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COMMITTEE WORKSHOP  
BEFORE THE  
CALIFORNIA ENERGY RESOURCES CONSERVATION  
AND DEVELOPMENT COMMISSION

In the Matter of: )  
 )  
Preparation of the 2007 Integrated ) Docket No.  
Energy Policy Report (2007 IEPR) ) 06-IEP-1M  
 )  
Integrated Scenario Analyses )  
\_\_\_\_\_ )

CALIFORNIA ENERGY COMMISSION  
HEARING ROOM A  
1516 NINTH STREET  
SACRAMENTO, CALIFORNIA

MONDAY, JANUARY 29, 2007

9:15 A.M.

Reported by:  
Peter Petty  
Contract No. 150-04-002

COMMISSIONERS PRESENT

Jackalyne Pfannenstiel, Presiding Member

John Geesman, Associate Member

ADVISORS PRESENT

Timothy Tutt

Melissa Jones

STAFF and CONTRACTORS PRESENT

Lorraine White

Michael Jaske

Grace Anderson

ALSO PRESENT

David Kates

David Mark & Company

Joe Heisman (phonetic) (via teleconference)

Jane Turnbull

League of Women Voters

Doug Larson (via teleconference)

Western Interstate Energy Board

Scott Cauchois, Senior Manager

Division of Ratepayer Advocates

Kevin Porter (via teleconference)

(inaudible) Associates

Gary L. DeShazo

Nan Liu

California Independent System Operator

Rich Ferguson

Center for Energy Efficiency and Renewable

Technologies

ALSO PRESENT

Audrey Chang  
Natural Resources Defense Council

Mike Whatley  
Southern California Edison Company

Steve Ross  
Pacific Gas and Electric Company

Bernadette Del Chiara (via teleconference)  
Environment CA

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1 P R O C E E D I N G S

2 9:15 a.m.

3 MS. WHITE: My name is Lorraine White;  
4 I'm the Project Manager for the California Energy  
5 Commission's Integrated Energy Policy Report  
6 proceeding.

7 Commissioners.

8 PRESIDING MEMBER PFANNENSTIEL: Thanks,  
9 Lorraine. Good morning. This is the Integrated  
10 Energy Policy Report Committee. I am Jackie  
11 Pfannenstiel, the Chair of the Energy Commission  
12 and Presiding Member of that Committee. To my  
13 left is Commissioner John Geesman, who is the  
14 Second Member of the Committee. And to his left  
15 is Melissa Jones, his Staff Advisor.

16 I think that we might as well just dive  
17 into the substance of the material that was made  
18 available. So, why don't I hand it back to you,  
19 Lorraine.

20 MS. WHITE: There's just a few  
21 logistical things we need to cover this morning, a  
22 few announcements that are part of our standard  
23 fare.

24 For those of you who have not joined us  
25 at the Energy Commission before, the restrooms can

1 be found on the first floor here to the left of  
2 the double doors as you enter. We also have a  
3 snack shop on the second floor.

4 You all have signed in, of course, and  
5 gotten your bright green badges, so you allowed  
6 access to the second floor without having to check  
7 in with the security guard again.

8 In the event of an emergency there will,  
9 of course, be an alarm that sounds. And the place  
10 where we exit the building and meet, there's  
11 actually two exits. For those of you closest to  
12 the far corner, we ask that you exit out the  
13 double doors of the left here. And then for those  
14 closer to the main entrance to the hearing room,  
15 exit out the front doors of the Commission. Our  
16 meeting place is over at the park, kitty-corner to  
17 the location of the Commission. Once all is clear  
18 we'll be allowed back in. But in the event that  
19 such an alarm does sound, we need to let you know  
20 where you have to go.

21 For those who are listening in on the  
22 WebX, to participate by phone and ask questions as  
23 we go along, there is a call-in number. It is  
24 888-820-8951; the passcode is IEPR, I-E-P-R; the  
25 call leader is Michael Jaske.

1           In the event that you do call in, please  
2           keep your phones on mute while not speaking  
3           because it does cause a tremendous amount of  
4           disruption with all the background noise. So,  
5           just out of courtesy we ask that you keep it on  
6           mute.

7           For those of you who are here in person,  
8           we normally would have folks sign in with blue  
9           cards, but because we want to keep this fairly  
10          informal and facilitate a lot of meaningful  
11          discussion about what we're proposing, as we go  
12          through this workshop and after Mike has done his  
13          introductory comments and introducing our  
14          proposal, we ask folks to please come to the table  
15          who are going to be engaging in the discussion.

16          There are microphones there and we can  
17          easily record it. This workshop is being  
18          transcribed so there'll be a record afterwards.  
19          But in this manner it will help facilitate the  
20          discussion quite a bit better.

21          Today's agenda is -- we're already into  
22          it, but Mike is going to be providing an overview  
23          and a discussion of the purpose of our proposal as  
24          part of this workshop; and going through some of  
25          the key elements of the proposal, the scenario

1 design, scenario specifications, the analytic  
2 approach we're proposing. And then we're going to  
3 ask the parties to provide us input on that  
4 proposal. And then we'll be responding back with  
5 our reactions to that input.

6 Finally, we'll wrap up with a discussion  
7 of what our next steps are going to be before we  
8 depart.

9 The scenario proposal that we're putting  
10 forth is part of our overall efforts to do the  
11 assessments of the electricity system. The IEPR  
12 requirements require that we assess and forecast  
13 the various supply, demand and price conditions of  
14 the --

15 PRESIDING MEMBER PFANNENSTIEL: Excuse  
16 me, Lorraine, you might want to dim the lights so  
17 that --

18 MS. WHITE: Oh, sorry.

19 PRESIDING MEMBER PFANNENSTIEL: -- the  
20 screen shows up better. Thanks.

21 MS. WHITE: Try it again. There we go.  
22 Sorry about that. The statutes require that we  
23 not only do the assessment and forecast, but that  
24 we seek information for various market  
25 participants and consumers.

1           We consult with various agencies. And I  
2 will repeat again for those that have called in,  
3 please mute your phone so that we don't have a  
4 disruption of background noise during the  
5 discussions today.

6           From these assessments, from this input  
7 we'll develop and recommend various policies to  
8 address issues that we identify; and then present  
9 this for adoption by the Commission before  
10 transmitting it to the Legislature and Governor.

11           The proposal that we're making today  
12 actually stems from a recommendation out of the  
13 2005 IEPR in which the Commission was asked to  
14 produce a more robust assessment of the  
15 alternative future supply portfolios for all the  
16 load-serving entities using a scenario-based  
17 analysis.

18           The Energy Commission, in the 2005 IEPR,  
19 stressed its commitment to developing such a  
20 analysis to provide a better basis for developing  
21 policy recommendations. And, in particular, I  
22 have quoted there the particular recommendation  
23 that can be found in the 2005 IEPR on page 60, in  
24 which we direct ourselves, staff, to produce a  
25 portfolio analysis as part of the this particular

1 proceeding on which we would engage in the policy  
2 discussions.

3 So there is definitely a tie with what  
4 we're doing, building on what was recommended in  
5 the 05 IEPR.

6 This is an overview of the schedule.  
7 Over the next several months we'll be conducting  
8 the scenario-based analysis. We're hoping to  
9 conclude most of our analytic work by May for  
10 purposes of engaging over the summer in the policy  
11 discussions about what the results may implicate.  
12 And make that available to parties as part of this  
13 deliberation for inclusion in what the Committee  
14 recommends to the Commission, and ultimately to  
15 the Governor and the Legislature by November 1st.

16 All of the information we're discussing  
17 as part of this workshop and all of the preceding  
18 elements can be found at the Energy Commission's  
19 website. The location is identified there. We  
20 post materials in advance of workshops. And then  
21 the materials related to the workshop proceedings,  
22 whether it's a transcript or any of our slides,  
23 will be available on the website thereafter.

24 For general information about the  
25 overall IEPR program or this proceeding you can

1 contact me. That information is also easily  
2 available on the website.

3 For the particular scenario-based  
4 assessment project, that would be Mike Jaske. And  
5 his email address is there, and also his direct  
6 phone number. This information can also be found  
7 in the notice that was posted for today's  
8 workshop.

9 So at this point I would like to  
10 introduce Dr. Jaske so that he can do a summary of  
11 the overall proposal before we discuss.

12 DR. JASKE: Thank you, Lorraine.  
13 Commissioners. For the record my name is Michael  
14 Jaske; I'm with the Energy Commission Staff in the  
15 executive office strategic issues group.

16 I think this is a repeat of what  
17 Lorraine has already said. I'll leave this slide  
18 on the screen for a moment and just sort of  
19 reiterate, perhaps in a little more detail, what  
20 Lorraine said about today's agenda. I'm going to  
21 give just a quick overview, 10 or 12 slides,  
22 covering the project for those of you who haven't  
23 had a chance to dive into the paper, itself.  
24 There is about a 25-page paper that is our attempt  
25 to lay things out.

1                   What we're hoping to do, following my  
2                   presentation, is, as Lorraine said, invite those  
3                   of you who actively want to comment to come up to  
4                   the tables. They've been arranged in this  
5                   discussion format. And as the agenda shows, sort  
6                   of work through in three cycles things associated  
7                   with the project.

8                   The overall thrust of the scenarios,  
9                   sort of get your feedback on those. Then start  
10                  talking about some of the details of the  
11                  scenarios, where we're drawing our information,  
12                  where you think there are alternative sources of  
13                  information, or alternative specifications you  
14                  want us to consider. And then finally to talk  
15                  about the analysis we're planning to do for the  
16                  scenarios in the various cases. And, again, see  
17                  what sort of reaction you have to that, any  
18                  suggestions for change that you would like us to  
19                  consider.

20                  We are on a pretty fast track on this  
21                  project. I believe the schedule Lorraine showed  
22                  indicated we're hoping to complete the work by the  
23                  first part of June in terms of a report  
24                  documenting the results. And then conduct some  
25                  sort of workshops or formal process thereafter in

1 the summertime. Again, that will be an  
2 opportunity for you and others to sort of react to  
3 the results.

4 Our whole purpose today is to seek your  
5 input, your views of whether we've got this thing  
6 designed in a way that will make as clear as  
7 possible what the alternative features and  
8 characteristics and consequences of the various  
9 scenarios are, and whether there might be some  
10 better way to design them or analyze them.

11 Given the timeframe, we only have some  
12 limited flexibility. But to the extent that your  
13 comments today, and I believe you were provided an  
14 opportunity to send something in in writing by the  
15 end of this week, suggests, you know, some more  
16 significant change in course, I think the  
17 Committee is prepared to entertain that.

18 Although, of course, there are  
19 consequences that they'll have to consider; more  
20 resources devoted to it or longer timeframes or  
21 whatever. How they will judge such advice is not  
22 clear, and staff will meet with the Committee  
23 following the workshop and your comments to sort  
24 of review what to do next.

25 So, diving into these slides. Our basic

1 purpose is broad. It's to develop a better  
2 understanding of the principal actions that we  
3 think are necessary for major reductions in  
4 greenhouse gases from the electricity sector.

5 And the obvious things that we're  
6 talking about in terms of these actions are larger  
7 levels of energy efficiency and demand response on  
8 the customer side of the meter. And greater  
9 penetration of renewable nongreenhouse gas-  
10 generating technologies on the supply side,  
11 greater than what is already the case in terms of  
12 programmatic activities underway, legislation, et  
13 cetera.

14 We're going to try to evaluate the  
15 consequences of these actions; and through a  
16 series of scenarios, have some basis for trading  
17 off one scenario versus another.

18 So, we have these scenarios that are  
19 exploring different levels of efficiency, solar PV  
20 and renewable generation. We're designing these  
21 scenarios so that they satisfy a version of  
22 resource adequacy, so that means that there are  
23 sufficient resources to satisfy reliability  
24 requirements that the resources are counted  
25 approximately, using the kind of counting

1 conventions that the PUC has established for  
2 resource adequacy, and that the ISO is, itself,  
3 using for the POUs.

4 We're attempting to insure that there  
5 are local capacity requirements that are satisfied  
6 by the location of some of the generations added.  
7 And we're assessing the transmission that might be  
8 necessary to go along with any one of these  
9 packages.

10 This is a portion of the table 1 that's  
11 in the report, itself. It's probably hard to read  
12 from the screen, but the text is exact so you can  
13 follow along.

14 The current condition scenario or case  
15 is simply that what we understand is most likely  
16 to be happening were there no improvements in  
17 utility or LSE performance relative to all the  
18 various goals, hard or soft, that have been  
19 established for them.

20 Case 1B is a minor variation on that in  
21 which there's a closer adherence to the existing  
22 policy goals or regulatory requirements, statutory  
23 requirements in some instances; not only  
24 California, but other parts of the west.

25 Case 2, current trends with very high

1 fuel prices is starting off to be the same as  
2 current conditions, but in effect attempts to  
3 identify what would happen were decisionmakers,  
4 and in this instance meaning utility managements,  
5 were they to confront an expectation of very high  
6 fuel prices in effect from this point forward.  
7 Maybe something in the \$10 to \$12 a million Btu  
8 range for gas. How would they, themselves, choose  
9 to modify resource additions, operate existing  
10 plant facing that kind of fuel price.

11 Case 3A and 3B start a pair of scenarios  
12 that have to do with very high energy efficiency,  
13 higher than what has presently been adopted by the  
14 PUC for IOUs. And projecting that level of  
15 activity or something like it onto the POUs.

16 Case 3A doing that just within  
17 California and not the rest of the west. And on  
18 the next page here, case 3B doing that same sort  
19 of thematic approach across the whole of the  
20 western interconnection.

21 Similarly, cases 4A and 4B are pairs;  
22 very high instate renewables and the associated  
23 transmission connected to the sort of location of  
24 those renewables just within California and not  
25 the rest of WECC; and then 4B that theme extended

1 throughout the west.

2 Case 5 is, in effect, the summation of  
3 the high energy efficiency demand response on the  
4 customer side of the meter with the focus on  
5 renewable generation on the supply side. Again,  
6 done on a westwide basis.

7 Those of you who are familiar with the  
8 so-called CDEAC effort that was sort of wrapped up  
9 around June of 2006, and resulted in a Western  
10 Governors Association resolution sort of endorsing  
11 pursuit of efficiency and renewables at high  
12 levels, specifically for greenhouse gas reduction  
13 purposes, will recognize that these kinds of  
14 scenarios were discussed, evaluated to a degree in  
15 all the working materials of CDEAC. And some  
16 respects, these scenario definitions and to some  
17 degree the characterization of the scenarios,  
18 themselves, are drawing upon that CDEAC work.

