out though, so you have to take benefit of
19 all the typos.

20 You're going to tell us about the public
21 process, I believe; and as I said, all of this has been
22 prefiled, so you can review these things very quickly.
23 Summarize what is in your prefiled testimony, and we'll
24 see if there are questions.

25 A. (MS. POLLIO) As Mr. Moyes just explained, I'm

1 going to talk about public process, and again go through
2 it pretty quickly because it has been a very positive
3 process. We've not had any negative comments, but we do
4 want to set for the record the extent that we have gone
5 through in not only the county process, but the
6 applicant-initiated public process.

7 We also want to address the environmental
8 factors that are part of our CEC application and part of
9 the regulation. What we'll do is go through these in
10 order as they appear in the application, and a number of
11 us from the Panel will speak to those different exhibits.

12 I'll go ahead and go through my public process
13 and exhibits, and then we can have Randy and Mr. Tietze
14 follow up with some of the other exhibits.

15 But again all of this is prefiled, so we'll try
16 to make this a high level summary.

17 Okay. For public process, we had two phases of
18 the public process. The first phase really dealt with the
19 Maricopa County conditional -- I'm sorry, the
20 Comprehensive Plan Amendment process. And we went through
21 that process in 2008. That's similar to a number of
22 different counties where they hear those applications once
23 a year. So we prepared that application at the beginning
24 of 2008 for that area plan, in the Old Highway 80 area,
25 area plan. We did a Comprehensive Plan Amendment change

1 to make the land use compatible for the project site.
2 That was approved unanimously by the Planning and Zoning
3 Commission and the Board of Supervisors in December of
4 2008.

5 We then had Phase 2 which really focused on
6 preparation of this application as well as going through
7 the County's Special Use Permitting process. As you've
8 seen in other slides, we submitted our Special Use
9 Application in July of 2009.

10 I'll also briefly talk about the venues, how we
11 had briefing meetings, and this is really where we went
12 and met with the agencies. We met with the stakeholders,
13 the community groups. We made some presentations at some
14 community meetings as well. We had a working group
15 meeting, and this is similar to what we've talked about in
16 other cases, where we ask the stakeholders in the area to
17 come together, and we met at the Arlington Valley
18 Elementary School and talked about the project and issues
19 again in preparation of filing our Special Use Permit in
20 this application.

21 Lastly we held open house meetings. We've had
22 two of those, one in Phase 1 and one in Phase 2.

23 Also, I want to mention the website, the 1-800
24 number and simulations of the project. We did all of
25 this, as well as include a comprehensive comment database.

1 And this is what we again call additional tools. Our goal
2 is to obtain as much information from the public as well
3 as to disseminate as much information as we can about the
4 project, and we used these to really be able to have that
5 back-and-forth dialogue with the public.

6 Again, a little bit more detailed. As I said,
7 Phase 1, the open house was held in October of 2008.
8 Twenty-seven people attended, and again that resulted heed
9 in the Comprehensive Plan Amendment, Board of Supervisors
10 public hearing. So that was really Phase 1 that
11 culminated and ended in 2008.

12 Phase 2, the working group meeting that we held
13 in Arlington at the Arlington Valley Elementary School,
14 that was on July 27, 2009. Soon after, we had an open
15 house. That open house was held on August 11, and again,
16 ironically enough, 27 people attended, and that's not a
17 typo.

18 This area is -- as many people know, this area
19 has a number of power plants out there, a number of
20 industrial developments. It's very sparsely populated,
21 and so the majority of the folks that attended were from
22 the Arlington/Tonopah area, and so we felt that the 27
23 people that attended both of those -- and they were not
24 the same people; they were different people, but those 27
25 people, it was successful. Those numbers are very good

1 for that area.

2 How did we get the word out? We did a couple
3 things. Number 1, we actually pulled property records for
4 both parcels in the area of 300 feet from the property
5 line of the projects, and we sent notifications to those
6 property owners.

7 We also wanted to get the word out more, send
8 out more notices, so what we did is we went out a
9 seven-mile radius of both project sites, and we sent to
10 the zip codes. So that kind of expanded our mailing again
11 because of the smaller population in relative proximity to
12 the sites.

13 We did put advertisements in newspapers. We
14 also posted signs at the site.

15 I do want to mention also before I move on to
16 land use, from us providing notice for this proceeding --
17 and this is included in Exhibit 14, or behind Tab 14. We
18 posted signs on each site that, those signs are included
19 in that tab. We had the affidavit of publication
20 included. We advertised in the Gila Bend newspaper as
21 well as the West Valley View West Valley business section.

22 We sent a letter notice for this hearing again
23 to the property owners. We also sent the letter, and the
24 letter receipt is included behind the tab to Maricopa
25 County. We Fed Ex'd the application, and it had currently

1 in the libraries of the Arlington Valley Elementary
2 School, the Buckeye Public Library, and we also sent the
3 full application to Arizona Game and Fish. And you
4 also -- that concludes what's behind that tab. So I just
5 wanted to make sure that we cleared the record and include
6 that the procedural notice was considered.

7 Q. Ms. Pollio, maybe this is an appropriate place
8 interrupt. You've alluded to each of those items that are
9 under Tab 14. It's a little bit out of sequence because
10 of the way we've numbered them here. But when we're
11 finished, I'll refer back to this testimony as the
12 foundation for admission of those items. Thank you.
13 Sorry to interrupt you.

14 A. (MS. POLLIO) Okay. The first exhibit that
15 we'll talk about is Exhibit A which is in the application,
16 and that's land use. We have talked about a number of
17 these aspects, but I just want to make sure we point out
18 the high-level things here.

19 As we've said, the site and the gen-tie routes
20 are located on private and state land in Maricopa County.
21 On Figure A-2, I have identified or shown the project for
22 AVSE. Instead of showing both, I'll just show one because
23 the ownership pattern is basically the same. In AVSE you
24 can see in the bottom right-hand corner.

25 As you can see -- and I think this is obvious as

1 we've pointed out -- you can see that the land ownership
2 pattern is predominantly utilities. You see a lot of the
3 utilities that come before you and the power plants that
4 have come before this Committee and the Commission.

5 Additionally, you can see that there are small
6 private holdings. There is some State Land, and you can
7 see BLM land is over a mile away from the site. So just
8 wanted to point that out. That's the land use pattern in
9 the jurisdiction.

10 But this project is -- and you can see where
11 State Lands which are the blue parcels that fall within
12 the yellow boundary. There are State Land parcels, and
13 again we are in the process of working with the State
14 Lands Department on the lease options for those parcels,
15 both for the project site itself and for the easements for
16 the transmission lines.

17 CHMN. FOREMAN: What's the status of those?

18 MS. POLLIO: We are right now formalizing the
19 reports that need to be submitted to them to then proceed
20 with the auction for the State parcels.

21 BY MR. MOYES:

22 Q. Miss Pollio, this might be as good a place as
23 any, because this map shows it well, to address one item
24 that we need to for purposes of the description of the
25 project and the maps that will be in the CEC ultimately.

1 At the top of the, the northern boundary of the
2 AVSE parcel there, we have the notch that's missing. Can
3 you describe that? That would appear to be a piece of
4 private land. Can you tell us what the status is with
5 respect to that and why that notch is there?

6 A. (MS. POLLIO) It is a piece of private land that
7 was -- and I will get to this. Originally, when we went
8 for our Comprehensive Plan Amendment, we looked at a
9 certain configuration. Since that time -- and we're
10 working with the County on this -- additional private
11 lands have become available to include on the site. You
12 can see in the northern boundary there are some private
13 lands right now that are currently under option. This
14 piece is not currently under option.

15 Q. Is it your understanding that negotiations are
16 continuing with respect to that parcel and that there has
17 been some progress made that would suggest optimism that
18 we can include it?

19 A. (MS. POLLIO) Yes. That parcel obviously, in
20 the overall process, the intent was to include that as
21 part of the boundary. Prior to filing this application,
22 that option was unable to be secured. Since filing this
23 application, the property owner has made contact again,
24 and it seems is definitely willing, and negotiations are
25 moving in a very positive direction to include that as

1 part of the project site.

2 CHMN. FOREMAN: If that does not prove to be
3 successful, may we assume the project will continue
4 without it?

5 MS. POLLIO: Absolutely. And that is why we've
6 proceeded with a site plan that does not include that
7 notch, because we obviously want to demonstrate that the
8 project boundary is in fact without the notch. However,
9 if we have the notch, it would make it much more square,
10 for lack of a better technical term.