19 And then finally there are two scenarios  
20 having to do with analysis of the consequences of  
21 retirement of aging power plant. The 2005 IEPR  
22 adopted a policy to not rely upon the production  
23 from these aging plants beyond the year 2012.

24 The Energy Commission Staff and the ISO  
25 have had a project underway, moving more slowly

1 than our original desires, to investigate these  
2 consequences. What's shown here are two versions  
3 of how you would replace those power plants; where  
4 local capacity requirements seem to imply a  
5 continued generation and that upgraded  
6 transmission couldn't remove the need for  
7 generation in that particular location all  
8 together. One oriented to conventional generation  
9 and one oriented to renewables. And clearly there  
10 would be some different transmission associated  
11 with those two sub-themes.

12 We're going to incorporate a more  
13 simplistic version of our original analysis in  
14 this project, but we continue to plan for a more  
15 intensive plant-by-plant analysis separate from  
16 this scenario project.

17 So, touching now on evaluation of these  
18 scenarios and cases, we're using Global Energy's  
19 production cost model. We're configuring Multisim  
20 in the way quickly summarized here. We're doing  
21 physical modeling of resources to match up to  
22 loads. We are not doing the analysis in an  
23 attribution to individual LSEs. So, while there  
24 are so-called transmission bubbles or zones, they  
25 are not expressly designed to reflect individual

1 LSE supply/demand balances; needs to procure is  
2 being done at a physical basis, not a contractual  
3 basis.

4           And we're covering the years 2009 to  
5 2020. There is actually an error in the staff  
6 report that says the years are 2007. In order to  
7 sort of assure that we're not doing is attempting  
8 to say what happens in the near term, we're  
9 starting the analysis in 2009. For the longer run  
10 purposes the early years are not important because  
11 the rollout of these high efficiency, high  
12 renewable scenarios takes time. And it's the  
13 later years that really are of particular interest  
14 for this project.

15           This is just a set of bullets from some  
16 page within the report. I'll quickly go through  
17 them. These are the attributes that we're  
18 attempting to quantify for all the various cases.  
19 So, of course, the emissions of greenhouse gases,  
20 of course, nearly directly scaled from fuel  
21 consumption of various sorts.

22           Operating costs, incremental capital  
23 costs of the various scenarios; of course,  
24 production by technology; fuel use, itself;  
25 emissions of the various criteria pollutants, as

1 well as mercury; an attempt to do at least a  
2 rudimentary version of water usage applying just  
3 simple water consumption factors per megawatt hour  
4 production by various technology types.

5           And then evaluating reliability and  
6 perhaps cycling back to redefine the scenarios in  
7 instances where a post-production cost analysis  
8 shows that the original resource plan wasn't  
9 sufficiently robust to handle various low-  
10 probability cases.

11           All of the various thematic scenarios,  
12 themselves, will be evaluated in a series of tests  
13 with higher/lower fuel prices. More to understand  
14 sort of the operating cost differences and  
15 dispatch differences than affecting the resource  
16 additions, themselves. Resource additions,  
17 themselves, are pretty much drawn from the  
18 thematic construction of the scenario.

19           Imposing a series of shocks like spikes  
20 in natural gas prices or the unavailability of  
21 resources for limited periods of time through, for  
22 example, an earthquake that might take out  
23 transmission and generation.

24           And then in some limited exploration of  
25 probabilistic variations around the mean. So, for

1 example, the variation in load or the variation in  
2 wind production caused by just weather patterns.

3 So, a little more detail on the  
4 sensitivity testing. So sensitivity testing is  
5 what we're calling say a phenomenon that was known  
6 as a possibility that has a duration, perhaps in  
7 the time horizon of years duration, could happen  
8 at any point. Prudent planning would dictate, you  
9 know, a resource plan that could accommodate such  
10 a thing. So in some respects, a variation across  
11 a deterministic set of assumptions.

12 And we're just going to evaluate these  
13 three that are included here for the particular  
14 year of 2015. 2015 is far enough out that the  
15 consequences of the scenario are starting to be  
16 felt in terms of the penetration of efficiency or  
17 renewable generation. Any sooner would have such  
18 limited variation compared to the current  
19 conditions case that we might not really  
20 understand these consequences of the particular  
21 scenario. And farther out than 2015 the  
22 consequence would probably just be larger.

23 We're also going to do some stochastic  
24 testing using the properties of Global Energy's  
25 production cost model. We're focusing at this

1 point on these five variables for which there are  
2 tractable data about the probabilities of  
3 alternatives.

4 So we're talking about load variations  
5 due to hot weather. Fuel prices, some sort of  
6 variation around a expectation trajectory, and  
7 that expectation, itself, varying in the  
8 sensitivity cases. Wind and solar PV; production  
9 profiles that reflect the uncertainty of actual  
10 hour-to-hour production of these two sources  
11 that'll become more important over time; and are  
12 strongly emphasized in some scenarios compared to  
13 others.

14 Hydroelectric, generation variances of  
15 the sort that are commonly evaluated in this kind  
16 of project. And then, again, a pretty  
17 conventional analysis of forced outages.

18 Like with the sensitivity testing, we're  
19 proposing to do this just for years 2015. This is  
20 extremely computationally intensive and we may  
21 not, in fact, have the resources to do this for  
22 all of the scenarios; do the ones that are the  
23 most extreme departure from the sort of  
24 conventional view of the future.

25 We're going to report the results of

1 these broad alternative scenarios, and then all  
2 the various cases I've just described as  
3 differences. And we're going to attempt to  
4 extract from this gigantic set of data the  
5 particular kinds of things, GHG emissions, total  
6 costs, emissions of the criteria pollutants and  
7 mercury, water consumption, fuel use.

8 We're going to do that on a sort of  
9 California/nonCalifornia basis. And then the  
10 physical attributes of actual power plant output.  
11 The other emissions I think we're going to attempt  
12 to report by transmission bubble.

13 So, those things that are not financial  
14 will be reported in a greater level of geographic  
15 detail than those that are more connected to the  
16 financial side.

17 We're, of course, cautious in the  
18 written report about the degree to which this  
19 analysis leads directly to some energy policy  
20 issues. It's obviously, by virtue of the focus on  
21 the physical system, lends itself more to  
22 transmission planning kind of issues and further  
23 assessments. And broad understanding of GHG  
24 reductions.

25 Since we're not doing this analysis on a

1 contractual basis, there's no direct ability to  
2 say anything about individual LSE portfolios or  
3 portfolio choice. So this is at a sort of scale  
4 of an abstraction looking at things more from a  
5 societal perspective than an individual LSE  
6 portfolio perspective.

7 We're hopeful that these results will be  
8 useful in the various assessments that the PUC and  
9 ourselves are going to be doing with CARB and  
10 other stakeholders in translating the whole  
11 emphasis of AB-32 on greenhouse gas reductions  
12 into actual initiatives. And that effort will, of  
13 course, carry itself on during and beyond the  
14 period of the 2007 IEPR.

15 And certainly we're going to be  
16 discovering some areas that require further  
17 research on methods data and various kinds of  
18 assumptions. We're already, at this stage, and  
19 we're now about three months into this project,  
20 much more clear about data issues and limitations  
21 than we understood even at the beginning. And so  
22 there are already some lessons learned on that  
23 score.

24 So that is the sort of big picture  
25 overview of the staff scenario proposal. As I

1 said at the outset, what we're going to do in a  
2 moment is try to get those of you who want to talk  
3 about the details to come up to these tables.

4 But before we do that, if there are  
5 some, you know, sort of real big picture, not  
6 focused on any of the particular details, we'll  
7 talk about in a minute, those kind of comments  
8 anyone wants to make, I think now might be good,  
9 because it would sort of let the room know the  
10 sort-of big picture reaction you have before we  
11 dive into any more minutiae.

12 So, the microphone there at the rostrum  
13 would be a good opportunity if anyone wants to  
14 make any sort of broad, sort of opening statements  
15 before we get into the details. Anyone want to do  
16 that? Anyone in the room want to do that? You're  
17 all content to talk about minutiae from this point  
18 forward?

19 (Laughter.)

20 ASSOCIATE MEMBER GEESMAN: Well, let me  
21 break the ice. In our 2004 update we spent a lot  
22 of time trying to bring some common sense of  
23 understanding to the term load pocket. This  
24 morning you've introduced a new term, transmission  
25 bubble. What's a transmission bubble?

1 DR. JASKE: A transmission bubble is a  
2 term somewhat frequently used in production cost  
3 circles where it's an attempt to bring, in a  
4 simplified way, transmission limitations into the  
5 production cost model. So that rather than  
6 characterizing in detail individual transmission  
7 lines and their power delivery capabilities under  
8 various conditions, you abstract from that into  
9 what we call zones or bubbles, and you don't worry  
10 about the transmission limitations within a  
11 bubble, you worry about the transmission  
12 constraints between bubbles.

13 So it's sort of a first order way of  
14 intersecting the limitations of the transmission  
15 system in a production cost model.

16 ASSOCIATE MEMBER GEESMAN: How does it  
17 differ from what we've come to understand of load  
18 pockets?

19 DR. JASKE: It would be more coarse than  
20 a load pocket. A load pocket --

21 ASSOCIATE MEMBER GEESMAN: So there are  
22 fewer transmission bubbles in California than  
23 there are load pockets?

24 DR. JASKE: Yes, that's correct.

25 ASSOCIATE MEMBER GEESMAN: Okay. Second

1 question is could you describe your approach,  
2 given both the limitations of time and data, to  
3 technology cost assumptions?

4 DR. JASKE: Yes. We are proposing, and  
5 it says so quite directly in the report, to freeze  
6 technology costs and not have them change over  
7 time, with the one exception of solar rooftop PV.  
8 We're doing that not because we think that there  
9 will be no improvement in technology performance,  
10 but that it is just a dimension that is beyond the  
11 scope of what we can do in the time horizon that  
12 we have.

13 Further exploration varying those  
14 assumptions, you know, might well be an  
15 appropriate follow-up step once we're done with  
16 this initial one.

17 PRESIDING MEMBER PFANNENSTIEL: Mike, I  
18 just wanted to clarify your current conditions  
19 case. My understanding is that all of the other  
20 cases will be seen in their delta from the current  
21 conditions case. So I want to make sure I  
22 understand that one thoroughly.

23 It's based on current forecast. Now, do  
24 those forecasts assume that we have met, for  
25 example, the statewide energy efficiency goals and

1 the statewide demand response projections? Are  
2 those incorporated in the basecase or the current  
3 conditions case? Or is it some different estimate  
4 of what we think we will do?

5 DR. JASKE: Let me answer both of those  
6 starting with your second one. It is an attempt  
7 to project forward what we think will actually  
8 happen should the kind of behavior that we see in  
9 recent years continue to persist. That is,  
10 performance lagging behind the desires and  
11 expectations of policymakers.

12 So, in contrast, case 1B is a much  
13 closer and much tighter conformance to those kind  
14 of policy preferences.

15 So the difference between the two will  
16 clearly reflect, you know, sort of trying to get  
17 the system to actually do what the policymakers  
18 have asked it to.

19 On your first question, we are going to  
20 report all the absolute values for the scenarios  
21 in the report in some sort of detailed tables.  
22 But because of, for example, this very point that  
23 you just asked, it's the difference between them  
24 that starts layering in the implications of the  
25 alternative construction of the one scenario

1       versus another.

2                   So in the end I think that that's what  
3       many people are going to want to focus on, is what  
4       is the incremental reduction in fuel use and  
5       greenhouse gases, and what does that cost us in  
6       terms of more capital investment upfront.

7                   So you can imagine some tradeoffs of  
8       upfront capital versus lower operating costs and  
9       lower greenhouse gas emissions.

10                  Sir, please come up to the microphone  
11       and identify yourself.

12                  MR. KATES:  Commissioners, I'm David  
13       Kates.  I'm with Nevada Hydro; we're the  
14       developers of the LEAPS project.

15                  One of the things that I'm unclear  
16       about, and have been for quite awhile, is your  
17       current conditions.  How are you determining which  
18       planned projects to include, and how are you  
19       determining which planned projects to exclude?

20                  As some of the Commissioners know, we've  
21       been diligently pursuing the LEAPS project, and we  
22       seem to have been excluded from the CEC planning  
23       process.  We're about to get our final federal  
24       environmental impact statement issued by the  
25       federal government any day.  The PUC is now

1 looking at us quite seriously as an alternative to  
2 the Sunrise project. And yet in the Energy  
3 Commission's world we don't seem to exist.

4 And so I'd like to understand what the  
5 Energy Commission needs from us in order to  
6 include this project in its planning process.

7 ASSOCIATE MEMBER GEESMAN: Well, I can  
8 share with you the advice I provided our  
9 transmission staff the week before last. And that  
10 is once your final environmental impact statement  
11 is available from FERC, they will have a  
12 stabilized project description, project cost  
13 estimates. And they will make it a feature of the  
14 2007 Strategic Transmission Plan.

15 MR. KATES: Okay. Thank you.

16 MR. HEISMAN: Hello, this is Joe Heisman  
17 (phonetic). I'm one of the (indiscernible).

18 DR. JASKE: Go ahead.

19 MR. HEISMAN: I've got a question, just  
20 a quick overview question on the scenarios. And  
21 you talked about energy efficiency, and in  
22 particular, are you going to be looking at any  
23 kind of penetration of combined power systems for  
24 driving a much greater system efficiency and  
25 reduction of congestion in transmission lines by

1 having generation located closer to the load?

2 DR. JASKE: We had hoped to do that, but  
3 in the period of time that we've been trying to  
4 define the scenarios and build the data, we simply  
5 could not find the resources and information to do  
6 a credible job of that in our time horizon. So  
7 we've had to fall back just to the end user solar  
8 PV portion of that whole package of distributed  
9 generation technologies.

10 MR. HEISMAN: I think from a technology  
11 that's readily available, easily deployable, and  
12 the fact that there's a lot of information in the  
13 U.S. about heat/power association, both on the  
14 amount of capacity that's within California that  
15 would (inaudible), that there's a tremendous  
16 opportunity there for some very low-hanging fruit  
17 for increased efficiency, and, of course, lower  
18 the greenhouse gases.

19 That's a, you know, a comment perhaps we  
20 can follow up.

21 DR. JASKE: Okay, thank you.

22 MS. TURNBULL: I'm Jane Turnbull from  
23 the League of Women Voters. And I don't have much  
24 of a voice, but there are two concerns that I  
25 have. One, you have the accelerated retirement

1 replacement of the aged generation. But you don't  
2 really give an indication in terms of what the  
3 expected rate of retirement of those plants are.

4 And I think there's a need to look at  
5 that and tie it to the increased need for peaking  
6 power that may be anticipated because of  
7 population growth in the Central Valley and the  
8 Imperial Valley.

9 So I think that there is an aspect of  
10 the profile of need that doesn't seem to be  
11 totally covered here.

12 DR. JASKE: Ms. Turnbull, you're  
13 correct. In my opening comments and summary of  
14 the scenarios I did not get into that kind of  
15 detail. But we are pursuing that very point with  
16 our consultant help, which I should perhaps have  
17 mentioned. That Global Energy and Navigant  
18 Consulting are playing a significant role in this  
19 project, as acknowledged in the report, itself.

20 That would be precisely one of the  
21 differences between scenario case 6A and 6B is  
22 that in the instance of 6A where some transmission  
23 upgrade and a more modern technology combined  
24 cycle, you know, whatever, would collectively  
25 substitute for a series of aging steam boilers

1 that were retired.

2 In the renewables version of 6B, because  
3 there's a necessity for some degree of generation  
4 to be within a load pocket, whether the load  
5 pocket changes sizes or configuration, there may  
6 still need to be some generation there even if  
7 renewables were able to play a significant role in  
8 terms of replacing the capacity, you know, sort of  
9 as raw capacity. There may still need to be some  
10 capacity located within the load pocket, itself.  
11 And so we would perhaps put in a simple cycle  
12 combustion turbine to handle, you know, that local  
13 capacity requirement.

14 We have not yet gotten to all of the  
15 details of most of the scenarios, and conceptually  
16 what I just said is the approach we're pursuing.  
17 But we don't yet have all of those case details  
18 worked out.

19 MR. LARSON: This is Doug Larson with  
20 the Western Interstate Energy Board. Mike, two  
21 quick questions. One, will the load data, the  
22 generation data and the transmission additions be  
23 in public domain so other states will be able to  
24 look at the functions that underlie the analysis?

25 DR. JASKE: That is our aspiration that

1       they will be.

2                   MR. LARSON:   Okay.  And the second quick  
3       question, would you be ready by early April to  
4       present findings to western states and provinces;  
5       have a meeting of the Committee on Regional  
6       Electric Power Cooperation?

7                   DR. JASKE:   I would say by that point we  
8       would probably have all the raw results, but we  
9       may not have yet a sufficiently good understanding  
10      to intuit the distinctions among them.  So, with  
11      management's approval, I'd be happy to give some  
12      sort of a progress report, but it might not be a  
13      complete and final version of the project.

14                  MR. LARSON:   Thank you.

15                  MR. KATES:   This is David Kates, again.  
16      I have a followup question, I guess to  
17      Commissioner Geesman.  I'm looking at your 2005  
18      Integrated Energy Policy Report and in there you  
19      have a bunch of projects that you've identified  
20      and you've analyzed, virtually none of which had  
21      any environmental documents and they had  
22      absolutely no process.

23                  And I don't understand again why you  
24      have the Sunrise Power Link project discussed  
25      quite extensively, for example, and LEAPS is

1 nowhere to be mentioned, when LEAPS had  
2 environmental documents, we had draft  
3 environmental documents.

4           So I guess I have to pose the question  
5 again, why has LEAPS been singled out to be  
6 excluded from this process pending a final  
7 environmental document when none of the other  
8 projects that have been analyzed have been subject  
9 to that same rigorous standard.

10           ASSOCIATE MEMBER GEESMAN: Well, I think  
11 that in terms of a retrospective look back at the  
12 '05 process, the lack of a stable project  
13 description or cost estimate was a real roadblock  
14 to a full evaluation.

15           You can make the argument that some of  
16 those other projects could suffer from the same  
17 description, but your preliminary environmental  
18 impact statement from FERC did materially change  
19 the project configuration and the cost estimates.  
20 It's our hope that once there's a final EIS those  
21 aspects will stabilize and allow for a better  
22 evaluation. And it is our intent to make it a  
23 primary feature of the 2007 Strategic Transmission  
24 Plan.

25           MR. KATES: Well, we appreciate that.

1 We are concerned about the differing standards  
2 that seem to be applied here.

3 ASSOCIATE MEMBER GEESMAN: Duly noted.

4 MR. CAUCHOIS: Scott Cauchois, Division  
5 of Ratepayer Advocates. I just wanted to follow  
6 up on something that Doug Larson just asked about  
7 the public availability of your assumptions. And  
8 I thought you described your load bubble approach.  
9 With transmission between load bubbles doesn't  
10 sound to me like you would be identifying specific  
11 transmission additions, which is my guess.

12 I mean it's interesting to see  
13 generically what would be needed for each of these  
14 scenarios. And yet at the same time there's a  
15 number of big projects being proposed that, you  
16 know, do have a number of specifics associated.

17 So I'm not quite sure how you map the  
18 two together.

19 DR. JASKE: There's essentially two  
20 layers of analysis being done. There's  
21 transmission load flow analyses of particular  
22 projects, you know, located from one buss to  
23 another buss, with their detailed characteristics.  
24 That's being done now at the input sort of  
25 scenario design stage.

1                   And to the extent that those result in  
2                   transfer capability between the bubbles, then that  
3                   needs to be done and handed off to Global to  
4                   insert into the production cost model.

5                   To the extent that they're within a  
6                   transmission bubble then they wouldn't appear for  
7                   that purpose. But we want to know of them for  
8                   purposes of costing out the transmission  
9                   consequences of the scenario.

10                  And to some degree we're hoping that  
11                  once we have the first production cost model  
12                  results and do the stochastics for that one single  
13                  year that I mentioned, it will discern whether or  
14                  not we have a scenario that actually holds  
15                  together electrically.

16                  So there is a recognition of your point  
17                  in an attempt within the resources we have to  
18                  report the transmission additions, although the  
19                  analysis will not be done on a sort of nodal kind  
20                  of basis. Because it's important to be complete  
21                  about the cost consequences of the scenario.

22                  MR. CAUCHOIS: So reporting a  
23                  transmission addition means between two bubbles  
24                  you would report that let's say there was an  
25                  addition of, you know, 500 megawatts of

1 transmission capacity.

2 DR. JASKE: We would report both ones  
3 that --

4 MR. CAUCHOIS: I mean sort of sounds  
5 generic.

6 DR. JASKE: We would report both the  
7 increases between bubble transfer capacity and  
8 transmission that we understood through the site  
9 analysis to be within a bubble, but still  
10 essential to implement the particular scenario  
11 that we're laying out in the case.

12 MR. CAUCHOIS: Okay. And then I have a  
13 question on -- and I'm just using the LEAPS  
14 project as an example, not to -- you know, I don't  
15 want to -- not on that same line of questioning,  
16 but in different scenarios you're assuming  
17 different types of projects are going to be online  
18 in those scenarios. And so where would a project  
19 like LEAPS fit in? I assume you've got to run a  
20 scenario where that project is built and  
21 operating. Or not?

22 DR. JASKE: Well, yes. LEAPS is a  
23 contender for, you know, a renewables-oriented  
24 scenario that has the capability of various kinds  
25 of renewable generation in the extreme

1 southeastern part of the state.

2 MR. CAUCHOIS: Well, that's what I  
3 thought. I mean, so it's not like you're  
4 excluding the project from consideration? I mean  
5 your different scenarios will have different  
6 assumptions on generation that's built out --

7 DR. JASKE: That's correct.

8 MR. CAUCHOIS: -- in the west, so --

9 DR. JASKE: That is absolutely correct.

10 MR. CAUCHOIS: Okay. And then one last  
11 one has to do with the production cost data, I  
12 guess. So you mentioned the additions are public.  
13 What about production cost data sets?

14 DR. JASKE: I'm not sure about all of  
15 the characteristics of the production cost data  
16 sets, so that's something I will look into.  
17 Obvious evolution toward less confidentiality and  
18 greater transparency the whole industry is  
19 desiring. And we, ourselves, are trying to go  
20 that direction as far and as fast as we can.

21 MR. CAUCHOIS: Okay, then one last one  
22 is the -- I don't know whether it's the -- I guess  
23 it's the current additions basecase. So that  
24 basecase is already prepared, or that's --

25 DR. JASKE: The current conditions case

1 has already been run, and is at least going  
2 through the final debug. Being used sort of as a  
3 test bed for the sensitivity and the stochastic  
4 analysis to make sure that we can accomplish all  
5 the things that we want to try to accomplish.

6 MR. CAUCHOIS: And would there be an  
7 opportunity for parties or whatever to look at  
8 assumptions in the current conditions case, I  
9 guess, before it becomes absolutely final or --

10 DR. JASKE: If the Commission wants to  
11 try to make the intermediate results available  
12 like that, and give parties an opportunity to  
13 comment on it, we can reconfigure things to do so.  
14 But I think it would slow down the project, so  
15 it's up to the Committee to decide whether that  
16 level of input transparency is something that  
17 they're willing to tolerate.

18 PRESIDING MEMBER PFANNENSTIEL: And I'd  
19 also offer that if you have specific questions or  
20 concerns today would be a good time to air them  
21 and we could perhaps get you the level of  
22 information that you need.

23 MR. CAUCHOIS: I mean I guess I'm just,  
24 you know, obviously after the general interest of  
25 public availability and disability. And so, the

1 reason I asked about the current case was that  
2 since the other cases will be measured off that,  
3 to the extent, you know, people can see what the  
4 assumptions are in the current case early, it  
5 would be good.

6 So, in any case, that's all.

7 MR. PORTER: This is Kevin Porter from  
8 (inaudible) Associates on the phone. Can I -- a  
9 question?

10 DR. JASKE: Why don't you wait. There's  
11 already someone at the rostrum about to ask a  
12 question.

13 MR. PORTER: Thank you. Just let me  
14 know when I can ask it.

15 DR. JASKE: Okay.

16 MR. DeSHAZO: My name is Gary DeShazo  
17 with California ISO. Good morning, Commissioners  
18 and Mike. I have been struggling with whether to  
19 say something at this point or wait maybe towards  
20 more to the end once we've got through the  
21 details. But Mr. Cauchois actually had raised,  
22 made a couple of statements that got me to  
23 thinking that I would start off here.

24 This is a huge effort, and certainly the  
25 ISO commends the Energy Commission in undertaking

1 this. You have to start someplace in order to be  
2 able to move forward. And so undertaking an  
3 effort like this hopefully will help us get  
4 focused on maybe where the key things are that we  
5 need to then spend more time on.

6           Clearly the ISO's interest in this is  
7 related to the transmission component. Mike, I  
8 think, has mentioned that over the past year or so  
9 we have been working together in trying to  
10 generate a joint effort between us to look at  
11 retirement and repowering of generation in the  
12 state.

13           This is really for two things. One,  
14 that the ISO clearly has been looking for  
15 opportunities to create partnerships with the  
16 Energy Commission in doing thing like this. We  
17 believe that we have core strengths that we can  
18 build on for these kinds of things.

19           And we were moving along and doing some  
20 work, albeit on a very very small scale. But it  
21 was also more detailed in terms of analysis. And  
22 this is, I think, where the comment that came up  
23 is are we going to have any definitive results  
24 that will come out of that. Well, I think you're  
25 going to get results.

1                   But on the other hand, because of the  
2                   large nature of the analysis that you're doing,  
3                   I'm concerned that where we need to be focused is  
4                   certainly on the transmission part, is trying to  
5                   come to some very clear answers about how we want  
6                   to move forward, so that we can start to put these  
7                   kinds of things in an overall planning process.  
8                   And clearly that's what the ISO was interested in  
9                   doing in terms of our work with Mike.

10                   We want to continue to pursue that. We  
11                   think it's important and we think that the value  
12                   that we'll get out of that, at least what I'm  
13                   interested in doing, as the person that's  
14                   primarily responsible for the ISO's transmission  
15                   plan, is I want to take that kind of information  
16                   and put it into our transmission plan so that we  
17                   can start to drive the overall planning process  
18                   towards a direction. Which is something that I'm  
19                   not sure that we really have.

20                   Now, I know that you also have a very  
21                   strong interest in strategic directions. And we  
22                   believe that that's absolutely the right thing to  
23                   do. And what we're attempting to do is to find a  
24                   plan that will help support that overall process.

25                   So, in the end what I guess I'm looking

1 for is a way to one, the ISO does want to be  
2 involved and participate in your process; we'll do  
3 that as best that we can. We'll be focused, I  
4 think, primarily on the transmission part of this.  
5 And what I would be looking for is a way to come  
6 up with more definitive answers or results that we  
7 can actually derive with our transmission planning  
8 process.

9 That may not necessarily coincide with  
10 the schedule, you know, Mike, that you have, that  
11 you're trying to drive into your 2007 IEPR  
12 process. And so we always seem to be trying to  
13 play catch-up.

14 This is a year, I'm convinced 2007 is a  
15 year where we can really make a lot of progress  
16 and move forward, certainly on the transmission  
17 front. So I'm looking for a way to, at least on  
18 the transmission side, to find an opportunity to  
19 carve out more detailed results so that we can  
20 then start to drive an overall transmission plan.

21 So I will start there, and then we'll  
22 just wait until the details are over, and then see  
23 if I have any other comments. Thank you.

24 ASSOCIATE MEMBER GEESMAN: You know, in  
25 response, I guess, to the last three comments, let

1 me say, by means of reinforcing the schedule that  
2 Mike has put forward, we seem to make the best  
3 progress as a Commission when we punctuate our  
4 analyses with public workshops. And as a  
5 consequence, I want to say although I know that  
6 there is important staff work and staff  
7 collaboration with various parties and  
8 stakeholders that goes on outside our public  
9 workshop schedule, and I certainly encourage that,  
10 it's not an adequate substitute for a fairly  
11 rigorous schedule.

12 Most of these things, from our  
13 perspective as Commissioners, seem to proceed at a  
14 glacial pace. And I guess that was an appropriate  
15 metaphor until we came to realize that glaciers  
16 seem to melt a lot faster than they build up.

17 But I don't think that there should be  
18 any shame or chagrin when the staff publishes  
19 preliminary results, or even when they publish  
20 final results. If you think that they're wrong in  
21 their assumptions, or if you think that they've  
22 structured their analysis incorrectly, or if you  
23 think that they've ignored important capital  
24 projects, bring those to our attention. That's  
25 how assumptions get changed. That's how analysis

1 gets restructured.

2           And I think that the complement to that  
3 is that the staff has a real incentive to seek out  
4 various parties, stakeholders, and review with  
5 them the input assumptions. To the extent that  
6 that hasn't gone on, that's either a function of  
7 limited resources on the staff's part, or limited  
8 time on the staff's part, or perhaps a subjective  
9 appraisal of the value of that input.