11 MR. MOYES: Mr. Chairman, Members of the
12 Committee, it would be our request that we structure the
13 description in the CEC in such a way that the approval
14 would apply to those private lands that are shown in the
15 notch if we are able to secure those lands.

16 CHMN. FOREMAN: Okay.

17 BY MR. MOYES:

18 Q. Sorry, Ms. Pollio, I interrupted you, but I
19 thought that was important to get into the record at this
20 point.

21 If you want to continue with the rest of your
22 prepared remarks.

23 A. (MS. POLLIO) Yes. The existing land use, I
24 think we've seen enough aerial photography in the virtual
25 tour and on some of the aerial photos, is vacant land.

1 The area has numerous power plants, as you can see on a
2 number of the maps, power plants, the railroad,
3 transmission lines, and there is proposed solar plants
4 that have been certificated by the Committee and the
5 Commission in the area that I'll also speak to when we
6 talk about Exhibit H.

7 The last is the county land use and zoning. I
8 mention this, but I think it's a very important point,
9 because of the extensive process in Maricopa County, both
10 for a Comprehensive Plan Amendment and for a Special Use
11 Permit.

12 Again, a lot of projects come due at the time of
13 Comprehensive Plan Amendment, and we actually have started
14 down the path and gone significantly far into the process,
15 and we're getting to the finishing stages of the Special
16 Use Permit process. And again, as has been mentioned,
17 this is an extensive process.

18 And the next slide, you can see in the area are
19 existing zoning of the project site is RU-190, which is a
20 rural designation. However, what this indicates, all of
21 these hatch patterns in the area are all special use or
22 Z numbers. So Special Use Permit, when you get yours
23 approved, you get a Z number. So we are in that process,
24 and then we will have a Z number which means that we would
25 have an approved Special Use Permit.

1 Just to clarify, the Special Use Permit in
2 Maricopa County is a very detailed permit that has
3 pre-engineering for, you know, the grading and drainage,
4 for all of, very, very detailed up to lighting and signage
5 and all of those details. So we are moving down that path
6 and making very, very good progress. But this just kind
7 of gives you detail about the zoning applications in the
8 area and what's been approved.

9 Q. Miss Pollio, in that regard, in your experience,
10 is it typical for a developer to invest as much in the SUP
11 process prior to the CEC process as we've seen in this
12 project?

13 A. (MS. POLLIO) No, this is, I think, a very --
14 it's a unique situation going far into that process at
15 this stage. But I think it's very good because it really
16 shows the commitment from an engineering perspective and
17 how detailed we are as part of this project.

18 Q. And you may have said it earlier, but about how
19 long have we now been working or has the project been
20 working on that SUP permit with the county?

21 A. Well, July 2009 we submitted our SUP
22 application. We had our technical advisory committee
23 meeting in September. So it's been -- and it takes a
24 while to prepare those applications. So it's been in
25 process for a while, but we did file in July. So we're

1 hoping that we'll be going before the Planning and Zoning
2 Commission. That's the next step here shortly.

3 Q. Thank you.

4 CHMN. FOREMAN: Member Houtz.

5 MEMBER HOUTZ: Ms. Pollio, I may have missed
6 this because I was out of the room when you started. But
7 in the county planning process, Maricopa County tends to
8 have area plans.

9 MS. POLLIO: Yes.

10 MEMBER HOUTZ: Is this within an area plan?

11 MS. POLLIO: It's the Old Highway 80 area plan.

12 MEMBER HOUTZ: In that Old Highway 80 plan, does
13 it project this area for future use like this?

14 MS. POLLIO: Yes, it does.

15 MEMBER HOUTZ: Okay. I've actually traversed
16 most of the Old U.S. 80 area, plan area. My -- I'm just
17 bragging, but my wife was the author of that plan.

18 MS. POLLIO: Okay. It is the plan. As you can
19 see, with all of these changes, that really what the
20 Comprehensive Plan Amendment did is address that Old
21 Highway 80 plan, and then the next step is that zoning
22 piece, so you're correct.

23 MEMBER HOUTZ: So there's no issue of conflict,
24 that plan was entered into in 2001.

25 MS. POLLIO: And to summarize, with all of this,

1 we feel the land use is extremely compatible.

2 MR. SCHROEDER: Then we'll talk about what we
3 discussed in Exhibit B, and this particular slide and the
4 testimony here is focused on compliance with air and water
5 permitting and compliance with those rules. We've already
6 talked a lot about the air permit. But as we discussed,
7 Maricopa County Air Quality Department is the lead
8 jurisdictional agency for air quality within Maricopa
9 County.

10 The CSP project, whether it be thermal storage
11 or the gas co-firing options, would require a minor air
12 permit. The application submitted for that minor air
13 permit would likely, will obviously be very different as
14 far as what the emissions sources are, but it would still
15 be regulated by that 250-ton per year cap that we talked
16 about.

17 If the PV option is selected, that would likely
18 be covered under a general permit, because the emissions
19 associated with PV technology are so low in comparison.

20 So going through the corresponding air
21 permitting process, whether it be a minor source permit or
22 a general permit, would ensure compliance with all
23 applicable local, state and federal air quality
24 regulations.

25 And as far as water use and quality goes, we

1 talked about the water rights issue and the Type 1
2 groundwater rights. And then the water discharges from
3 the project, for the CSP project there would be
4 evaporation ponds developed so it would be zero discharge,
5 just like many of the other projects you have seen, and
6 that would have to meet all of the requirements of the APP
7 permitting program that ADEQ administers.

8 And then a question was asked earlier relative
9 to air quality about greenhouse gas emissions. And
10 basically, each of the two projects, AVSE and AVSE II,
11 would generate approximately 250,000 to 300,000 megawatt
12 hours of energy per year over the life of the project.
13 And that's from solar energy, not from the gas co-firing
14 or anything like that. This is representative of just the
15 solar generation output from each plant.

16 And we used DOE reference on carbon dioxide
17 emissions to estimate what the greenhouse gases savings
18 would be; and according to the DOE document, which
19 basically averages all different types of fossil
20 generation, coal, gas, oil, everything that could be
21 included, the average CO₂ production from fossil plant
22 emissions is 1.341 pounds of CO₂ per kilowatt hour
23 produced. And when you multiply that times the 250,000 to
24 300,000 megawatt hours per year, that would generally --
25 each of the projects would individually offset about

1 167,000 to 200,000 tons of CO₂ per year.

2 CHMN. FOREMAN: Does that add additional CO₂ if
3 the natural gas firming option is selected?

4 MR. SCHROEDER: We did not calculate those
5 because this was just calculating the greenhouse gas
6 emissions saved when the solar project is generating. And
7 if the gas co-firing option would be selected and limited
8 to the 250 tons per year of any pollutant, the CO₂
9 emissions from a gas-fired facility are very, very small.
10 It would probably be -- we haven't done that calculation,
11 but it would be miniscule in comparison to these numbers.

12 MR. MOYES: Mr. Schroeder, before we leave here,
13 I may have heard you answer this question before, but
14 you've spoken of two different kinds of permits now -- a
15 minor source permit in connection with CSP, and a general
16 permit that would suffice for a PV plant.

17 MR. SCHROEDER: Uh-huh.

18 MR. MOYES: But let me ask again just for the
19 record. If the CSP were built with the thermal storage
20 firming capability, notwithstanding it doesn't have gas
21 emissions, would it still be coming under the requirement
22 for a minor source permit as opposed to a general permit?

23 MR. SCHROEDER: Yes, it would.

24 MR. MOYES: Thank you.

25 CHMN. FOREMAN: Member Mundell.

1 MEMBER MUNDELL: Thank you, Mr. Chairman. Just
2 to clarify the figure under the fossil plant, you may have
3 said this and I may have missed it. It's U.S., is that
4 coal or natural gas?

5 MR. SCHROEDER: It's a combination of all fossil
6 technologies. It's the average of all.

7 MEMBER MUNDELL: Thank you.

8 MR. MOYES: Do you want to proceed to the water
9 use and quality issues then?

10 MR. SCHROEDER: Yeah, and we might go back just
11 a moment, because we had Mike's biographical summary up
12 here, and then we can go back to the water slide.

13 BY MR. MOYES:

14 Q. Okay, Mr. Tietze, you are a new witness, I
15 believe, to this Committee. Perhaps you can give us a
16 little more detail than the others about your professional
17 and educational background and the capacity in which you
18 are working with this project.

19 A. (MR. TIETZE) Sure. I am a hydrogeologist by
20 training. I have over 20 years experience working on
21 groundwater resources evaluations, impact evaluations,
22 contaminant studies.

23 I currently am employed by Worley Parsons, which
24 is a global company. I work for their Infrastructure and
25 Environment Group. I am the location manager for that

1 group in Folsom, California.

2 I have a bachelor's degree in geology from San
3 Jose State University, and also undertook graduate studies
4 in hydrogeology at that school before children started
5 coming along.

6 I am a certified hydrogeologist, professional
7 geologist, and certified engineering geologist in
8 California. And being collocated with our Power Group in
9 Folsom, I support evaluation of water resources,
10 especially for a lot of solar power projects in the
11 Southwest, and have worked on many other generation
12 projects from a water resource perspective.

13 MR. MOYES: Mr. Chairman, Mr. Wene, my partner,
14 is going to handle the direct examination of Mr. Tietze.

15 CHMN. FOREMAN: Very good. Counsel.

16 MR. WENE: Yes, for the record, the name is
17 spelled Steve, S-T-E-V-E, Wene, W-E-N-E. And it's
18 probably been mispronounced more times than Mr. Tietze's
19 name, I would probably suggest.

20 BY MR. WENE:

21 Q. Just for the record, Mr. Tietze, did you prepare
22 written testimony that was prefiled in these cases
23 regarding the use of Type 1 nonirrigation grandfathered
24 rights by AVSE and AVSE II projects?

25 A. (MR. TIETZE) Yes.

1 Q. Is that the testimony included in exhibits
2 binder as AVS-9?

3 A. (MR. TIETZE) It is.

4 Q. Now, do you wish to make any corrections to that
5 prefiled written testimony recognizing that you will be
6 reviewing its highlights, and you can clarify any points
7 when you're responding to questions regarding that
8 testimony?

9 A. (MR. TIETZE) No, I don't have any
10 clarifications at this time.

11 Q. If you were presenting all that testimony here
12 orally today, would your testimony be the same as it was
13 in the prefiling?

14 A. (MR. TIETZE) Yes, it would.

15 Q. Okay, great. Now, you've already summarized
16 your professional and educational background. So we're
17 going to move right into the testimony.

18 Can you briefly tell me what the purpose of your
19 testimony is here today?

20 A. (MR. TIETZE) We performed a groundwater
21 hydrology analysis associated with the project, and I'm
22 here to talk about what we did in that analysis, the
23 results of it, its application to projecting the
24 availability of groundwater resources for the project, and
25 the evaluation of impacts that would be associated with

1 using groundwater to supply the project.

2 Q. Okay. Before we get into the details, can you
3 please just summarize your conclusions regarding the
4 matters that are going to be addressed in your testimony?

5 A. (MR. TIETZE) Well, very briefly, the site is
6 situated on top of a groundwater aquifer that is
7 approximately one thousand feet thick. It's a relatively
8 productive groundwater aquifer.

9 The project's water demand is significantly
10 lower than historical groundwater demands in the area.
11 And the groundwater drawdown impacts on other landowners
12 in the vicinity will be relatively modest.

13 Q. Okay. Just for the sake of clarity so we can
14 follow along a little bit with the slide, one of the first
15 things, if I can direct your attention to the slide, if
16 you notice what we have stated there is that the CSP
17 project would use no more than 1250 acre-feet per year as
18 a demand. Is that a fair and accurate statement in your
19 understanding of the project?

20 A. (MR. TIETZE) That's correct. Over the course
21 of a year, the water demand would be 1250 acre-feet. The
22 water demand may be somewhat higher or lower during
23 specific times, but the important thing to keep in mind is
24 the average water demand of the project.

25 CHMN. FOREMAN: Counsel, for clarity's purposes,

1 this would be 1250 acre-feet per project, so there would
2 be two times that for both projects; is that true, sir?

3 MR. TIETZE: That's correct.

4 MR. WENE: Thank you, that was my very next
5 point, and I appreciate you following up with that.

6 BY MR. WENE:

7 Q. Next we have the bullet point that talks about
8 the PV project, and it says that the water demand is going
9 to be approximately 10 to 15 acre-feet per year if that
10 technology was selected. Is that your statement and
11 testimony here today as well?

12 A. (MR. TIETZE) That's correct.

13 Q. So let's go ahead and talk about, moving away
14 from the demand that the projects could generate, let's
15 talk now about how you came to the conclusions that you
16 summarized briefly.

17 First, can you identify the sub basins in which
18 these projects are located?

19 A. (MR. TIETZE) The projects are located in the
20 Hassayampa sub basin in the southern portion in what's
21 referred to at the Centennial Wash area.

22 Q. Now, can you please explain the historical
23 groundwater use patterns in this area?

24 A. (MR. TIETZE) Historically, the main groundwater
25 demand in the area was for agricultural use. And between

1 1948 and 1981 in the Centennial Wash area, the groundwater
2 demand was typically between about 35,000 and 40,000
3 acre-feet per year.

4 That continued up until the early 1980s when
5 agricultural pumping began to decrease; and by the 1990s,
6 pumping in the Centennial Wash area, prior to the
7 construction of the energy projects in that area, was
8 approximately 6300 to 7500 acre-feet per year.

9 Since that time, with construction of the energy
10 projects, for example, the Arlington Valley Energy
11 Facility, the groundwater demand has increased for those
12 projects, not up to their allocated groundwater rights.

13 The groundwater levels in the basin were fairly
14 consistent with the groundwater demand, as you would
15 expect. And from 1950s through the early 1980s, there was
16 a decline in groundwater levels that characterized that
17 time period.

18 Then as groundwater demand decreased, there was
19 a resurgence in the groundwater levels at a rate of about
20 three feet per year that continued through the 1990s and
21 into the early 2000s. And then following that since about
22 2004, there has been a modest decline in groundwater
23 levels that's associated with pumping for the energy
24 projects.

25 For perspective, the project's proposed

1 groundwater use represents approximately 6 or 7 percent of
2 the historical agricultural groundwater demand in the
3 Centennial Wash area.

4 Q. Thank you.

5 CHMN. FOREMAN: Counsel, again, I'm sorry to
6 interrupt, but just so that we follow this flow along.
7 You've referred to the Centennial Wash area. If you could
8 look to the map on the right side there, how big is this
9 the Centennial Wash area? Is it most of the two project
10 surface areas? Are the two project surface areas a small
11 portion of the Centennial Wash area?

12 MR. TIETZE: It encompasses the two project
13 surface areas and goes up to the Palo Verde nuclear
14 station in the north, and then, you know, southward. It's
15 about a 15 by 15 mile area.

16 CHMN. FOREMAN: So as a percentage, the two
17 project areas would be what percentage? Ten percent?
18 Five percent of the surface area?

19 MR. TIETZE: I would have to guess. I would
20 have to say probably about five percent of the surface
21 area.

22 CHMN. FOREMAN: Okay. Thank you.

23 BY MR. WENE:

24 Q. Now, I think this has been testified to
25 previously, but these project sites are located within the

1 Phoenix Active Management Area, and they're regulated by
2 the Arizona Groundwater Code?

3 A. (MR. TIETZE) That's correct.

4 Q. And it's your understanding and your testimony
5 here today that these lands used to be historic farmlands
6 within this Active Management Area, correct?

7 A. (MR. TIETZE) That's correct.

8 Q. Now, this gets us to the questions that
9 Ms. Noland was looking at earlier, but these projects do
10 have appurtenant groundwater rights associated with these
11 lands, correct?

12 A. (MR. TIETZE) That's correct.

13 Q. Now, on the bullet point, it states that the
14 project will use a portion of 6,373 acre-feet of existing
15 Type 1 rights. Can you please explain where those Type 1
16 rights came from?

17 A. (MR. TIETZE) They came from the conversion of
18 grandfathered agricultural groundwater rights in the area
19 that's occupied by the projects and some surrounding area.
20 And at the time those lands were assigned a water demand,
21 agricultural irrigation water demand of 4.53 acre-feet per
22 acre per year, and the Type 1 groundwater right that was
23 derived from that when the rights were converted were 2.88
24 acre-feet per acre per year. So the intent was to
25 incorporate water conservation into the conversion of

1 those water rights.