10           I doubt the latter relates to the last  
11 three comments, but I really do think that the  
12 schedule that Mike has put forward is something  
13 that we ought to adhere to. And that in the end  
14 it will result in a better level of analysis with  
15 more value to the public than if we slowed things  
16 down to allow a smoother absorption of various  
17 input assumptions.

18           DR. JASKE: The only thing I guess I  
19 would try to say to perhaps bridge what you've  
20 said, Commissioner Geesman, and what Mr. DeShazo  
21 said, is that I think there certainly uncommon  
22 that stakeholders get nervous when projects are  
23 documented and released, and there's caveats in  
24 reports and, you know, proposals for follow-on  
25 work that sometimes those caveats and proposals

1 get ignored and the sort of first preliminary  
2 results are what other people pick up and run  
3 with.

4 We perhaps are being overly cautious in  
5 where we are in this project precisely because of  
6 what Mr. DeShazo, himself, said, is that this is a  
7 really big amount of work in a really short period  
8 of time. And so we're a little more nervous than  
9 normal about how definitive our results are going  
10 to be. And there is a considerable expectation  
11 that more detailed followup work will be needed.

12 But I think your Committee's guidance  
13 about doing it as best we can and getting it out  
14 there for review and getting the stakeholders to  
15 tell us, you know, how it should be improved is  
16 the general course that we're on. And we're only  
17 talking about a little bit of fine tuning to be  
18 able to fit into the IEPR, et al.

19 We actually have a gentleman on the  
20 phone who should be next. Mr. Porter.

21 MR. PORTER: Thank you, Dr. Jaske. I  
22 had two questions. One is a more general one --  
23 near the end of your opening remarks when you said  
24 you already had some lessons learned. I assume in  
25 relation to the data acquisition and preparation.

1 And I wanted to hear what those lessons learned  
2 are.

3 And then a more specific question. On  
4 page 18 of the preliminary draft it mentions that  
5 Global Energy has devised a method of selecting a  
6 chronological hourly wind profile that seems to  
7 replicate the variation of wind patterns. Could  
8 you state more about that? Particularly where the  
9 profiles are being drawn from.

10 DR. JASKE: There's several examples  
11 where there are such lessons learned in our minds  
12 about assembling data; but that particular topic  
13 is actually one in which you're interested. And I  
14 can use that as an example.

15 We have, through the resource adequacy  
16 process, actual wind project production on an  
17 hourly basis for 2002 through 2005. So we are  
18 able to identify with some considerable, you know,  
19 detail how wind patterns vary from hour to hour,  
20 month to month, day to day, you know, all those  
21 things; how they correlate at peak.

22 We have less good data for areas outside  
23 of California. We have only a single year of wind  
24 production data for various sites around the west  
25 that comes to us from National Renewable Energy

1 Lab.

2 So while we have an ability to do a  
3 stochastic variation of production costs by  
4 drawing, you know, one day out of a pool of say,  
5 the 30 days in a month and sort of randomly  
6 showing in that manner how wind production could  
7 vary, we don't have the same level of depth and  
8 certainty for all of the wind zones across the  
9 west.

10 And so trying to assemble a better and  
11 more comprehensive data set for the west, improve  
12 upon what NREL has done, would clearly be a data  
13 improvement; a task we would like to encourage the  
14 industry to pursue.

15 MR. PORTER: If I may just quickly  
16 follow up, I know NREL is actually really  
17 interested in doing exactly that, but certainly  
18 not to be in the timetable you're operating under.

19 DR. JASKE: Yes. I realize that. So,  
20 good, I'm glad to hear your confirmation of what I  
21 think we've heard from NREL people directly.  
22 Thank you.

23 One more?

24 MS. ANDERSON: Grace Anderson with the  
25 Energy Commission Staff. I just want to thank the

1 staff and Mike for this work. It's a very  
2 important piece of work for the larger western  
3 interconnection. No one has really had the  
4 resources to undertake a study like this.

5 You know, we introduced this as a  
6 proposal for a project, but, in fact, you're well  
7 along your path of undertaking the work. And I  
8 just wanted to make sure the record was clear for  
9 those who are on the phone about where we are in  
10 the schedule. And clarify a couple of things.

11 First, it looks like you finalized your  
12 current data set in December; and I'm just, in the  
13 interest of transparency, if that could be made  
14 available to the larger western reviewers that  
15 would be useful.

16 It looks like, I'm not sure what the  
17 first group of scenarios or the second group are,  
18 but there's a schedule showing that you have  
19 modeled the first group of scenarios and  
20 sensitivities, and you're going to roll out the  
21 results to reviewers. And I'm not sure if those  
22 are on the table or who those reviewers are. But  
23 it would be important to get those out if we can.

24 And then more specifically, if we could  
25 end with the next steps where the larger western

1 interests could understand what kind of input they  
2 can give you by this Friday to effect what I guess  
3 is modeling your second group of scenarios, so.

4 DR. JASKE: I think the reviewers refer  
5 to there is the whole project team. We did not  
6 believe that we had the opportunity, within the  
7 schedule we had, to focus -- to document and  
8 release results as Mr. Cauchois proposed and as  
9 you're suggesting.

10 It's not out of the question that we do  
11 that, but I cannot imagine that it would not add  
12 more time to the schedule. But I think the  
13 Committee, you know, needs to weigh the benefits  
14 of doing that now versus waiting until essentially  
15 the end of the project to judge whether we had a  
16 decent current conditions scenario.

17 And I think basically what we're looking  
18 for in comments is are there broad thematic  
19 elements that we're missing, you know. Are there  
20 alternative scenarios or different scenarios that  
21 stakeholders think are important to pursue? And  
22 especially if they're recommending something, as a  
23 gentleman earlier today did on combined heat and  
24 power, what are the sources of information that we  
25 can get our hands on that we can, you know,

1       literally within a few weeks, roll into the  
2       scenario definition and be to the point of a  
3       dataset. You know, if it doesn't sort of satisfy  
4       that package of requirements, a fairly clear idea  
5       of what the scenario is and where the data would  
6       come from, then I just don't see how we can  
7       accommodate it in the construct of this schedule.

8                It may well be a useful thing to  
9       consider as followup work, but not as a  
10      replacement for the current proposal. That's a  
11      sense of what next-step comments might entail.

12             ASSOCIATE MEMBER GEESMAN: Let me say  
13      with respect to the combined heat and power  
14      comment, if the staff has not already done so, you  
15      might take a look at the work that PIER did with  
16      EPRI in evaluating a scaled-up combined heat and  
17      power scenario.

18             DR. JASKE: All right. I will look to  
19      see what our team has -- how knowledgeable we are  
20      about that particular effort.

21             Okay, are there other sort of big-  
22      picture comments about the nature of the project?

23             MR. LARSON: Mike, this is Doug Larson.  
24      One question going back to the original  
25      observation about the three things of technology

1 development.

2 In the case of integrated gasification/  
3 combined cycle, does this mean that there will be  
4 no IGCC in the west at higher altitudes and that  
5 there will be no carbon sequestration in the  
6 scenarios?

7 MR. FERGUSON: If I could comment on  
8 that, Mike.

9 DR. JASKE: Go ahead.

10 MR. FERGUSON: Hi, Doug. This is Rich  
11 Ferguson with the Center for Energy Efficiency and  
12 Renewable Technologies. During the discussion  
13 period I think the whole issue of coal is sort of  
14 the one hole that I see in this process. And I  
15 was hoping to have that discussion in a little bit  
16 more detail. Can you hold off on that, Doug?

17 MR. LARSON: I certainly can.

18 DR. JASKE: Thank you, Rich.

19 (Laughter.)

20 DR. JASKE: Okay, other big picture  
21 comments?

22 Okay, so with the Committee's  
23 indulgence, I want to ask people to sort of get  
24 out of your chairs and come to the table. And  
25 we're going to talk about a round of detailed

1        comments, you know, that you wish to share now,  
2        and more detailed questions that you want to sort  
3        of dialogue about.

4                So why don't we take a moment here and  
5        ask that anyone who wants to engage in that sort  
6        of discussion come to the table.

7                (Pause.)

8                PRESIDING MEMBER PFANNENSTIEL: Mike, we  
9        ask you go around the table and introduce yourself  
10       to both each other and to the reporter as we get  
11       going. Starting here on the right, perhaps.

12               MR. LIU: This is Nan Liu with the  
13       California ISO.

14               MR. FERGUSON: And, again, I'm Rich  
15       Ferguson with CEERT.

16               MS. CHANG: Audrey Chang with NRDC.

17               MS. TURNBULL: Jane Turnbull with the  
18       League of Women Voters.

19               MR. WHATLEY: Mike Whatley with Southern  
20       California Edison.

21               MR. CAUCHOIS: Scott Cauchois, Division  
22       of Ratepayer Advocates.

23               MR. ROSS: And Steve Ross, PG&E.

24               DR. JASKE: Okay, thank you for  
25       volunteering to put yourself in the hot seat

1 maybe. Or put me on a hot seat.

2 The idea here is now to talk about the  
3 scenarios sort of broadly. I've outlined the  
4 emphasis on energy efficiency and renewables, both  
5 within California and westwide. Already had one  
6 comment about the whole issue of CHP, so I guess  
7 my request here for round one is to talk about the  
8 scenarios broadly. If there something that's  
9 missing that you think we ought to try to tackle.

10 MR. CAUCHOIS: In just looking at these,  
11 a couple of questions. One was the load growth  
12 assumptions for the rest of the west outside of  
13 California. I guess the way I read through these,  
14 some basecase load assumptions, and then from  
15 those you'd look at high penetration of energy  
16 efficiency, so there'd be load reduction.

17 But are you looking at other load  
18 sensitivities in the west? For example, higher  
19 load growth than expected.

20 DR. JASKE: So to parts to your  
21 question. The baseload forecast, itself, and then  
22 sensitivities.

23 We are, for the rest of the west,  
24 basically relying upon the Global Energy sort of  
25 reference case. And it is composed of a whole

1 series of things that they are able to extract  
2 from, you know, whatever information they can  
3 find. So, IRP filings, et cetera. Various  
4 studies that people have done, frontier line. So  
5 it's an amalgam of various sources.

6 And for the California levels, whatever  
7 you want to call them, it's the updated Energy  
8 Commission forecast that was adopted and shown in  
9 terms of 2006 and '7 in June 2006 that was done at  
10 that point, the update 2005 IEPR for resource  
11 adequacy purposes. And that has been since scaled  
12 out all the way to 2020.

13 So it's similar to 2005 IEPR, just sort  
14 of scaled up a little bit.

15 And we have not considered doing load  
16 sensitivities, load variations. Seems like some  
17 of the consequences of the high efficiency  
18 scenario, you know, can be interpreted as  
19 variations, give us some idea of what results from  
20 load sensitivity. Certainly not all of them, but  
21 we were more focused on the preferred resource  
22 additions as opposed to what happens in the face  
23 of load uncertainty.

24 MR. CAUCHOIS: I guess one reason I'm  
25 asking is, and it gets back to your bubble thing,

1 is the fact that project developers and proposers  
2 and members of the study groups of some of the  
3 various transmission lines in the west, you know,  
4 are looking at load growth and load growth  
5 variation in areas outside of California.

6 And so I would, you know, my own guess  
7 would be that there would be some transmission  
8 that develops regardless of driving it by  
9 California renewable imports, for example.

10 DR. JASKE: Yes. And I think, to some  
11 degree, that reflects the alternative perspective  
12 about how to do this work because is this work,  
13 you know, sort of predictive of the future, or is  
14 it illustrative of the policy consequences of  
15 these preferred resource addition.

16 I think we're pretty clear in the  
17 project report that this is an indicative sort of  
18 study, trying to discern the differences among the  
19 scenarios, and not to focus on, you know, being  
20 predictive in a basecase or particular project,  
21 you know, merits sort of sense.

22 MR. CAUCHOIS: Yeah, I know. I'm not  
23 looking at particular project merits, but more of  
24 the fact that there could be additional  
25 transmission capacity that develops in the west,

1       you know, without regard to a super high  
2       penetration of renewables, for example. And that  
3       that capacity will be available to be used, and it  
4       could be used by, you know, not just high  
5       development scenarios of renewables, but also  
6       obviously by nonrenewables.

7                 DR. JASKE: Yes, correct. I understand  
8       your point.

9                 MR. CAUCHOIS: Okay.

10                DR. JASKE: I think basically that the  
11       Global current condition dataset is a reflection  
12       of their sort of view as to what's most likely to  
13       happen with some twists and overlays as the  
14       project is developed. That we, you know, tweaked  
15       it; but it broadly reflects their assessment, so  
16       it includes and doesn't include a variety of  
17       things that people could name off that, you know,  
18       as a result of how they're going about their  
19       business advisory service.

20                And frankly, that's something that I  
21       don't, as part of the comments earlier today, I'm  
22       not yet fully clear about releasing things at the  
23       level of the dataset because that's the nature of  
24       what we have started from. The current conditions  
25       case is the closest to Global, you know,

1 proprietary advisory sort of results.

2 And, you know, the ones that are extreme  
3 I don't have too much doubt about providing those,  
4 because they're so much of a distortion from that  
5 most likely case.

6 Okay, go ahead.

7 MR. ROSS: This is Steve Ross with PG&E.  
8 A couple of comments. First, PG&E supports the  
9 scenario approach that's been proposed in the  
10 staff report. And focusing on the tradeoffs  
11 between reliability and cost and environmental  
12 impacts is very appropriate, we think. In fact,  
13 PG&E used similar analytical framework in our  
14 long-term plan filing at the Public Utilities  
15 Commission last month. And there's a lot of  
16 similarities between the two approaches.

17 The second point was when I was reading  
18 the report I got a little confused between the  
19 terminology of cases and resource plans and  
20 scenarios. And the way we at PG&E separated  
21 things out, so we could tell a clearer story, was,  
22 to us a scenario was something, a list of events  
23 out of your control. There's nothing you can do  
24 about it. It's what if this happened.

25 Versus a plan, which is a set of actions

1 that PG&E could take to procure needed resources,  
2 let's say. And then I think we're on a similar  
3 page on the third item, the metrics. We call them  
4 metrics, I think you call them performance  
5 measures. Gas emissions and so forth.

6 And that's how we've separated our  
7 thinking in the long-term plan. It's plans, a set  
8 of actions we can undertake as a utility;  
9 scenarios is stuff out of our control basically.  
10 And then the metrics of how we're measuring one  
11 plan against another plan.

12 DR. JASKE: Yeah, I think we have  
13 struggled with terminology, ourselves. And I  
14 understand, you know, what you're saying here.  
15 And what's a case and what's a scenario even in  
16 our own paper here probably is a little vague.