2 Q. And those rules and that conversion is set forth
3 in the Arizona Groundwater Code, correct?

4 A. (MR. TIETZE) That's correct.

5 Q. And those are conservation measures built into
6 those management plans that are derived from the
7 Groundwater Code?

8 A. (MR. TIETZE) Yes, that's right.

9 Q. NOW, I next want to turn to the analysis that
10 you performed. Can you please describe for me the studies
11 and analysis and what you did to develop your conclusions?

12 A. (MR. TIETZE) We looked at published literature
13 and reports, both from private parties as well as public
14 entities. We compiled and reviewed Arizona Department of
15 Water Resources records, primarily on-line records from
16 their Wells database and Image Records database. The
17 information that we reviewed included reviewing aquifer
18 pumping tests to see which pumping tests would give us the
19 best data for determining the properties of the aquifer.

20 And we also reviewed groundwater models that
21 were prepared by others for well spacing analyses, as well
22 as a regional model that was prepared for the energy
23 developments in the area around 2000.

24 And then we also reviewed groundwater sampling
25 and water quality data that was provided to us by Dynegey.

1 Q. Is it your conclusion that there's sufficient
2 groundwater available for this project?

3 A. (MR. TIETZE) Yes. The project sits on top of
4 an aquifer, as I mentioned, that's about a thousand feet
5 thick. It's a fairly productive aquifer from a physical
6 standpoint. There's ample water available for the
7 project.

8 Q. And just to clarify, when you say a thousand
9 feet thick, what you mean is the aquifer has water strata,
10 that is, essentially one thousand feet thick, it's not
11 from the top to the --

12 A. There are other strata in the subsurface that
13 would not normally be targeted for a production well, and
14 the strata that would be targeted for production wells are
15 approximately one thousand feet thick beneath the site.

16 CHMN. FOREMAN: Member Noland.

17 MEMBER NOLAND: Could you tell me how many acres
18 you're utilizing for your calculations? How many total
19 acres for both projects?

20 MR. TIETZE: For which calculations? I'm sorry.

21 MEMBER NOLAND: When you're, let's say you're
22 coming up with 2.88 acre-feet per acre per year, and
23 you're utilizing 6,373 as the existing Type 1 rights. I
24 know there are some differences in the rights, but what
25 are the general total number of acres that you're

1 utilizing for this project?

2 A. Right, the Type 1 rights, the water demand for
3 pre and post conversion, of course, is an acre-foot per
4 acre rate. So that's independent of the area. And the
5 amount of area that would need to be converted to derive a
6 6,373 acre-foot right would be about 2,200 acres.

7 Q. And just -- I'm not sure I totally have my head
8 wrapped around the rights on this land, and I thought I
9 understood previous testimony that the land was purchased
10 to utilize the water rights off-site? Somewhere? No,
11 they could only be utilized on site, correct?

12 A. (MR. TIETZE) That's correct, yes.

13 Q. So even though you have the right to utilize
14 6,373, you are looking at, if it's CSP technology, only
15 using 2,500?

16 A. (MR. TIETZE) There are 2,500 acre-feet that are
17 being made available to the project. And that's a portion
18 of a right of 6,373 acre-feet. So it's not the entire
19 6,373 acre-feet that's being made available.

20 Q. I understand. Is any other portion of that
21 going to be made available for anything else?

22 A. (MR. TIETZE) There's no been no discussion of
23 that.

24 Q. Can it be?

25 A. (MR. TIETZE) You know, I think that that's a

1 question that goes back to, you know, discussions
2 regarding purchase and lease agreements, and I don't have
3 the knowledge to answer that.

4 MEMBER NOLAND: Okay. Thank you.

5 MR WENE: Your Honor, for the record, I would
6 just like to point out that most of the remaining Type 1
7 rights are currently committed to the AVEF project, the
8 gas generator that's already been built. And this has
9 been -- these 2,500 acre-feet per year will be assigned to
10 the solar projects. So that's where the remaining Type 1
11 rights would still remain is with the AVEF project.

12 CHMN. FOREMAN: Member Noland.

13 MEMBER NOLAND: Then that's what I was asking
14 originally. So you need to clarify that for me. So you
15 are using the water rights for another project other than
16 these two projects, or will be; is that correct?

17 MR. MOYES: Ms. Noland, the number, the 6,373,
18 is really relevant only for the fact that when these
19 Type 1 rights are issued, they're issued in a certificate,
20 and the single certificate has with it that many
21 acre-feet. Within that certificate -- and that
22 certificate to convert to get that certificate covered
23 more land than just the land that these projects will use.

24 These projects use 1,160 acres and 1,433 acres,
25 respectively. But the water, the component of that

1 certificate that will be utilized on those lands is the
2 1,250 per project, and there is additional use that has
3 already been going on with respect to the other parts of
4 that certificate. Not all of it, but I think portions of
5 it.

6 MEMBER NOLAND: Off of the site of these two
7 projects?

8 MR. MOYES: Right, on lands that are not part of
9 this project where the AVEF facility to the north is
10 located there, for example, and there were other -- there
11 are other Type 1 lands besides just the Type 1 lands that
12 will we used for these projects.

13 CHAIRMAN FOREMAN: Member Houtz.

14 MEMBER HOUTZ: Mr. Moyes, I think what Member
15 Noland is trying to gather -- let me start with my
16 premise. And I appreciate that you are comparing the 43
17 percent of the Type 1 rights, because as we pointed out
18 earlier today, this land cannot be returned to
19 agriculture. So those previous water usages under
20 irrigated agriculture cannot happen. So you really need
21 to compare to the amount of Type 1 rights that are
22 available.

23 And I think what Member Noland is confused
24 about -- and I share her confusion -- is, is there really
25 a groundwater savings by utilizing 2,500 acre-feet for

1 these two solar projects, or are all of these Type 1
2 rights going to be used between this and the other power
3 plant?

4 MR. MOYES: I think so that we don't mislead
5 you, the answer would, generically speaking, be the
6 latter, i.e., we are not saying that of 6,373 of rights we
7 would be using 250 and the rest of those rights would
8 somehow just go away and never be utilized. Some of them
9 are being utilized. Some of those rights could
10 theoretically be utilized in the future.

11 But the important point is, as Member Houtz
12 points out, is that compared to the historical rights of
13 4.53 per acre, we're reducing down on a per-acre basis,
14 and that's the piece that -- the 2,500 is what will be
15 committed to these projects. But we're not committing
16 that none of the rest would ever be used for industrial
17 uses.

18 MEMBER HOUTZ: But in essence, though, this
19 conversion has already happened.

20 MR. MOYES: Yes.

21 MEMBER HOUTZ: And regardless of this project
22 being permitted or not permitted, the 6,300 is available
23 for use legally, and this will use a portion of that; but
24 the rest of those rights will be used somewhere else
25 legally.

1 MR. MOYES: Could be, yes.

2 MEMBER HOUTZ: This is what the statute
3 envisions, a legal right to use this amount of water. But
4 as far as portraying that this is a savings of groundwater
5 use, from today's legal situation, that's not necessarily
6 a savings of groundwater, from what can be legally done
7 today with the lands.

8 MR. MOYES: That's correct. There is a legal
9 right today to use the 6,373, and we're not meaning to
10 imply that somehow this use of a portion of it creates an
11 additional savings. The savings is in the conversion that
12 took place from irrigation to nonirrigation.

13 MEMBER NOLAND: Thank you, all. So that was my
14 original question. I think the slide is somewhat
15 misleading, but only because I'm not as technically
16 oriented in the water rights situation.

17 But I think that you can use all of that 6,373.
18 You're not saying you're only going to use 2,500 acre-feet
19 total, and that's it. But it is a significant savings
20 from the irrigation use per acre?

21 MR. TIETZE: That's correct. And just to
22 clarify, the 6,373 is a right that was owned by Dynegy,
23 and 2,500 acre-feet of that right is being made available
24 to the project, and the rest of it is being retained.