17 But I think we're not using scenario in  
18 that sense that you were. I think what we're  
19 calling our scenario is probably something closer  
20 to a plan, although it's not an LSE-specific plan.  
21 It's a composite, sort of a societal plan.

22 Do you agree, do you think that's how  
23 we're using that here --

24 MR. ROSS: That's where some of the  
25 confusion is. I think you have what sounds like a

1 plan, but then there's a long-term gas price  
2 element that sounds like a scenario or an  
3 uncertainty. In fact, if it was up to us we would  
4 add load uncertainty as one of the things that  
5 Scott mentioned.

6 So you could have a list of  
7 uncertainties, I'll call them, that would define a  
8 scenario. And then you test your plans against  
9 those scenarios. That's basically how we did it  
10 in our long-term plan filing.

11 DR. JASKE: Yeah, I think to a degree we  
12 have agreed to what you would call scenario.

13 MR. ROSS: Okay.

14 DR. JASKE: They're just not quite  
15 labeling it that way.

16 MR. ROSS: Thank you.

17 DR. JASKE: Rich.

18 MR. FERGUSON: Can we talk about coal?

19 DR. JASKE: Sure.

20 MR. FERGUSON: And first of all I'm very  
21 impressed by what you've undertaken here. I want  
22 to say that. By no means do I mean to denigrate  
23 what's been happening.

24 I read through this trying to put myself  
25 in the shoes of a Commissioner. For those of you

1 who don't know, once I actually aspired to be a  
2 Commissioner, a long time ago.

3           And, you know, thinking to the extent  
4 that the IEPR is the Commission's recommendation  
5 about the direction it could go, the purpose of  
6 this whole exercise, it seems to me, is to provide  
7 information about the possibilities of the  
8 directions they might go and what the consequences  
9 would be of, you know, the world going down one,  
10 whatever you want to call it scenario or anything  
11 else.

12           And especially if you're considering  
13 greenhouse gas emissions reductions, those of you  
14 who have seen some of the scenarios that I've been  
15 setting up, sort of 800-pound gorillas, what  
16 happens to imported coal.

17           And this is connected with the SB-1368;  
18 the whole recent round of the coal discussion with  
19 the munis. And I see that as a policy issue that  
20 needs to be addressed somewhere. And I hesitate  
21 to suggest yet another scenario. So I won't  
22 suggest how this might fit in.

23           But to the extent that the Commission is  
24 going to recommend some policy about, you know,  
25 what the imported coal looks like in 2020, it

1 strikes me that this kind of scenario planning  
2 with scenario analysis needs to include that  
3 possibility.

4 Now, if the Commissioners are not  
5 interested in saying anything about this, then  
6 obviously it could be left out. But I think it's  
7 a pretty important hole.

8 There are a lot of issues that make this  
9 difficult. Mike and I, by the way, talked last  
10 week somewhat about this. And one of them is  
11 production cost modeling. The marginal cost of  
12 coal, which is what's at play in the production  
13 cost model, is so low, if you look at energy  
14 efficiency penetration or renewables penetration,  
15 what you find out is we know what the ISO  
16 production cost models that go on out there, they  
17 impact gas; they don't impact coal.

18 If we're going to displace coal imports  
19 in California that has to be done as a policy  
20 call, you know, something like son-of-SB-1368 or  
21 something else.

22 So, I thought about if I were in your  
23 shoes, Mike, how I would treat this. And I  
24 haven't come up with the answer. I've looked at  
25 several scenarios, what I call scenarios, what

1       neither of you call scenarios, but I mean one can  
2       imagine that if California makes a decision that  
3       says, by 2020 we're not going to be buying any  
4       more coal. And see what that looks like. You  
5       know, what are you going to replace it with. In  
6       fact, we could do that very fast. There is no  
7       coal in California, it's just we're sending our  
8       money in one way or another to these plants, we  
9       could put that coal-fired power on the market and  
10      buy something else instead, it would be a big hit  
11      for the City of Anaheim, maybe; but we can deal  
12      with that.

13                Or you might assume that greenhouse gas  
14      emissions come equally from coal and gas, or any  
15      number of other scenarios -- I'm going to use that  
16      word -- you know, that might develop. But I  
17      submit to the Commission that there's no way  
18      that -- I mean Mike can run, you know, can look at  
19      these various pictures in the future that might be  
20      presented, but they're not going to fall out of  
21      his analysis automatically.

22                So, if that's something that the  
23      Commission is thinking about saying something  
24      about in the IEPR and talking about what the  
25      consequences might be, or you know, what the

1 overall picture might look like, I think the  
2 Commission, itself, has to give some direction to  
3 this exercise on how to treat the coal.

4 I mean there's a zillion issues that  
5 come up, presumably at least initially coal will  
6 be replaced by combined cycle gas-fired plants.  
7 My understanding is there's a lot of spare  
8 capacity.

9 The new combined cycle plants have a  
10 heat rate that's very attractive. You could  
11 reduce a lot of emissions if you just put the gas  
12 back on the market, let somebody -- coal, sorry --  
13 back on the market and let somebody else buy it,  
14 and buy gas from one of these new CCs instead.

15 But how much capacity is available?  
16 What will the emissions reductions would be? How  
17 dependent would we end up being on gas? We're  
18 already pretty dependent on gas. You know, how  
19 does that expose us to the price spikes that Mike  
20 was talking about and so on.

21 And, you know, personally if I were a  
22 Commissioner, and I were to make a policy decision  
23 like that, I would really want to know how it's  
24 going to affect the various LSEs. I don't think  
25 you can just make a statement like that and say,

1 well, you know, let the chips fall where they may,  
2 because they'll fall over there in the building  
3 and you might not like the sound.

4 But anyway, I don't know if this is the  
5 right place to sort of have a discussion about  
6 whether we want a scenario that looks at backing  
7 out coal in California; and if so, what kind of  
8 scenarios might we like to look at. But that's  
9 the one hole, I think, from a policymaker's point  
10 of view that I really think needs to be addressed  
11 if we're going to have a meaningful policy based  
12 on this report.

13 I'd love to hear other people's  
14 comments. I've been making this pitch around the  
15 state for awhile, and am happy to listen to  
16 comments.

17 PRESIDING MEMBER PFANNENSTIEL: Are  
18 there other comments around the table on coal or  
19 the question of how the Commission might look at a  
20 no-coal scenario, or perhaps should the Commission  
21 look at that?

22 DR. JASKE: My reaction to Mr.  
23 Ferguson's comments are twofold. There's very  
24 little load-based, resource-planning-based need  
25 for new coal. Most of what's being added in the

1 current conditions case is combustion turbines for  
2 reliability purposes.

3 So, that says essentially the focus on  
4 coal is a focus on displacement of existing coal.  
5 And as you pointed out, the way a production cost  
6 model will deal with the existing coal and do its  
7 dispatch it's going to, because of the prices of  
8 coal versus other fuels, it's going to dispatch  
9 that. Sort of as it has been, if not even more.

10 So we're wondering, you know, once we  
11 get to the point of developing our maximum  
12 penetration scenario that has both high efficiency  
13 and high renewables, you know, whether we're going  
14 to have a bunch of resources sitting there with  
15 very low capacity factors, you know, used in some  
16 sort of load-following, peaking mode, even though  
17 that's not really what they're designed for,  
18 because the coal's going to continue operating.  
19 And you know, in the context of a production cost  
20 model exercise you'd almost have to put a carbon  
21 tax in there as an additional assumption if you  
22 were really trying to drive down GHG and coal  
23 preferentially.

24 So, we haven't figured out whether we  
25 want to do that as part of that last scenario. In

1 fact, that last scenario is the one most difficult  
2 to design, if you can imagine, because it's going  
3 to have maybe 20 percent less load and a whole  
4 slew of renewables. And, you know, there may be  
5 all kinds of things that make it be hard to really  
6 piece that scenario together in a way that makes  
7 sense.

8 And so that's actually our initial  
9 challenge, is just doing that, without so much  
10 focus on the coal directly. But we have thought  
11 about this issue of coal dispatch.

12 So I think coal mostly is a question of  
13 what happens with existing coal as opposed to new  
14 coal.

15 MR. FERGUSON: Yeah, I think Doug's  
16 question is relevant. You know, to the extent  
17 that we see new IGCC plants with sequestration  
18 that's a different question. I would agree; I  
19 think the main coal question is just whether  
20 California keeps buying it. But it would be  
21 mostly existent.

22 PRESIDING MEMBER PFANNENSTIEL:  
23 Commissioner Geesman, you have a comment?

24 ASSOCIATE MEMBER GEESMAN: Yeah. This  
25 is not an argument against doing a coal backdown

1 scenario, but I think that if you do choose to go  
2 in that direction you should reflect upon both the  
3 dialogue that was started in the 2005 process and  
4 all of the follow-on that has been done under SB-  
5 1368.

6 And that is that if California, as a  
7 single state, attempts to accomplish that  
8 objective it needs to do so in a fairly  
9 constitutionally elegant fashion. The 1368  
10 standard is designed to be technology neutral.  
11 And I think that it's also designed to avoid an  
12 extra-territorial enforcement of California  
13 environmental standards.

14 If, in fact, we're going to have a  
15 larger impact on existing coal facilities around  
16 the west than SB-1368 contemplates, I think you  
17 need to assume some follow-on policies that are  
18 similarly constitutionally robust and within the  
19 power of a single state to enact.

20 Or you need to explicitly provide for  
21 some external policy impetus, whether that be  
22 policy initiatives among other states in the west,  
23 or policy initiatives from the federal government.

24 DR. JASKE: Okay, Scott.

25 MR. CAUCHOIS: I wanted to speak to your

1 earlier statement about existing coal, so you're  
2 talking about the whole west?

3 DR. JASKE: Yes.

4 MR. CAUCHOIS: I don't see in the span  
5 of the scenarios how you would rule out new  
6 conventional coal.

7 DR. JASKE: Well, I guess the way I  
8 would attempt to reconcile what I see in the trade  
9 press as coal development, you know, announcements  
10 and discussion and promotion versus production  
11 cost modeling, is there's relatively little  
12 baseload energy needed out there. So people are  
13 basically building coal on spec to sell to  
14 somebody. And you sort of pencil out, you know,  
15 resource planning. You know, when we build a  
16 resource plan that satisfies the load plus, you  
17 know, planning margin, sort of sense, you don't  
18 need that many baseload energy facilities. It's  
19 mostly peakers and other things for reliability  
20 purposes.

21 So the opportunity for coal to actually  
22 fit in the west in large amounts just doesn't seem  
23 to be there. I'd welcome any alternative view of  
24 things. Yes?

25 MR. WHATLEY: Mike Whatley with Southern

1 California Edison. I would tend to agree with you  
2 that you're correct that in the near term,  
3 especially, the need for capacity tends to be  
4 peaking based or combustion turbine based.

5 But this analysis is going to be going  
6 to the say 2020 timeframe, I think that you'll  
7 find upon examination say from the utilities'  
8 long-term procurement plans that starting as early  
9 as 2012 and 2013 there is a system need for the  
10 region, the southern California region. I can't  
11 really recall for northern California.

12 And that need is not necessarily going  
13 to be just peaking capacity. It could be a  
14 combination, it probably will likely be a  
15 combination of peaking, shaping and possibly  
16 baseload.

17 Especially when you get out to 2020  
18 there'll be not only physical system needs, which  
19 seems to be the scope of this analysis, but  
20 various load-serving entities' portfolio needs  
21 will require baseload.

22 In the event that some of those baseload  
23 contracts tend to expire and that energy or that  
24 capacity gets contracted elsewhere. So that was  
25 just one thought. I think you're correct, the

1 near-term need, definitely long-term, there's  
2 probably likely to be some need for baseload.  
3 Depends on your load forecast, of course.

4 One other thing, I'd just like to  
5 comment on also a thought that came to me in terms  
6 of a scenario that would prohibit or limit the  
7 import of coal-based energy. And this is being  
8 done in the context of a production cost  
9 simulation tool.

10 I could imagine that, and I haven't done  
11 this analysis, but there'd be a form of, I don't  
12 know what to call it, but I heard the term  
13 megawatt laundry. If that import of coal energy  
14 is prohibited from entering California, well that  
15 just -- that would require the import of some  
16 noncoal-based resource to come in to maintain some  
17 level of imports. That'll free up that generation  
18 in another region, and the energy from coal-based  
19 resources just go somewhere else.

20 And so while I think that scenario can  
21 probably have an impact on new developments in the  
22 future production, I think largely you'll find  
23 that the region is large enough to accommodate the  
24 existing base and it would be difficult, I think,  
25 to try to control all the amount of coal-based

1 energy, as it would just be flowing through other  
2 regions in a production simulation tool  
3 environment.

4 MR. FERGUSON: If I could just comment.  
5 And probably actually physically happen the same  
6 way. On the other hand, though, it would be a  
7 very important policy statement for California  
8 just to say our ratepayers are not going to buy  
9 any more coal. And, you know, the rest of the  
10 states can go do what they want.

11 So, it might be a useful policy  
12 statement to make regardless of the fact that, you  
13 know, somebody else is going to buy the coal and  
14 you may not reduce coal generation in the west as  
15 a result. But, it strikes me that you still might  
16 be interested in such from a policy perspective of  
17 actually doing that, just saying California isn't  
18 going to use any more electricity -- not going to  
19 buy anymore, I guess, not going to buy any more  
20 electricity generated from coal.

21 MR. CAUCHOIS: Mike, I don't want to  
22 beat this to death, but when I hear load-serving  
23 entities in Arizona and Nevada talk about signing  
24 contracts with new coal facilities, it sounds like  
25 contracts with new coal facilities. And if

1       they're not IGCCs, you know, which I'm sure they'd  
2       be happy to sign with, too, then they're going to  
3       be conventional coal facilities. A lot better and  
4       cleaner than old ones, but still conventional coal  
5       facilities.

6                 So that sort of gets to my question,  
7       too, about how you view other regions' load  
8       forecasts and, you know, how they view their  
9       situations. And talking about a couple of areas  
10      that are very fast growing and so on.

11                I, you know, if I looked at them right  
12      now, I mean I don't see how they can even rule out  
13      for themselves, even given their developing  
14      renewable policies and energy efficiency policies,  
15      you know, executing some baseload coal contracts.

16                DR. JASKE: Yeah, I think there's layers  
17      to all of this. Clearly for an individual utility  
18      doing an IRP, you know, so there's a degree of  
19      rigor balancing resource additions to load  
20      forecasts, there may be some coal additions as a  
21      result of that.