25 CHMN. FOREMAN: Member Houtz.

1 MEMBER HOUTZ: Just to kind of follow up on
2 member Noland's statement there before, and I'm not sure
3 who this goes to. But if the project is limited by the
4 CEC to 2,500 acre-feet a year, or whatever number we pick,
5 that's not to say that they would go and acquire -- they
6 would use more water than that, even though more rights
7 might be made available to them. I think that's more
8 probably Mr. Moyes and Mr. Wene.

9 MR WENE: That's correct. That is our
10 understanding.

11 CHMN. FOREMAN: Member Mundell.

12

13 EXAMINATION

14

15 BY MEMBER MUNDELL:

16 Q. Thank you, Mr. Chairman. I want to step back
17 again sort of 50,000 feet and go through what I thought
18 your testimony was early on. You said from some time
19 period to some time period the groundwater table was
20 decreasing, correct?

21 A. (MR. TIETZE) That's correct.

22 Q. Can you tell me that time frame again?

23 A. (MR. TIETZE) That time period was -- we have
24 hydrographs from the 1950's. And hydrographs are time
25 series water level measurements in wells. From the 1950s

1 through the early 1980s, they show a decline. That's
2 characterized as a declining period due evidently to
3 agricultural pumping.

4 Q. And then you said from the 1980s until will some
5 period of time, the groundwater table was going up three
6 feet per year?

7 A. (MR. TIETZE) Yes, through the 1990s, it was
8 going up. From the 1980s through the 1990s, it was going
9 up at approximately three feet per year. Then it began to
10 level off, or this is based on just a couple of wells, the
11 conclusion. It began to level off around the early 2000s,
12 and then we have seen a renewal of decline associated with
13 pumping for the energy projects in the area. And compared
14 to the agricultural decline, that's a relatively modest
15 amount.

16 Q. So could you quantify that for me? It was three
17 feet -- I mean it was declining from the 1950s till the
18 1980s at what average rate, and then what is it declining
19 now?

20 A. (MR. TIETZE) I don't have an average rate per
21 year. I could easily calculate that for you. I can tell
22 you that from roughly 2004 to the present, there has been
23 a decline in the wells that we've looked at of about 15
24 feet, and that is a relatively small percentage of the
25 agricultural, the historical agricultural decline, about

1 maybe 25 or 20 percent or less of the historical decline.

2 Actually, I should probably verify that before I
3 go on the record as saying that, because it could actually
4 be less than that. So I will verify that when I get a
5 moment.

6 Q. Because you were just on the record.

7 A. (MR. TIETZE) Yes, certainly. And the thing to
8 keep in mind is that we have an aquifer that's
9 approximately one thousand feet thick. So I would just
10 add that in interpreting groundwater level decline, it
11 means something different if you have an aquifer where you
12 have very shallow wells, an aquifer that's not very thick,
13 or an aquifer that has interaction with surface water
14 where surface water might be impacted by groundwater
15 decline.

16 Q. Well, at some point in time you'll have the
17 exact decline because you told us how much it was
18 increasing, you know, three feet per year from the 1980s
19 until the early 2000s.

20 Now with all these power plants out there, it's
21 starting to decline, and I guess we could do the math to
22 figure out when it will dry up.

23 A. (MR. TIETZE) Okay. What we have is that the
24 groundwater surface fell at a rate of approximately three
25 feet per year from the early 1950's into the early 1980s,

1 and then rose at three feet per year from the early 1980s
2 through the 1990s.

3 CHMN. FOREMAN: And since the year 2000?

4 MR. TIETZE: The current decline seems to be at
5 a rate of approximately three feet per year, but there's a
6 recent leveling off in the hydrograph that we have, so it
7 remains to be seen whether that rate is sustained or slows
8 down.

9 CHMN. FOREMAN: Why don't we take a brief break
10 to give our court reporter an opportunity to rest. We
11 will resume at 4:15.

12 (Recessed from 4:02 to 4:15 p.m.)

13 CHMN. FOREMAN: Let's see if we can go back on
14 the record. Counsel, you may proceed.

15 MR WENE: Thank you, Chairman Foreman.

16

17 FURTHER EXAMINATION

18

19 BY MR. WENE:

20 Q. Mr. Tietze, just to finish up that last point,
21 are there any other factors that would have contributed to
22 the groundwater decline during the 2000s forward?

23 A. (MR. TIETZE) Yeah, the two primary factors that
24 can contribute here would be climate and pumping, and I
25 think it's important to note that we have been during that

1 time period in a major drought.

2 The other thing that's important to note about
3 the decline is it's within the parameters of prior studies
4 for the area.

5 Q. Now, finally, Mr. Tietze, during the course of
6 your analysis, did you do any investigations regarding the
7 possibility of subsidence occurring at the site?

8 A. (MR. TIETZE) We did. We evaluated it on a
9 preliminary basis, and what we found was that there was no
10 reports in the area of evidence of subsidence; and in
11 addition, the cumulative drawdown from this project and
12 other projects in the area is not expected to go below
13 historical lows, so that the initiation of subsidence
14 would be very unlikely. But nevertheless, it's my
15 understanding that the client is planning to install a
16 subsidence monitor.

17 Q. Mr. Tietze, does that conclude your testimony?

18 A. (MR. TIETZE) Yes, it does.

19 MR WENE: Mr. Chairman, Mr. Tietze is available.

20 CHMN. FOREMAN: Member Houtz.

21

22

EXAMINATION

23

24 BY MEMBER HOUTZ:

25 Q. Mr. Tietze, you talk about, I guess it's the

1 saturated thickness of a thousand acre-feet for the
2 aquifer here. What is the depth to bedrock in this area?

3 A. (MR. TIETZE) The depth to bedrock, if you
4 considered the volcanic sequence to be bedrock, it is --
5 let me look it up real quickly here. It varies slightly
6 for the two sites, but it's very similar.

7 Okay. The depth to bedrock beneath AVSE I is
8 approximately 1,100 feet was the shallowest that it was
9 found. And the depth to bedrock at AVSE II, it was not
10 encountered in borings. It's somewhere beneath 800 feet.

11 I should add that the volcanic sedimentary
12 sequence is water-bearing. Regionally the depth to
13 bedrock that is not considered to be water-bearing is
14 somewhat deeper. It's on the order of 2,000 feet.

15 Q. And what is the depth to water generally in the
16 two sites? To hit groundwater?

17 A. (MR. TIETZE) The most recent report,
18 groundwater level in the AVSE site boundary is
19 approximately 100 feet below ground surface in 1982. We
20 would expect it to be somewhat higher at this time.

21 And AVSE II, the depth to water was similar.
22 Let's see, AVSE II, an assessment estimated groundwater
23 levels at AVSE and AVSE II to be approximately 160 feet
24 below ground level. So we're talking roughly 100 to 200
25 feet below ground level.

1 Q. And so with a thousand feet of saturated
2 thickness, getting to the bottom of the saturated
3 thickness, you're still not below the 1,200 foot limit
4 that the Groundwater Code places on pumping?

5 A. (MR. TIETZE) In terms of an adequate and
6 assured water supply?

7 Q. Yes.

8 A. (MR. TIETZE) I should clarify that the project
9 is not required to --

10 Q. I'm just trying to get into a context of --

11 A. (MR. TIETZE) In terms of the anticipated
12 drawdown for the project reaching either 1,200 feet or to
13 bedrock, we don't foresee that as a credible scenario
14 based on our study.

15 Q. Even with the cumulative effects of all pumping
16 in the area?

17 A. (MR. TIETZE) That's correct.

18 Q. Going to the model, the THWELLS model that was
19 used for this, was this an earlier model used by the power
20 plants or --

21 A. (MR. TIETZE) No, the power plants earlier used
22 a MODFLOW model, a numerical groundwater flow model.
23 Around 2000 there were several energy companies that
24 collaborated on this, and there was a stakeholder group,
25 and input was obtained from Maricopa County and DWR, and

1 the model was filed with the Corporation Commission.

2 That was a regional model, and then our model
3 looked more at site-specific impacts and utilized the
4 THWELLS modeling code which is an analytical modeling code
5 and more appropriate for looking closer to the site,
6 project specific.

7 Q. So the MODFLOW model was such a large scale, it
8 couldn't be adapted to the smaller scale?

9 A. (MR. TIETZE) I think that we felt it was
10 appropriate to conduct our modeling in a way that was
11 consistent with the regional model, but not to use the
12 regional model for our purposes.

13 Q. In your submitted testimony, you talk about well
14 impact analysis. In the AMA there is a well impact
15 analysis for all new wells.