22                But, more speculative coal, you know, is  
23      built on serving load somewhere else. It's not  
24      part of the IRP process. It is, you know, in  
25      effect competing with speculative resource

1 addition by a bunch of other people.

2 So when you're building out one of these  
3 resource plans I think some of that speculative  
4 project promotion stuff sort of falls by the  
5 wayside. There's just more of it than you really  
6 need in a resource planning sense of need.

7 So the production cost model, almost by  
8 design, is going to be less, include less than  
9 some of project promoters, you know, are talking  
10 about.

11 MR. LARSON: This is Doug Larson. This  
12 sort of highlights one of the concerns I had is  
13 this frozen technology assumption. When we're  
14 making forecasts, the forecast covers 2020 and  
15 (inaudible) transmission -- go 50 years.

16 We are assuming that there be, for  
17 example in this case of coal, there will be no  
18 advancement in coal technologies that would allow  
19 it to be a -- demand, maybe, you know, rather  
20 conservative assumption. And I think the same  
21 kind of concern I have about other technologies,  
22 you know, solar thermal or wind or some others  
23 that assume that they will not advance.

24 I'm just wondering, Mike, if it's at  
25 all -- I know it's a very difficult task, probably

1 impossible task, to forecast technology  
2 development, but I'm wondering if there's any  
3 possibility of a scenario which would make certain  
4 assumptions about technology development over the  
5 period, and how that may affect the production  
6 cost modeling results.

7 DR. JASKE: The project team has been  
8 trying to think about this issue. We are --  
9 because of how we are defining what the report  
10 calls a scenario to be so thematically oriented.  
11 You know, we're going to assume a scenario that  
12 has lots of energy efficiency; we're going to have  
13 a scenario that has a great deal of renewable  
14 generation.

15 The cost per unit of those things is  
16 less important than it might otherwise be because  
17 we're not, you know, we're not doing a sort of  
18 least-cost resource addition module that's going  
19 to search through all the various options and  
20 choose, you know, the least cost one in any  
21 particular year.

22 Were we doing that form of analysis we  
23 probably would be more sensitive to these costs.  
24 So, we are wondering, among ourselves, whether we  
25 can, to some degree, reveal the consequences of

1 cost uncertainty, you know, sort of in a post-  
2 processing step. Because if it doesn't affect the  
3 nature of the resource additions, but there are  
4 cost differentials that, you know, ultimately  
5 electricity users and ratepayers are going to  
6 bear, then we could at least to some degree  
7 reflect that uncertainty or that range through a  
8 post-processing step.

9 It doesn't, you know, deal with the  
10 major issue that you're raising, Doug, of whether  
11 costs would lead to a different resource plan.  
12 But I'm just very dubious that we can accomplish  
13 that in our timeframe.

14 Yes?

15 MR. WHATLEY: Thanks. Mike Whatley with  
16 Edison, again. You know, just on that subject  
17 maybe you could elaborate a little bit more on how  
18 the scenarios will determine the type of  
19 nondesignated resources, meaning there's a block  
20 of preferred resources that come in first  
21 according to the loading order; this much energy  
22 efficiency demand response, et cetera.

23 But then I would suspect, depending upon  
24 your level of retirements and your load forecasts,  
25 there's still going to be a gap to close,

1 especially when you get out into the next decade.

2 And so I'd just like to understand maybe  
3 if you could elaborate a little bit more about the  
4 process by which, the analytic process by which  
5 resources beyond the loading order, preferred  
6 resources, would be selected to fill that gap.

7 DR. JASKE: Okay, well, let's try to  
8 take the high-energy efficiency case jus as an  
9 example. So we'll have progressively lower loads  
10 out through time as the current conditions case  
11 would have.

12 Depending on the mix of efficiency  
13 measures that we insert we'll probably have some  
14 degree of distortion of the load shape, itself.  
15 So a little bit different mix of resources just  
16 because of that.

17 Clearly we're going to attempt to build  
18 out a resource plan that satisfies resource  
19 adequacy requirements. And so it will still have  
20 some probably larger proportion of peakers for  
21 summer peak purposes than it would otherwise in  
22 the whole resource mix, because the efficiency  
23 measures that are being pursued from the  
24 perspective of, you know, a GHG orientation are  
25 the ones to choose, are the ones that are energy

1 oriented.

2 So you're probably affecting, you know,  
3 the overall 8760 more than you are peak. So we  
4 may end up with a more peak-dominated system than  
5 we already have.

6 But, you're right, out there at some  
7 point, eventually get to the point of needing new  
8 baseload resources. And certainly within  
9 California those would be combined cycle. And in  
10 the case 3A we're only doing this within  
11 California. We would essentially have pretty much  
12 the same as the current conditions case for the  
13 rest of the west. And then in the 3B case where  
14 we're doing this westwide we will, you know,  
15 eventually confront this issue that you're raising  
16 of what is the right baseload thing to add out  
17 there in 2015 or 2018.

18 MR. FERGUSON: Mike, a sort of follow-  
19 on. In those scenarios, not the current  
20 conditions, is AB-32 going to be a constraint? I  
21 mean are you going to come up with a system that  
22 actually has emissions as we had in 1990?

23 I'm saying that's the constraint I've  
24 been putting on my scenarios that I've been  
25 running. If somehow -- I mean I don't see how you

1 can not run at least one case where you actually  
2 satisfy it within the electricity sector.

3 But it goes to this case, this question  
4 about, you know, how you going to meet baseload,  
5 and maybe Commissioner Geesman's question about,  
6 you know, what can you do constitutionally if  
7 you're really going to try to back out fossil  
8 fuel.

9 DR. JASKE: Well, we have been viewing  
10 this, you know, and I think we were sort of  
11 deliberately fuzzy, as pursuing AB-32-like GHG  
12 reduction. So, we haven't been thinking about  
13 enforcing a specific GHG emission target on the  
14 electricity sector.

15 We might end up going further, or we  
16 might not go as far, thinking that because of all  
17 these cap and trade proposals, that you wouldn't  
18 necessarily be holding each of the broad sectors  
19 to, you know, this 1990 concept.

20 Might make sense for the electricity to  
21 go farther if it's, you know, if there actually  
22 are more options and that they're cheaper than for  
23 some other sector. Assuming, of course, there'd  
24 be some, you know, monetary transfer to make it  
25 worthwhile for the electricity sector to do that.

1                   MR. FERGUSON: I'm not suggesting that  
2                   you don't have a scenario that actually goes  
3                   farther, but I think you need at least one that  
4                   actually gets us there, assuming that the  
5                   electricity sector has to be. And the electricity  
6                   sector emissions have grown much faster than any  
7                   other sector, including transportation.

8                   So, we can't trade our way out of the  
9                   electricity sector.

10                  MR. ROSS: This is Steve Ross. The way  
11                  I'm thinking about your question, if I've got --  
12                  the way I'm thinking of it, a set of plans, what I  
13                  would look at, what I would measure is the gas  
14                  emissions, you know, which plan, if any, can  
15                  achieve that AB-32 goal.

16                  MR. FERGUSON: But it would be nice to  
17                  see, I mean that's what I -- it would be nice to  
18                  see --

19                  MR. ROSS: If not do, then you've got --

20                  MR. FERGUSON: -- if you wanted to  
21                  accomplish this goal, you know, what the system  
22                  would have to look like. And what would be the  
23                  optimal system, and how much gas, coal, --

24                  MR. ROSS: Right.

25                  MR. FERGUSON: -- and all the rest of

1 it. So I mean I hope that one of these scenarios  
2 at least comes up with the plan that can meet the  
3 AB-32 goals. I think it would be a shame if we  
4 didn't have --

5 MR. ROSS: That definitely would be a  
6 performance measure or a metric, as the --

7 MR. FERGUSON: Well, it could be --

8 MR. ROSS: -- emissions or -- I had  
9 another followup question on --

10 DR. JASKE: Well, okay, wait. Let me  
11 just clarify that at least at this point we have  
12 not been -- we have not decided to force ourselves  
13 to satisfy electricity sector 1990 levels. Okay.

14 MS. WHITE: Before you begin I just want  
15 to remind people on the phone to please mute their  
16 phone when they're not speaking, please.

17 MR. ROSS: I just wanted to add onto the  
18 discussion about the baseload versus peaking. One  
19 of the, I call it metrics of PG&E, but performance  
20 measures -- we call it operational feasibility.  
21 And as you're adding more nondispatchable or  
22 intermittent resources, I think your report talked  
23 about firming capacity at page 14, that your  
24 study, I assume, will look at maintaining  
25 operational feasibility. That is being able to

1 dispatch in real time to keep the lights on  
2 basically. Considering you may have to add  
3 peakers or whatever to fill in that gap.

4 DR. JASKE: Yes, that's absolutely  
5 correct. We are going to attempt to construct the  
6 resource plan that way initially; and then so for  
7 example, having a capacity margin counting  
8 resources using something like the PUC's counting  
9 rules for qualifying capacity.

10 And then when we do the stochastics,  
11 we're going to be looking to see whether that  
12 initial characterization of the resource plan is,  
13 in fact, sufficient to cover those cases.

14 Yes?

15 MR. WHATLEY: Will all scenarios have  
16 the same capacity reserve margin within the  
17 region, whether it's California or western  
18 interconnect?

19 DR. JASKE: Yes, that's our thinking  
20 right now. WECC loads and resources committee,  
21 when it does the annual power supply assessment,  
22 has a variety of metrics that they're using in  
23 their analyses. One of them, for the last several  
24 years, has been 15 percent capacity margin. Just  
25 to have something that sort of dovetails to what

1 California does. And so they, quote, impose that  
2 analytically on the rest of WECC.

3 There's a lot of discussion within WECC  
4 about what the right resource adequacy metric and  
5 targets are, ought to be, but it's analytically  
6 been using 15 percent in the last couple cycles  
7 jus for that sort of surrogate until such time as  
8 WECC does eventually make a decision.

9 MS. TURNBULL: Mike, I'd like to first  
10 of all say that I was really pleased that they  
11 brought up the topic of CHP, because I think that  
12 is something that does need to be incorporated in  
13 the scenarios.

14 But, the questions that I'd like to  
15 raise really have to do with demand response.  
16 Now, in the report it indicates that the  
17 projections are being made based upon  
18 extrapolations of the research that has been done.  
19 That research has been done in California; it  
20 hasn't been done in the wider west.

21 And even though it's been really quite  
22 successful on a small scale, when it came to  
23 demand response behavior during the heat wave last  
24 summer, we really didn't get the demand response  
25 that we needed.

1           I guess my question has to do with what  
2           level are you anticipating demand response being a  
3           critical component of any one of these processes.

4           DR. JASKE: We haven't come to a final  
5           decision about what level of DR that we can assume  
6           outside of California. It's probably, in the near  
7           term, unrealistic to think that the rest of west  
8           would, you know, embrace that as much as  
9           California has. Whether we could get to that in  
10          the long haul is not clear.

11          The CDEAC work in the efforts to focus  
12          on the sort of customer side of things was really  
13          oriented to energy efficiency. And there isn't a  
14          body of work that I'm aware of that sort of has a  
15          DR potential, you know, out there in the rest of  
16          nonCalifornia WECC.

17          So, we could dream one up and just  
18          impose it, but then we'd have a lot of uncertainty  
19          about what cost to tie to that.

20          MS. TURNBULL: Well, if you dream one  
21          up, do let us know because we'd like to support  
22          it.

23          (Laughter.)

24          MS. CHANG: Audrey Chang, NRDC. First  
25          I'd just like to commend the Commission for

1       embarking on this project. As you know we really  
2       strongly supported the recommendations of the 2005  
3       IEPR to do a resource field type analysis; and  
4       think this is definitely a step along the way.

5               I have a specific question about the  
6       energy efficiency assumptions for within  
7       California. I guess this is a little bit of a  
8       follow up to Commissioner Pfannenstiel's question  
9       earlier on.

10              Could you explain sort of the -- exactly  
11       how the PUC goals are incorporated into the  
12       various scenarios and the differences between  
13       them?

14              DR. JASKE: Oh, okay. In current  
15       conditions case there will be, for energy  
16       efficiency, not much difference between that and  
17       the case 1B in the years out through the current  
18       discussion about how far to have the goal go.

19              So, current conditions then wouldn't go  
20       beyond that; whereas the policy case probably  
21       would go beyond that.

22              What's the more important one is that  
23       case 3A, we're not going -- we're going beyond the  
24       PUC goals. We're going to be looking at the most  
25       recent potential study and developing the load

1 shapes to go with the potential study. So we'll  
2 go, in that one, way beyond what are the PUC  
3 goals.

4 MS. CHANG: So do you mean in terms of  
5 the timeline? Because the current PUC goals  
6 extend only through 2013. So you're saying that  
7 in the high efficiency case it's just extending  
8 the timeframe like 2014 through 2020?

9 DR. JASKE: No, we may go faster than  
10 2013. So we'll be both extending, but maybe also  
11 ramping up faster --

12 MS. CHANG: Okay.

13 DR. JASKE: -- at the end of those  
14 years.

15 MS. CHANG: And then in the current case  
16 then it seems that it's --

17 DR. JASKE: Current case --

18 MS. CHANG: -- that it's not projected  
19 that the PUC goals necessarily be met for beyond  
20 2008.

21 DR. JASKE: Yes. And then in the case  
22 1B probably will do the proposed goals out to  
23 2013. So there will be three different levels  
24 within California for those three different  
25 scenarios. At least that's the way we're thinking

1 of it right now.

2 MS. CHANG: Okay. I notice that you'll  
3 be drawing on some of the IOUs' long-term  
4 procurement plan submissions. I just would like  
5 to make sure that you're looking at some of the  
6 updated plans. I know at least PG&E will be  
7 updating the plan that they filed last year with  
8 some higher energy efficiency numbers.

9 DR. JASKE: Do you know when that's  
10 going to happen?

11 MS. CHANG: February 2nd I believe is  
12 the submission that I saw go out.

13 MR. FERGUSON: There's an ex parte  
14 running around now; I don't know if that's in --

15 MS. CHANG: Right.

16 DR. JASKE: Hmm. That's possible that  
17 we could take that into account.

18 MS. CHANG: Okay. I think up to the  
19 notice that I saw go out over the PUC service list  
20 about that.

21 PRESIDING MEMBER PFANNENSTIEL: Mike,  
22 before we leave this area of energy efficiency,  
23 now what are you using for the munis and for the  
24 statewide, if you will, energy efficiency goals  
25 and ability to meet those?

1 DR. JASKE: Typically what we're  
2 assuming with the munis is that they're going to  
3 do less than the IOUs. But follow sort of a  
4 similar pattern. So that if you can imagine a  
5 graph with IOU energy efficiency levels over time,  
6 munis would be sort of parallel to that, but  
7 lower.