16 Are there any wells in the vicinity of the
17 project sites that could be impacted from -- it looks like
18 there's quite a few wells in the area.

19 A. (MR. TIETZE) Yes, there are quite a number of
20 wells in the area. Most of them historically were used
21 for agricultural purposes. Now, the main wells that are
22 being used in the area are energy project related wells.

23 And we did look at potential interference
24 drawdown impacts to those wells. And we found that the
25 interference drawdown -- let's see. We predicted it for a

1 five-year and a 30-year scenario. And at AVSE I, well W-8
2 is the closest off-site well, and that's located actually
3 within the -- or the closest non-project private well, and
4 that's actually located up here within the area. I
5 understand that that parcel that has that well on it is
6 under option for purchase.

7 But the pumping wells would be right around here
8 in the power block area. So this was about 3300 feet
9 away or 3500 feet away, and the predicted drawdown was
10 calculated to be 6.3 feet after 30 years.

11 And for AVSE II, the closest well was W-10,
12 which is right up here in this area, and that's located at
13 a little bit more distance from the AVSE II power block,
14 which is right down, and the drawdown was predicted to be
15 1.9 to 3.5 feet after five years, and 3.5 to 6.5 feet
16 after 30 years.

17 Q. Could you give the Committee a perspective on
18 what DWR would require for well impact analysis, how this
19 compares?

20 A. Well impact analysis from a statutory
21 perspective, you have to identify the area that would be
22 drawn down by ten feet within a period of five years. And
23 so this would not fall in that statutory definition.

24 MEMBER HOUTZ: That's all the questions right
25 now.

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EXAMINATION

BY CHMN. FOREMAN:

Q. Before we slide away from this one, how many -- you've mentioned that there are 2,500 acre-feet per year out of this one Type 1 commitment of 6,373 acre-feet per year in which this land is located, correct?

A. That's correct.

Q. What other commitments presently exist and are presently being used?

A. Can you clarify, when you say what other commitments, are you talking about what other groundwater demand exists in the area?

Q. Yes, is there someone else -- you mentioned that there was groundwater being pumped. I believe you referred to the Arlington Valley gas peaking facility.

A. Yes, there are several groundwater pumpers in the area. Arlington Valley Energy Facility, so that the Dynegy facility will retain a right to pump approximately 3700 acre-feet. However, their annual groundwater demand has been averaging closer to 2900 acre-feet per year.

MEMBER HOUTZ: This is out of the same Type 1 right?

MR. TIETZE: This is out of the same Type 1 right. And then there are other facilities that have

1 Type 1 grandfathered rights in the area. There's the
2 Sempra facility and the Pinnacle facility, each of which,
3 one of them has 3,400 acre-feet per year Type 1 water
4 right, and another one has 8,000 acre-feet per year Type 1
5 water right. Neither one of them is using that entire
6 water right at this time.

7 MEMBER HOUTZ: But those are separate different
8 certificates?

9 MR. TIETZE: That's correct, those are different
10 certificates.

11 MEMBER HOUTZ: To follow up on the Chairman, the
12 6,373, there's a preexisting commitment to use up to 3,700
13 acre-feet, and then this 2,500 acre-feet, and then the
14 rest of that Type 1 right is not committed at this time?

15 MR. TIETZE: That's correct.

16 CHMN. FOREMAN: All 73 feet of it?

17 MR. MOYES: That's 173.

18 CHMN. FOREMAN: 3,700 plus 2,500, yes, that
19 would be what, 6,200. So 173 acre-feet per year is all
20 that's left of that. So realistically speaking, are you
21 expecting that there would be some other -- is there room
22 for anybody else to make use of water out of that one
23 grandfathered permit?

24 MR. TIETZE: Theoretically, yes. To my
25 knowledge, there's no plans for it, but it's a water right

1 that exists.

2 MR. MOYES: As we discussed before,
3 Mr. Chairman, the appurtenancy issue comes to bear here,
4 and the point you're making is why I think it was
5 important that we had the Q and A with Member Noland to
6 avoid any inference that somehow, you know, there's a
7 whole bunch of water here that's not going to be used out
8 of that certificate. That's not the case, as you point
9 out.

10 The commitment of the existing power plant and
11 the use by these projects will essentially use up most of
12 the certificate, with some left over that again
13 theoretically legally is available; but there's no plan
14 for its use, nor are we necessarily committing to just
15 putting it away and never using it. We don't know.

16 CHMN. FOREMAN: But these three projects, the
17 gas peaking facility and these two projects are,
18 realistically speaking, the water commitments for this one
19 grandfathered right; would that be fair? I mean
20 substantially all of the water is committed to those three
21 projects?

22 MR. MOYES: Yes, and substantially all in
23 conceptual terms without cutting too fine a slice, yes.

24 MEMBER HOUTZ: Mr. Chairman.

25 CHMN. FOREMAN: Member Houtz.

1 MEMBER HOUTZ: Maybe Mr. Moyes or Mr. Wene or
2 somebody could point out, maybe outline with a pointer the
3 general lands that this Type 1 right are associated with.
4 Or do you have an exhibit?

5 MR. MOYES: Do we have a slide, Ms. Pollio, that
6 shows the total holdings in the LS family, if you will?

7 MS. POLLIO: We have a couple of slides. Maybe
8 that one right there is the best.

9 MR. MOYES: Mr. Tietze referred to Dynegy, but
10 Dynegy has since sold that facility to LS Power. So it's
11 really all in the family.

12 But Ms. Pollio, could you point out -- I believe
13 it's all of this land that's in this color.

14 MS. POLLIO: That is correct. Again, I don't
15 know -- I think --

16 MR. MOYES: The Type 1 rights lands are not all
17 of those. The Type 1 rights lands are the lands that were
18 previously irrigated within those holdings, that when
19 converted, gave rise to the 6,373 acre-feet of Type 1.

20 MEMBER HOUTZ: Are what's in the pink there for
21 LS Power, are the Type 1 rights available to all of those
22 acres, or are they limited further within the LS holdings?

23 MR. MOYES: Well, as you know, there's some
24 limitations with respect to where the irrigated fields
25 were, where the wells are, where the usage is on or off.

1 Right now, the usage, you know, by the power plant itself,
2 which is about here, and then -- I'm sorry, up here north
3 of the project, and then these projects will obviously
4 utilize the pink lands. The second one isn't outlined on
5 here, but it's essentially this.

6 CHMN. FOREMAN: Okay. Very good. You may
7 proceed.

8 MR. MOYES: I think we are now back to
9 Ms. Pollio for discussion of the biological resources and
10 other environmental factors under the statute.

11 A. (MS. POLLIO) Yes. Looking at Exhibit C and D,
12 both of which cover biological resources, as we've seen
13 again in a lot of the aerial photographs and the virtual
14 tour, the land where both project sites are is vacant, but
15 it's disturbed native habitat that is previously
16 agricultural land. So it's a site that is disturbed area.
17 We went and did biological assessments on both sites and
18 within the area.

19 There are no potential habitat nor there are no
20 species that occur on the site that are threatened or
21 endangered.

22 There are sensitive species that have potential
23 habitat on this site; but looking at the site, the
24 potential habitat is very low. When we also went out
25 there and looked, there are no sensitive species that were

1 found on the project site. So the fact that they do not
2 currently exist and that the habitat is very low, we do
3 not anticipate any impacts to those species.

4 Next, we'll go on to Exhibit E. Exhibit E is
5 visual and cultural resources. As I am going through the
6 visual resources, I'm going to ask Susan just to kind of
7 walk through the slides. Again, we talked about this
8 earlier. Mr. Schroeder went through this in previous
9 testimony and with the virtual tour.

10 We have the renderings for both CSP technology
11 and PV technology for both sites. As we've discussed,
12 there's limited visibility of the project because of the
13 low profile. Also, there are not many roads that would
14 provide a viewshed for the project. Again, we've looked
15 at both the renderings and both the simulations that are
16 in Exhibit E. They are E-2 and E-3.

17 We've also covered the cultural resources.
18 That's also included in Exhibit E of both documents. We
19 conducted a Class 1 cultural survey. We sent out that
20 Class 1 to the State Historic Preservation Office and the
21 tribes in the area. We only received back a letter from
22 the State Historic Preservation Office, which is included
23 in your binder. That letter is included in behind Tab --
24 let me get that for the record.