8 PRESIDING MEMBER PFANNENSTIEL: And do  
9 we have a case where they are as high as, on a  
10 comparable basis, the IOUs? Or even in our high  
11 IOU case, the munis are still less.

12 DR. JASKE: I don't think we have them  
13 ever being as high, in part because the potential  
14 studies don't provide the kind of detail about  
15 what's feasible.

16 PRESIDING MEMBER PFANNENSTIEL: Okay.

17 MS. CHANG: Mike?

18 DR. JASKE: Go ahead.

19 MS. CHANG: Audrey Chang, NRDC. One  
20 other question. Can you talk a little bit more, I  
21 know you made a mention earlier about some  
22 integrating of cost of carbon, a cost of CO2  
23 emissions. Can you talk a little bit more about  
24 the thought process? I mean is there an intent at  
25 all to integrate a cost of CO2 into a total cost

1 result?

2 DR. JASKE: No, we have not considered  
3 doing that at all. But in discussions about where  
4 the high westwide renewable scenario, or where the  
5 composite maximum scenario was going to get us, we  
6 started running into this issue that I mentioned  
7 before. Is that the existing coal plants will  
8 just continue to be operating. And what might we  
9 do in order to get the model to have them come  
10 down.

11 And so something like a carbon tax was  
12 the means that the model could use to cause that  
13 to happen. But we haven't yet decided whether  
14 really to do that. And it, of course, introduces  
15 more complication in our analysis.

16 Because it would, I guess, you know,  
17 taking up the kind of thing that Commissioner  
18 Geesman was mentioning, I don't think you could  
19 have a carbon tax just for coal. You have to have  
20 carbon tax that affects gas, as well. And so  
21 you're start affecting the whole resource plan and  
22 the mix then.

23 So, it's sort of an area of thinking  
24 that we have broached, but it seems to be raising  
25 so many complications for our timeframe that we're

1 not at all sure we can do it.

2 MS. CHANG: I appreciate the  
3 difficulties in integrating it into analysis along  
4 the way, but I'd encourage you to at least include  
5 it as a sort of, I think, as you said, sort of an  
6 after the fact, after the scenarios are run, as a  
7 metric at the end.

8 MS. TURNBULL: One other point I'd like  
9 to raise is whether you have specifically included  
10 nuclear in your mix.

11 DR. JASKE: We have not.

12 MS. TURNBULL: Okay.

13 DR. JASKE: Do you think we should?

14 MR. FERGUSON: You mean new nuclear or  
15 existing?

16 MS. TURNBULL: Existing nuclear. Into  
17 the future.

18 DR. JASKE: We have, in this time  
19 horizon we are the current conditions case; and  
20 while all the others, I think, will continue to  
21 have the existing nuclear operating.

22 We do have a sensitivity case, which is  
23 as short-term, you know, removal of capability;  
24 not just nuclear but perhaps some transmission  
25 import capability, as well, that we're thinking

1 of. Because, you know, there is an earthquake  
2 potential that would take some stuff out of  
3 service, and then it would be restored.

4 So you want a resource plan capable of,  
5 you know, missing some energy.

6 Yes, go ahead.

7 MR. WHATLEY: Mike Whatley with Edison.

8 I was looking through the report and I think this  
9 is something you're considering including, but I  
10 think what would be really helpful in making this  
11 a more useful work product is, as I understand  
12 there'll be assumptions that will define the cost  
13 and reliability and environmental sensitivity of  
14 the different cases.

15 I think what also needs to be included  
16 with that is some assessment, some judgment, I  
17 don't think it can really be quantified terribly  
18 well, but some assessment about the feasibility of  
19 that scenario. The belief of whether or not we  
20 think that these levels of these magnitudes of  
21 certain resources are actually achievable.

22 I mean, that goes across the board  
23 whether it's renewables or coal or sequestered  
24 CO2. Each one of these cases ought to come with  
25 some judgment about whether or not it's actually

1       achievable. Because I think that'll be helpful in  
2       making a judgment call about the practicality or  
3       the future development of this particular case.

4               And that's also useful in weighting one  
5       case versus another. One case may be very low on  
6       CO2 and have a reasonable reliability, and maybe  
7       even acceptable costs, but in the end do we really  
8       think this is a believable scenario.

9               So, some kind of weighting, something of  
10       that regard, I think would make it quite useful.

11              DR. JASKE: I will say that we're not  
12       intending on creating any of the scenarios that  
13       are, on their face, not feasible. So we're not  
14       rolling in things so rapidly that this wouldn't  
15       happen in the real world, for example.

16              So, obviously they would take concerted  
17       efforts and lots of, you know, decisions by  
18       various entities through agreements to fund  
19       programs or regulations, et cetera, to happen in  
20       the real world.

21              MR. ROSS: This is Steve Ross. Kind of  
22       an add-on to your point, Mike, is there's also  
23       another thing that we consider is commercial  
24       uncertainties. You assume all of these plants or  
25       all of this stuff will get built.

1                   But there's permitting issues and  
2                   environmental review and Commission approval. So  
3                   it may turn out that some things are not actually  
4                   built, or they're late. And then how do you  
5                   account for that? Do you have a unit-contingent  
6                   criteria? Maybe you add a little to the reserve  
7                   margin, or you have a higher reserve margin to  
8                   account for these uncertainties that are really  
9                   not built into the 15 percent reserve margin?

10                   A 15 percent reserve margin is more  
11                   about cyclical things than long-term things, like  
12                   long-term load growth, for instance. It's not  
13                   covered by the 15 percent. So, you may want to  
14                   think about issues like that, in terms of is it a  
15                   credible story if you're assuming so much has to  
16                   happen by a certain time. You know, is it really  
17                   credible?

18                   MR. FERGUSON: You mean like all these  
19                   LNG plants that we've got to build?

20                   MS. DEL CHIARA: I have a question on  
21                   the phone.

22                   DR. JASKE: All right, go ahead.

23                   MS. DEL CHIARA: This is Bernadette Del  
24                   Chiara with Environment California. And, I  
25                   apologize, I've missed some of the previous

1 questions and some of the presentations, so I  
2 apologize right up front, if this is overview or  
3 overlap, but questions related.

4 First one is where do distributive  
5 generation, specifically solar power, fit in? Are  
6 they part of the scenario 1B, in meeting, for  
7 example, the million solar roofs goal. Is that  
8 rolled into that scenario?

9 And then the second question is kind of  
10 related to the previous comment just made, is  
11 there some thought of also analyzing the opposite  
12 of this fuel prices go up, so the opposite concept  
13 of this renewable energy and alternative energy  
14 resources, their prices go down more aggressively  
15 than we are currently planning on them going down.  
16 So what effect would that have on California's  
17 energy?

18 DR. JASKE: On the first of your  
19 questions, we are including California Solar  
20 Initiative, and we're working right now with the  
21 results of an Energy Commission PIER project to  
22 characterize the details of that.

23 And we are assuming for virtually all  
24 technologies, other than end-user solar, that  
25 costs are constant.

1                   As I said in my opening presentation, we  
2                   simply don't have or we don't believe we have the  
3                   ability to speculate about alternative technology  
4                   cost trajectories in the timeframe of this  
5                   project. It might well be something that would be  
6                   a useful follow-on.

7                   MR. TUTT: Mike, can I clarify? You  
8                   said you are including the California Solar  
9                   Initiative assumptions. But is that in scenario  
10                  4A or in scenario 1B? Or both?

11                  DR. JASKE: It's in 1B; and then in  
12                  scenario 4A, I guess scenario 4A will continue at  
13                  a higher level than it would be in 1B in the years  
14                  beyond the target date.

15                  MS. DEL CHIARA: Just as an FYI, this is  
16                  Bernadette again on the phone, on the webcast, the  
17                  webcast of this it doesn't show anything beyond  
18                  scenario 3A. I'm sure there's a way -- if I'm  
19                  missing something or there doesn't seem to be a  
20                  way to see what 4A is.

21                  DR. JASKE: Oh, yes. There actually are  
22                  three of those all together, so I believe it's  
23                  just now been shifted to case 3B through 5, and  
24                  then there are two additional cases, 6A and 6B  
25                  that are now on the screen.

1 MS. DEL CHIARA: Okay.

2 DR. JASKE: Those are in the report.  
3 These are just the two left-hand columns from the  
4 report.

5 MS. DEL CHIARA: Okay.

6 DR. JASKE: So, are there other things  
7 about the nature of the scenarios or the details  
8 of the scenarios? I want to spend at least a  
9 little bit of time talking about assessment. But  
10 are there other things about the nature of the  
11 scenarios, themselves?

12 MR. TUTT: Mike, I had one other  
13 question. Scenarios 6A and I guess potential 6B,  
14 I just want to make sure that I am clear that  
15 accelerated retirements do not include the high  
16 renewables and high energy efficiency and high  
17 demand response assumptions from the earlier  
18 scenarios. Unless there's some renewables that  
19 can be used in load pockets in scenario 6B, is  
20 that correct?

21 DR. JASKE: Yes. I think we're  
22 developing 6A and 6B off of current conditions.  
23 And so they are sort of for their own sake, as  
24 opposed to in combination with other things.

25 Okay, so I do want to have people have

1 an opportunity to either ask questions or to  
2 propose alternative ways of doing the assessment,  
3 itself. As I indicated earlier this morning, and  
4 in the report, there's sort of three levels.

5 We're doing a sort of simple production  
6 cost deterministic case for all of these. And  
7 with a couple exceptions, doing that for high,  
8 medium and low fuel prices.

9 All of those -- the medium fuel price  
10 for all the scenarios we're then testing through  
11 sensitivities or this concept of something that  
12 has a duration of about a year. So there's two  
13 instances in which the supply side resources,  
14 themselves, are developed as sort of earthquake  
15 case, a dry hydro case, and then a fuel price  
16 spike, gas price spike perhaps. You know, sort of  
17 like the Katrina, things shoot way up for a high  
18 level and then come back down after a year,  
19 assuming that production capability is restored.

20 And then -- and that sensitivity is just  
21 done for a single year. And then the stochastic  
22 analysis, which is the third piece of analysis, is  
23 going to have alternative ranges of variables that  
24 are in the deterministic case; going to run that  
25 through sort of in a Monte Carlo draw sense of

1       lots of things can happen in different  
2       combinations. And the whole purpose of that is to  
3       identify where combinations of various assumptions  
4       that might -- that have happened in the real  
5       world, could happen in the future. You know, what  
6       that does to stress the system. And then look at  
7       the expected unserved energy and under-indicators  
8       of performance.

9                        So that's, in a nutshell, that's sort of  
10       core level of analysis that we're proposing. Are  
11       there comments about that, or questions? Yes, go  
12       ahead.

13                      MR. WHATLEY: Maybe I should have said  
14       this at the beginning, but I had the same comments  
15       as PG&E in that I think this is a reasonable  
16       approach. You are designing scenarios and then  
17       you've shocking them with short-term uncertainties  
18       using stochastics. And that's one way to test the  
19       robustness of that plan.

20                      I think that's a similar approach that  
21       Edison has used; similar tools. And so we're  
22       familiar with the process. And so I think that  
23       it's, overall it's reasonable.

24                      And so largely the tools and the process  
25       seems to be sound. I think, as I heard from

1 others in the room, that it might boil down to  
2 more the discussions might be around input  
3 assumptions. Is this resource in or out of the  
4 forecast you're using. So, that's probably where  
5 a lot of the controversy will be.

6 But I don't think Edison has any problem  
7 with the tools or the process, itself, generally.

8 In terms of the evaluation, I think that  
9 one of the insights that I gained from Edison's  
10 long-term procurement plan was we were doing  
11 analysis for 2007 through 2016, and that was just  
12 a ten-year window. This is '9 through '20, so  
13 that's a 12-year window or so. And that's a  
14 pretty short time horizon actually to do a full  
15 cost analysis.

16 And so one of the last-minute analyses  
17 that we had to perform was to look at the entire  
18 lifecycle cost. Now, we didn't do production  
19 simulation beyond the planning horizon. We didn't  
20 do any incremental adds or changes to the system,  
21 but we had to try to take a look at the lifecycle  
22 cost of new renewables and new generation and new  
23 transmission. Because a lot of these resources  
24 weren't coming in until late into the next decade.

25 And so on a present-value basis it just

1       seemed to shorten the story if you just look at  
2       that 10- or 12-year window. And, in fact, if you  
3       look at the resources that you'd be committing to  
4       within the time horizon of this analysis, you  
5       might want to consider looking at the lifecycle  
6       cost of those incremental resources. I think that  
7       would give you a broader and better understanding  
8       as to what the cost implications might be.

9               Of course, that's not something I don't  
10       think you could do with the reliability side;  
11       maybe the environmental side, I haven't thought  
12       about that. But definitely on the cost side  
13       lifecycle.

14              DR. JASKE: Is there a piece of Edison's  
15       LTP testimony or filings that you can point me to  
16       that would show how you were doing this?

17              MR. WHATLEY: Yeah, I can get back to  
18       you on that. Largely it was an extrapolation of  
19       known assumptions for transmission and new  
20       preferred loading order resources, among other  
21       types of resources.

22              So, it's somewhat abbreviated, but it'll  
23       give you the idea. And I can point that out to  
24       you.

25              DR. JASKE: Yeah, I appreciate that.

1 MR. WHATLEY: Sure.

2 MR. FERGUSON: I'm pleased that Edison  
3 brought that up. Another issue that has been  
4 raised is what the possible goals might be after  
5 2020. This happened -- the comment came in regard  
6 to sort of backing out of the coal. And the idea  
7 was, well, okay, you might invest in some new gas  
8 combined cycles, but the question is, okay, if  
9 after 2020 you think you're going to want to try  
10 to reduce greenhouse gas emissions some more,  
11 maybe having a whole bunch of brand new CCs on the  
12 system isn't the best idea.

13 So, it's a kind of related idea that  
14 what happens after 2020, or what might want to  
15 happen after 2020 might influence your choices, or  
16 at least how you talk about some of these  
17 scenarios and the risks that they provoke --  
18 propose.

19 MS. TURNBULL: That was really my point  
20 in terms of the nuclear.

21 DR. JASKE: Okay.

22 MR. FERGUSON: I had a question about  
23 your next steps, and we talked about this. I mean  
24 I don't know how you're going to do all this by  
25 June, but --

1 (Laughter.)

2 MR. FERGUSON: -- I'll assume that  
3 you're going to make a really good effort. I  
4 guess the question is is the Commission looking at  
5 this as an ongoing process that will be further  
6 refined? I mean we've already raised this  
7 issue -- and ISO's been awfully quiet here --  
8 about transmission inside your load bubbles. Or  
9 is there going to be an attempt to, whatever you  
10 come up with, trying to refine that as the months  
11 and the years go on? Or is this just a one-shot  
12 deal? Or are you waiting for direction?

13 DR. JASKE: Well, I think that -- I'll  
14 say something first, and then Gary can maybe be  
15 enticed to speak up.

16 The Energy Commission and the ISO are  
17 trying to find means to rationalize our two  
18 separate processes, what have been separate  
19 processes.

20 And the Strategic Transmission Plan, you  
21 know, clearly has, up to this point, been  
22 something mostly focused on, in a short number of  
23 instances, individual projects. But now that we  
24 have this corridor legislation, you know, it  
25 intrinsically has to start looking out a much

1 longer time; thinking, you know, way ahead.

2 And on the ISO side, the ISO's 2006  
3 transmission plan has some discussion about the  
4 need to do scenario-based assessments. Because I  
5 think the ISO wants to sort of get out ahead of  
6 individual projects and get a sense of, as this  
7 project is doing, what happens if, you know,  
8 wholly different generation buildout scenarios  
9 were to happen. What does that mean? What are  
10 the commonalities for transmission, you know,  
11 among them? All the sorts of things that people,  
12 you know, do this kind of analysis for.

13 And so I think it's -- or perhaps, as  
14 Gary said earlier, you know, we'll do something in  
15 this IEPR and then maybe they'll do something, and  
16 it surfaces in the next transmission plan. And by  
17 that time it'll be the next IEPR cycle.

18 So, we don't have a formal plan laid  
19 out, but we sort of have, I think, generally  
20 consistent desires to keep doing this sort of  
21 things.

22 MR. DeSHAZO: You got me.

23 MR. FERGUSON: I got you, Gary.

24 (Laughter.)

25 MR. DeSHAZO: There's a couple of things

1 here maybe that I'm going to take the latter part  
2 here about sort of the role of how these things  
3 would be done.

4 Simplistically it sort of sounds like  
5 we, you know, the Energy Commission does something  
6 and then the ISO responds or does something. And  
7 that is not the intent of how we want our overall  
8 process to work.

9 The ISO seeks information on strategic  
10 direction from the Energy Commission. We believe  
11 that the kind of things that they do helps at  
12 least the number of assumptions and issues that we  
13 have to deal with, they help carve that from  
14 infinity down to something that's, I think, a  
15 little easier to take.

16 And so we -- our tendency is to take the  
17 leadership from that and then try to incorporate  
18 that into an overall planning effort in working  
19 with the PTOs and stakeholders to help drive us  
20 towards an overall strategic transmission plan and  
21 a goal.

22 You know, clearly the ISO, in the work  
23 that it does with the PTOs, helps drive the  
24 transmission part of this. And so that's one of  
25 the, I think, beauties about the overall process,

1 is if we can marry this up, then I think there's a  
2 way to sort of -- to roll that in through the  
3 overall process, to see that in the longer term  
4 that we have a transmission infrastructure plan  
5 that's in place to maybe help support the kinds of  
6 policy directions that the state wants to go.

7 My concern is that, you know,  
8 specifically, as I said earlier, there's a lot of  
9 work to be done. I'm tending to focus on scenario  
10 6A and 6B, which is the retirement and  
11 repowerment. I believe that the reason I have  
12 concerns about those is because I think that that  
13 is we're at hand today, right now, and decisions  
14 need to be made.

15 The decisions that are being made, for  
16 example, on the once-through cooling for units  
17 that are out there where the process is being  
18 forced forward quite quickly, and so when you  
19 think about repowering -- when I tend to think  
20 about that, I tend to think about the repowerment  
21 and retirement part of this.

22 I guess the concern I have is that you  
23 run into a large process like this. You do a  
24 study. What do you come up with, you know, what  
25 information do you have on the table in front of

1       you; and how is that information going to be used.

2                Because making decisions about what you  
3 do is much more complex and much more difficult.  
4 And I think much more time consuming than simply  
5 just running through and putting answers on the  
6 table.

7                And I don't think that's what the  
8 Commission is, you know, trying to do. I just  
9 think they're trying to maybe get a handle on it.  
10 But it's not quite clear to me yet exactly, when  
11 you get to June, or whenever this is done, what am  
12 I going to do with the information that I have.

13                Because whatever it is that you do  
14 reflects, you either, if you're going to retire  
15 it, then there is a transmission component that's  
16 associated with that. And then the question  
17 becomes, well, what's the right transmission  
18 component. Do you have a transmission solution  
19 that just solves the problem, or do you have a  
20 transmission solution that not only solves the  
21 problem, but it's also good for the future of the  
22 grid.

23                And I think that the latter is more what  
24 we're looking for as we're trying to find the best  
25 fit. That you can always maybe fix a problem by

1 building a transmission line, but if the only  
2 value the transmission line has is just to shut  
3 the plant down, then I think that lower analysis  
4 of this is really needed to make sure that if  
5 we're going to spend the money in order to put the  
6 transmission in, that it meets broader needs than  
7 just retirement of a plant.

8 So that's something that is not going to  
9 get done between now and June. I think that's  
10 much more complex than that.

11 And that's where the ISO is at, and that  
12 certainly is really where the ISO has been in the  
13 conversations that we've had with Mike in  
14 recognizing that there are those complexities.

15 So, the question that I'm struggling  
16 with is the ISO certainly believes that what has  
17 been happening here is the right thing to do. We  
18 need to get started, and I think the best people  
19 to make that happen. And so we want to support  
20 that as best as we can. And we'll participate as  
21 best as we can. But when it comes down to the end  
22 in June, what happens after that?

23 And, as I said, I believe that the  
24 repowerment and the retirement is an issue on the  
25 table for today. I understand that there's

1 strategic aspects of other things that we're  
2 looking for, but I think those questions are being  
3 asked today. And we need to be thinking about  
4 this so that we can try to program decisions that  
5 best fit the needs of our customers.

6 And that's the part I don't know, how to  
7 move forward. The ISO could do this on its own; I  
8 don't believe that's the way that it should be  
9 done. The ISO needs to move forward in step with  
10 the Commission. Because the Commission has the  
11 expertise and the kinds of information that can  
12 help us sort of set the assumptions upfront about  
13 how we want to move forward in the decisions.

14 The ISO brings the opportunity to  
15 actually put transmission solutions in motion.  
16 And can set them into the plan that across either,  
17 whether it's through procurement through the  
18 Utility Commission, or whether it's strategic  
19 transmission goals that the Commission has, or  
20 whatever the ISO wants to accomplish, I believe  
21 the ISO can actually put that into forward motion.  
22 And that's what we bring to the table.

23 DR. JASKE: I guess I would use the two  
24 aging power plant retirement scenarios that Gary  
25 focused on in a slightly -- to show the difference

1 between this broad project and the near-term  
2 concerns that Gary's mentioning.

3 This project can be, I think, content to  
4 understand that there are, in the goal of  
5 analyzing what it takes to shut down those aging  
6 power plants all together, or to retire them -- I  
7 mean to repower them, and what transmission is  
8 necessary in different variants of all that, that  
9 we could probably have a single scenario that sort  
10 of addresses that.

11 But in the context of this project,  
12 which is exploring the implications of these major  
13 efficiency and renewables themes, we actually have  
14 two versions of those retirement scenarios. And  
15 so hopefully we can get not in this project by  
16 itself, but in some follow on beyond this project  
17 that looks at this issue in more detail, we can  
18 actually get a sense of where are there  
19 differences in the transmission system  
20 configuration that would let renewables play a  
21 role in the retirement of those plants, or some of  
22 those plants, versus not.

23 And if it looks like the state's going  
24 in the direction that renewables is the way we  
25 want to go, then, you know, we want a transmission

1 system development that's compatible with that.

2 So that's an example of a coupling  
3 between this longer term, you know, only broadly  
4 directional kind of study and the near-term things  
5 that the ISO has got to worry about. It's going  
6 to put new transmission -- or help facilitate new  
7 transmission in southern California. Let's have  
8 it be compatible with however is generation  
9 development policy is going to go.

10 So, back to your original question,  
11 Rich. You know, it's hard to know exactly how all  
12 this plays out. But it's, I think, steps in maybe  
13 more than one direction. Near-term oriented  
14 things that Gary was mentioning, and only these  
15 longer term policies.

16 MR. DeSHAZO: Yeah, I mean that's  
17 definitely a fair -- I mean we just remind the  
18 Commission, like I did the ISO last week when they  
19 approved the Tehachapi plan, that this is only a  
20 first step. It could flesh out and decide, you  
21 know, the direction for the state, both for  
22 transmission and generation and everything else.

23 It is a long process. And I really do  
24 see this as sort of the first step. And, you  
25 know, it's got to get down to another level of

1 detail, even to start -- I mean I don't know how  
2 big your bubbles are, but to even start talking  
3 about, you know, how much solar thermal, how much  
4 wind, how much geothermal, you're going to have to  
5 go do another level of detail. You know, it's  
6 going to influence what Gary does out there, a  
7 whole lot.

8 DR. JASKE: Yeah, yeah. I hear you.

9 MS. WHITE: Commissioner, were you going  
10 to say something, Commissioner Geesman?

11 ASSOCIATE MEMBER GEESMAN: I elected not  
12 to.

13 MS. WHITE: Thank you.

14 DR. JASKE: Okay, other questions about  
15 the analytic side of things? Okay, well, maybe  
16 this is a chance then to go to item 4 on the  
17 agenda, which is staff reactions.

18 What can I say? You all want me to do  
19 more than I can do.

20 (Laughter.)

21 MR. FERGUSON: And faster.

22 DR. JASKE: We'll let the Committee say  
23 something in a second here, but I have the  
24 impression through numerous discussions with the  
25 Committee that doing this IEPR on schedule is a

1 key set of guidance that we have been issued.

2           So, probably that means we're in the  
3 mode of dealing with the various things that  
4 people have raised today in terms of little tweaks  
5 to what we have proposed. And the more  
6 complicated ones that you've suggested are  
7 probably more realistically food for some kind of  
8 follow-on work. And whether such follow-ons could  
9 be accomplished, you know, within the sort of very  
10 tail-end of this IEPR cycle, or whether they're  
11 outside of that, that's very difficult to judge at  
12 this point.

13           If we can actually do this round of  
14 analysis or some minor variation by early June and  
15 get it out there by early June, and have some kind  
16 of workshop process, as Commissioner Geesman was  
17 suggesting, it will help you all, you know, find  
18 some holes and flaws in it. That at least puts us  
19 into, you know, July. And at that point the  
20 Committee's got to be sort of wanting to think  
21 about what it can abstract from this work in terms  
22 of what it wants to say in the policy IEPR.

23           We can clearly do more things like this  
24 in the future, assuming we have the resources.

25 But it's sort of hard for me to imagine how we do

1 more that helps the IEPR, unless, you know, the  
2 nature of some workshops is such that you guys  
3 bring something to the table, or insights that can  
4 be made use of directly in some way.

5 PRESIDING MEMBER PFANNENSTIEL: Well,  
6 first of all, I'd have to say, Mike, that doing  
7 the IEPR on schedule isn't the only guidance we've  
8 given you.

9 (Laughter.)

10 PRESIDING MEMBER PFANNENSTIEL: We  
11 wanted you to do a number of things, including  
12 doing it on schedule.

13 DR. JASKE: Oh, okay. Thank you for --

14 PRESIDING MEMBER PFANNENSTIEL: But it  
15 is important that we stay on a very tight  
16 schedule, as all of you who, and I think probably  
17 everyone in this room has watched the IEPR process  
18 go together in past cycles, it's very complicated  
19 and it's got a lot of pieces. And if you let any  
20 one of the pieces as important as this one, for  
21 example, get off track, it's hard getting the  
22 whole process back on track.

23 Having said that, I think we did get a  
24 lot of valuable information and insights today.  
25 What we should look for, I think Mike and his team

1 will need to ponder, whether we can make some  
2 changes while keeping with the basic structure  
3 that we had in place.

4           From my perspective, this is a big  
5 movement forward in our analysis, being able to  
6 look at a lot of moving parts at once. We don't  
7 know exactly what we're going to get out of it, or  
8 we wouldn't be doing it. But, in fact, we're  
9 going to get a lot more information and we're  
10 going to use that information with the expert help  
11 of the staff, the consultants and the  
12 stakeholders, to give us a better understanding of  
13 the future in many regards.

14           Maybe not all regards, and maybe not  
15 even some of the ones that the people in this room  
16 would like to focus in on. But I believe, and  
17 from looking over the description that we have in  
18 front of us, there's going to be a lot more  
19 insights than we have had.

20           So, with that, I think that we are on  
21 track to move forward. We will have a workshop  
22 later in the course of the IEPR to look at some of  
23 the results, the first-level results, and see what  
24 everybody sees there.

25           Commissioner Geesman, comments?

1 Anything else, Mike and Lorraine?

2 Next steps?

3 MS. WHITE: At this point we just want  
4 to remind people that we're seeking comments on  
5 the report. That we would like to have comments  
6 in within the next two weeks, if that's correct --  
7 in the next two weeks to insure that your input is  
8 incorporated into the work that we're going to be  
9 doing, the refinement of the scenarios and their  
10 evaluation over time.

11 We have gotten, as Commissioner  
12 Pfannenstiel has said, and Mike has said, a lot of  
13 very valuable feedback at this point. And we're  
14 going to be reflecting on that and trying to make  
15 some adjustments in the interim between now and  
16 your more formal written comments.

17 Actually, pardon me, Mike has corrected  
18 me. The comments are due this Friday, February  
19 2nd. Sorry about that mistake.

20 But, anyway, we will be reflecting on  
21 those. You thought you got more time, sorry.

22 (Laughter.)

23 MS. WHITE: But it will be important for  
24 us to get that input so that we can actually get  
25 to doing the work that's laid out here.

1                   So, any comments from parties on the  
2 phone? Commissioners, I think that's --

3                   PRESIDING MEMBER PFANNENSTIEL: Hearing  
4 none, we'll be adjourned. Thank you.

5                   (Whereupon, at 11:57 a.m., the Committee  
6 workshop was adjourned.)

7                                   --o0o--

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I, PETER PETTY, an Electronic Reporter, do hereby certify that I am a disinterested person herein; that I recorded the foregoing California Energy Commission Committee Workshop; that it was thereafter transcribed into typewriting.

I further certify that I am not of counsel or attorney for any of the parties to said workshop, nor in any way interested in outcome of said workshop.

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