25 MEMBER MUNDELL: While you're looking for

1 that -- Mr. Chairman.

2 CHMN. FOREMAN: Member Mundell.

3 MEMBER MUNDELL: While you're looking for that,
4 what does it mean? I mean I read it, and I'm not sure --
5 I mean it's nice to have in here, but what does it mean?

6 MS. POLLIO: The Class 1?

7 MEMBER MUNDELL: No, the letter that we got
8 from --

9 MS. POLLIO: Oh, I can explain that. The letter
10 is behind Tab 10, and the letter is from the State
11 Historic Preservation Office, and that was my next point,
12 so that seques very well into it.

13 The letter basically identifies that there are
14 State Lands within our project site, although we can say
15 that they've been previously disturbed with agricultural.
16 The State Lands are native. They have not been disturbed
17 by agricultural, and so a Class 3 survey is what this
18 letter has asked, that a Class 3 survey be conducted and
19 coordinated with State Lands Department.

20 We have actually gone out and conducted the
21 pedestrian survey of all of those lands. We are preparing
22 the report right now that will be sent to the State Lands
23 Office.

24 I can say that the results of that survey
25 indicate that there were no cultural resources found on

1 any of those lands. So it's very -- it's a very good
2 thing; and again, that's part of the moving our lease
3 agreement forward with State Lands Department.

4 MEMBER MUNDELL: So what would happen if there
5 was something found?

6 MS. POLLIO: If there are cultural resources
7 that are found, then as we have included in conditions of
8 the CEC, there are monitoring mitigation protocol for
9 encountering any historic resources, both during
10 construction and -- pre-construction and construction.

11 MEMBER MUNDELL: Thank you.

12 CHMN. FOREMAN: Member Eberhart.

13 MEMBER EBERHART: Ms. Pollio, could you describe
14 for the Committee what the difference or what a Class 1,
15 Class 2, Class 3 cultural resources is?

16 A. Yes, a Class 1 survey is a literature search.
17 So that's really the first step. It is required to be the
18 first step, and then you proceed to a Class 3 typically.
19 And that literature search is conducted with any state or
20 federal offices, if they've been -- basically, you go out
21 there and you see what's been conducted on site.

22 In this area, because there are so many
23 different projects that have already been constructed,
24 there are a number of Class 1 surveys that have been
25 conducted; and what that provides us is indication if

1 there's going to be any cultural resources encountered.
2 So it's a good indication of what's out there.

3 A Class 2 survey is really a predictive model,
4 and usually that's done for a very, very large area where
5 you're just trying to predict where potentially there
6 would be cultural resources. That traditionally is not
7 done for projects, and you probably have not seen Class 2s
8 presented.

9 So everyone steps to a Class 3, and those are
10 pedestrian surveys where you actually have archaeologists
11 go out to the field and walk on the project site, the
12 transmission line route, whatever is being constructed,
13 and they basically look for archaeological resources and
14 document those.

15 MEMBER EBERHART: Mr. Chairman, Ms. Pollio, for
16 the Class 3 survey, did you just do the State Lands and
17 the transmission line proposal, or did you also include in
18 there the agricultural land?

19 MS. POLLIO: We actually did only conduct the
20 Class 3 survey for the State Lands because the indication
21 from the Class 1 is that there were no cultural resources
22 that were encountered, and again, that had been farmed for
23 so long that we basically confined that to the State Land
24 area.

25 MEMBER EBERHART: Thank you.

1 CHMN. FOREMAN: Proceed.

2 MS. POLLIO: Okay. Exhibits F and H include
3 recreation and planned uses. We would not propose any
4 on-site recreation. The closest recreational facility is
5 about seven to eight miles away. So there would be no
6 impact to any close recreation facilities.

7 In terms of state, local plans, we did inquire
8 with the county and with the state. Obviously, we're
9 working with the State Lands Department and with the BLM.
10 There are no plans in the general area of the project
11 site. There are no residential developments or planned
12 area developments that are on file.

13 We do want to identify though that there are
14 numerous planned energy projects, two of which are
15 certificated by the Committee, and they are the Mesquite
16 Solar PV projects, I think cumulatively about 4,000 acres
17 in the immediate area of the project.

18 But again, there's no -- we don't feel there are
19 any inconsistent plans. These would be consistent with
20 our proposed solar projects.

21 And last, but not least, is Exhibit I is noise
22 and communication, and we did do a noise impact analysis
23 where we assessed the CSP project, because that would have
24 more of a noise, would have more of a noise source than
25 the PV project. Primarily, as you've heard in previous

1 cases, the power block is where the noise source would be
2 coming from.

3 The closest residents to that noise source is
4 about two and a half miles away; and based on the noise
5 impact model that was conducted, there would be no
6 discernible noise from that power block to that closest
7 residence.

8 And that concludes going through all of the
9 exhibits.

10 MR. MOYES: Thank you, Miss Pollio. Let me ask
11 you just another housekeeping question as it relates to
12 our exhibits. Most of your testimony was prefiled. We
13 mentioned that.

14 Having reviewed and heard the questioning now,
15 you're still of the view that your prefiled testimony is
16 accurate and stands on its own, and we can offer that as
17 an exhibit?

18 MS. POLLIO: Yes.

19 MR. MOYES: And Mr. Tietze, the same question to
20 you. Your testimony was prefiled. I know you had
21 substantial additional questioning and testimony.

22 But with respect to that which was prefiled,
23 which we have referred to as AVS-9, you're comfortable
24 with our admitting that as it stands as evidence in this
25 record?

1 MR. TIETZE: Yes, I am.

2 MR. MOYES: Thank you. Mr. Chairman, I think we
3 have marked now up through Exhibit 9, and we made some
4 references to those items under Tab 10, which in our
5 sequencing would become Exhibit AVS-10 and would offer
6 those all for admission at this time.

7 CHMN. FOREMAN: All right. Good cause
8 appearing, it will be ordered admitting Exhibits AVS-4, 5,
9 6, 7, 8 and 9.

10 (Exhibits AVS-4, AVS-5, AVS-6, AVS-7, AVS-8, and
11 AVS-9 were admitted into evidence.)

12 CHMN. FOREMAN: Now, with regard to Exhibit 10,
13 we've had some testimony concerning a portion of them.
14 Are you offering Exhibit 10, too?

15 MS. POLLIO: Yes, and I will clarify that there
16 are also two other letters included in Exhibit 10, one of
17 which is -- I did not mention in my testimony about the
18 public process, but it is a letter from Mary Rose Wilcox
19 in support of the project. That's also in Exhibit 10.

20 MR. MOYES: And Ms. Wilcox is?

21 MS. POLLIO: Supervisor of Maricopa County
22 District 5 which is the district we are included in.

23 MR. MOYES: Thank you.

24 MS. POLLIO: As well as a response letter to the
25 Arizona Game and Fish letter that we received.

1 MR. MOYES: And the letter that you received,
2 Miss Pollio, is that included in the application?

3 MS. POLLIO: It is included in the application,
4 yes.

5 MR. MOYES: So the letter that's found as the
6 second item under Tab 10, I'm sorry, the third item under
7 Tab 10 is the company's response to the letter that's in
8 the application; is that correct?

9 MS. POLLIO: Correct.

10 CHMN. FOREMAN: Do you want to offer Exhibit 10
11 now?

12 MR. MOYES: Yes.

13 CHMN. FOREMAN: All right. Be ordered admitting
14 AVS-10.

15 (Exhibit AVS-10 was admitted into evidence.)

16 CHMN. FOREMAN: And we've previously had
17 testimony concerning AVS-14. Do you have anything else
18 you want to add with regard to AVS-14?

19 MR. MOYES: I can avow with respect to the first
20 item there. I traveled to the site after the storms on
21 Friday.

22 CHMN. FOREMAN: They're still there?

23 MR. MOYES: The signs were still there, unlike
24 the Sempra sign, I might note, that did get blown over,
25 which I attempted to aright; but all I succeeded in doing

1 was tipping it over so you can see it flat on the ground
2 instead of not being able to read it this way. I tried,
3 in deference to my colleagues working for Semptra.

4 The affidavits of publication from the
5 newspapers, I think, are sworn affidavits, and should
6 stand on their own record.

7 I can avow to the accuracy of the letter under
8 my signature by which the Applications were transmitted to
9 Maricopa County.

10 The Notice of Hearing bearing your signature was
11 duly docketed as this indicates by the Received stamp.

12 Then the next item are copies of the Return
13 Receipt green cards from the certified mailings to
14 Maricopa County.

15 Then the next three items are Fed Ex shipping
16 confirmations with respect to delivery of copies of the
17 Applications to the Arlington Elementary School, the
18 Buckeye Public Library, and Arizona Game and Fish
19 Department.

20 And then lastly, just again as a procedural
21 prerequisite is a copy of the Notice of Filing that was
22 filed in connection with the plan that we've come to refer
23 to commonly as the 90-day Plan that was filed on August
24 27, 2009.

25 CHMN. FOREMAN: Be ordered admitting Exhibit

1 AVS-14.

2 (Exhibit AVS-14 admitted into evidence.)

3 MR. MOYES: Thank you.

4 CHMN. FOREMAN: Now, I'm assuming that you don't
5 intend to offer, at least I certainly don't think it's
6 appropriate to admit into evidence 11, 12 or 13. 11 and
7 12 are just proposed CECs. 13 is an itinerary of a tour
8 that we didn't take, so --

9 MR. MOYES: We've dispensed with the tour. So I
10 think that doesn't need to be offered. The other two, we
11 submitted and filed pursuant to your procedural order.
12 But in my view, it might be just more confusion for the
13 record if we put them in as exhibits at this point. If we
14 can tolerate the gap in sequence numbering, that would be
15 our preference.

16 CHMN. FOREMAN: Very good. Other testimony to
17 present?

18 MR. MOYES: No. That concludes our direct case,
19 Mr. Chairman.

20 CHMN. FOREMAN: All right. Very good. Member
21 Houtz.

22 MEMBER HOUTZ: I'll direct this question to
23 Mr. Moyes because he can avow to this. I just want to
24 make the record clear.

25 If the CEC is granted and the proposed use of

1 water is approved of using Type 1 water, could you outline
2 for the Committee what the reporting requirements would
3 be? We've had this issue outside of AMAs. But within the
4 AMA, I believe it's a little different.

5 MR. MOYES: Thank you, Mr. Houtz. Let the
6 record reflect I do avow based on my experience with these
7 matters. Within Active Management Areas, the reporting
8 requirements are quite strict, and they are carefully
9 monitored and enforced by the Department of Water
10 Resources.

11 Each well must be metered and the reports from
12 the metering filed annually, I believe it's by March 31st
13 for each preceding calendar year; and the usage under any
14 grandfathered right, however it is supplied from whatever
15 wells that are reported, must also in the aggregate usage
16 under that right be reported annually as well on separate
17 forms.

18 So the water use that comes from the wells that
19 the plant utilizes will be clearly reported under existing
20 law as well as all of the usages under the Type 1 rights.

21 MEMBER HOUTZ: And that would be why there would
22 be no special condition in the proposed CEC for reporting
23 water use?

24 MR. MOYES: It would seem to be redundant if we
25 had anything in addition to that. It would be the same

1 information that we will be filing by operation of law,
2 the current law.

3 MEMBER HOUTZ: Thank you, Mr. Moyes.

4 CHMN. FOREMAN: All right. If there are no
5 other questions, we then have the issue of how we wish to
6 proceed. It's nearly 5:00 p.m. There is a public comment
7 session that is scheduled for 6:00 p.m. I'm going to be
8 staying for that. I encourage those Members of the
9 Committee who wish to stay to do likewise. We can try and
10 work through until then if you would like, or we can
11 adjourn until tomorrow at 9:30 and resume with our
12 deliberations or begin our deliberations at that time.

13 MEMBER HOUTZ: Mr. Chairman, I would prefer that
14 we do our deliberations tomorrow, as much as I like to
15 plow through. I had planned for two days of this. I did
16 not anticipate three, but I did plan two; and I do think
17 I'm going to take the opportunity this evening and try and
18 consult with my client on this.

19 CHMN. FOREMAN: All right. Anybody have a
20 differing view?

21 MEMBER RASMUSSEN: I agree.

22 CHMN. FOREMAN: Member Rasmussen agrees.

23 I would point out for each of you that I asked
24 the Applicant to obtain a copy of the proposed final
25 language for the CEC in Case Number 151, and I put a copy

1 of that at each of your chairs so you'll have that to
2 refer to because we did talk about some of the language
3 that we had crafted in that case.

4 There are a couple of issues that I, too, am
5 going to work on tonight, seeing if we can work on
6 language.

7 We have a hearing scheduled tomorrow at 8:30 in
8 Number 151. I've previously mailed to all of you the
9 pleading that's associated with that. We'll talk about it
10 tomorrow at 8:30. I hope as many of you who can will be
11 there. We didn't have a lot of options as to when we
12 could schedule that hearing. But we'll do that hearing.
13 My plan is to do that hearing from 8:30 until 9:30, and
14 then start on this case at 9:30 and do our deliberations
15 and conclude.

16 Are there other issues that we need to address
17 here this evening before we adjourn?

18 MEMBER NOLAND: Can we leave our materials?

19 MS. POLLIO: Yes, we will lock the doors.

20 CHMN. FOREMAN: Very good. Thank you. We will
21 see you tomorrow in this matter at 9:30, and the other
22 matter, I'll see the Committee members at 8:30 tomorrow.

23 MR. MOYES: Thank your, Mr. Chairman, and
24 hopefully your voice will improve.

25 (The hearing recessed at 4:50 p.m.)

1 (The Public Comment session commenced at
2 6:08 p.m.)

3 CHMN. FOREMAN: Let's go back on the record. We
4 are at the Public Comment session. We've been here for
5 some time, and we're waiting for a member of the public to
6 come and comment. It's 6:08.

7 There are a couple of members of the public who
8 are here who have been entertained and informed, but have
9 expressed no interest in commenting.

10 It is my custom to wait fifteen minutes. So
11 we'll wait another couple of minutes; and if no one
12 appears who wants to comment, we will adjourn for the
13 evening.

14 (Off the record.)

15 CHMN. FOREMAN: All right. It's now 6:15.
16 Although we have two members of the public present, they
17 have not indicated an interest in commenting. And so we
18 have two members of the public and we have one, two,
19 three, four, five, six, seven, eight members of the
20 Applicant and its staff, and, oh, I'm sorry, and we've got
21 a sound technician here, a court reporter, and Members of
22 the Committee. So I don't know whether we scared people
23 off or what.

24 In any event, we're going to take the evening
25 recess. We will reconvene tomorrow in Number 151 at 8:30,

1 and this matter will reconvene at 9:00 or 9:30, depending
2 on when we are ready to proceed.

3 MR. MOYES: May I ask, Mr. Chairman, do you want
4 us to be prepared to start immediately at 9:00, or can we
5 just say 9:30 regardless of how long you take for the
6 other proceeding?

7 CHMN. FOREMAN: I'm flexible. Right now I have
8 no strong feelings either way. If you're ready to go and
9 everybody else is ready to go, then I'm certainly not
10 going to stand in the way.

11 But if you folks want to start at 9:30, because
12 I think I did say 9:30 earlier.

13 MR. MOYES: It might be easier for us if we had
14 a time certain, and I would suspect that that hour would
15 give you plenty of opportunity with the other matter.

16 If you're comfortable with that, then I'll plan
17 on 9:30, and that way we all know when to plan to be
18 prepared and ready to go.

19 CHMN. FOREMAN: I'm not in a position with the
20 Committee to commit to a time certain.

21 MR. MOYES: No later than -- no, no sooner than,
22 excuse me.

23 CHMN. FOREMAN: Let's just say I'm fairly
24 confident we're going to be ready to go by 9:30. So let's
25 do it at 9:30. See you tomorrow.

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MR. MOYES: Thank you.

(The Public Comment session concluded at.
6:16 p.m.)

1 STATE OF ARIZONA)
) ss.
 2 COUNTY OF MARICOPA)

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I, GARY W. HILL, R.P.R., Certified Reporter
 No. 50812, for the State of Arizona, do hereby certify
 that the foregoing printed pages constitute a full, true
 and accurate transcript of the proceedings had in the
 foregoing matter, all done to the best of my skill and
 ability.

WITNESS my hand this 29th day of January,
 2010.



 Gary W. Hill, R.P.R.
 Certified Reporter, No. 50812