

CALIFORNIA ENERGY COMMISSION

JOINT IEPR/SITING COMMITTEE WORKSHOP

In the Matter of: )  
 )  
 Committee Workshop Regarding the ) Docket No. 09-IEP-1C  
 2010-2020 Peak Demand and Energy )  
 Forecast )  
 In Preparation of the )  
 2009 Integrated Energy Policy Report )  
(2009 IEPR) )

CALIFORNIA ENERGY COMMISSION

HEARING ROOM A

1516 NINTH STREET

SACRAMENTO, CALIFORNIA

FRIDAY, JUNE 26, 2009

9:00 A.M.

Reported by:  
Peter Petty CER\*\*D-493

**COMMISSIONERS (and their advisors) PRESENT**

Jeffrey D. Byron, Presiding Member, IEPR Committee

James D. Boyd, Vice Chair and Associate Member,  
IEPR Committee

Susan Brown, His Advisor

**STAFF PRESENT**

Suzanne Korosec, IEPR Lead

Chris Kavalec

Tom Gorin

**ALSO PRESENT**At Dais

Steve St. Marie, Advisor to  
Commissioner John Bohn, CPUC

Commenting Utilities

Tim Vonder, San Diego Gas and Electric

Art Canning, Southern California Edison

Richard Asling, Pacific Gas and Electric

Nate Toyama, Sacramento Municipal Utilities District

Michael Cockayne, Los Angeles Department of Water and Power

Other Presenters

Simon Baker

Public Comment

Noah Long, NRDC

Barbara George, Women's Energy Matters

Katie Kaplan, Integrated Energy Solutions

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JUNE 26, 2009

9:04 a.m.

MS. KOROSSEC: Just a few housekeeping items before we get started. Restrooms are out the double doors in the atrium, to your left. There is a snack room on the second floor of the atrium at the top of the stairs, under the white awning. And if there is an emergency and we need to evacuate, please follow the staff out of the building to the park diagonal to the building and wait there until we are told it is safe to return. Today's workshop is being broadcast through our WebEx conference system and parties need to be aware that we are recording the workshop today. We will make the recording available on our website immediately after the workshop and then we will also make a transcript available, which is about two weeks from today. For speakers and commenters today, please make sure you speak very closely into the microphone so the people on the WebEx can hear. It sounds very loud in the room, but to them it sounds like little teeny voices, so it is very helpful if you can get as close as you can to the mike. We have a number of presentations today, followed by an opportunity for public comment this afternoon. At that point, we will take comments first from those in the room and then we will open up the WebEx line to give the parties listening in an opportunity to speak. If parties on the

1 WebEx have questions during the presentations, please send  
2 those to the WebEx Coordinator and we will make sure that  
3 the presenter sees your question and is able to answer it.  
4 For parties in the room, when you do speak, please give the  
5 Court Reporter a business card if you can remember to do  
6 that, so that we can make sure that your name and  
7 affiliation are spelled correctly in the transcript.

8           This workshop is being held as part of the 2009  
9 Integrated Energy Policy Report, or IEPR Proceeding. The  
10 Energy Commission is required by statute to prepare this  
11 report every two years, it talks about trends in the energy  
12 markets, it makes policy recommendations to help the state  
13 meet our energy goals, one of which is having adequate  
14 supplies of energy to meet expected demand. So the purpose  
15 of today's workshop is to provide the public an opportunity  
16 to weigh in on the Energy Commission's staff's demand  
17 forecast for 2010 to 2020, and also to compare staff  
18 forecast with those that have been submitted by the  
19 Utilities in February of this year. The staff will also be  
20 talking about the amount of energy conservation savings  
21 that were incorporated into our forecast and the method  
22 that is used to come up with those numbers.

23           I just want to acknowledge Mr. St. Marie has joined  
24 us from the PUC, and welcome, we are happy to have you  
25 here.

1 I also want to remind parties that written  
2 comments are due on July 6<sup>th</sup>. So with that, I will turn it  
3 over to Commissioners for opening comments.

4 COMMISSIONER BYRON: Thank you, Ms. Korosec. Good  
5 morning everyone. I am Jeff Byron and I chair the  
6 Integrated -- I should say the Commission's Integrated  
7 Energy Policy Report Committee. With me is my associate  
8 member, Commissioner Vice Chair Boyd. To his left is his  
9 advisor, Susan Brown. And to my right, joining us from the  
10 Public Utilities Commission, is the advisor to Commissioner  
11 Bohn, Dr. Steve St. Marie.

12 This is a committee workshop of the Integrated  
13 Energy Policy Report. It is a little bit different,  
14 perhaps, than some of the policy workshops that we get  
15 involved with, in fact, Dr. St. Marie and I were discussing  
16 this a little bit beforehand. It is an important workshop  
17 because we are vetting one of the important things that  
18 this Energy Commission does, and that is the forecast for  
19 demand for the State of California, and I appreciate PUC  
20 being represented here today because the input is extremely  
21 important to them. I should say the outcome of what we do  
22 here today is extremely important to them. We are also  
23 interested in hearing from the investor-owned utilities and  
24 the publicly-owned utilities today with regard to the  
25 forecast and that is the purpose of the meeting. Of

1 course, other commenters are welcome, as well. Before  
2 turning it over to the other members on the dais here for  
3 comments, I would like to also acknowledge that, in the  
4 audience, is my Executive Assistant's daughter, Mariana,  
5 who is here observing the public process of her State  
6 Government. Of course what is going on at the State  
7 Capitol is far more important today, but nevertheless, the  
8 heartbeat of what we do goes on, as well. And thank you  
9 all for being here on a Friday. Commissioner Boyd?

10           COMMISSIONER BOYD: Thank you, Commissioner. I  
11 would remind Tiffany, do not try to explain what IOUs are  
12 to your daughter. She does not need to understand that  
13 process just yet. Welcome, everybody. Thank you for being  
14 here. Commissioner Byron did indicate the importance of  
15 this document to hopefully, those of you out there and in  
16 the work a day world who have to deal with the subject of  
17 energy resources and the demand and supply thereof, this is  
18 part of our effort to deal with the 10-year forecast of  
19 natural gas, electricity peak demand, as part of not only  
20 the Integrated Energy Policy Report, or just part of the  
21 policy formulation that goes on by the energy agencies. In  
22 my years here, I have experienced the fact that the staff  
23 has gotten better and better at doing this, nobody world-  
24 wide is really good at doing this, but I think our staff is  
25 among the best at doing this. And the output, as

1 indicated, is fairly important to other calculations that  
2 go on within the state. So the hardy few who are here with  
3 us today obviously recognize the importance of this work to  
4 the overall process, and I thank you for being here and I  
5 hope to hear from a lot of folks. Again, this is a  
6 workshop, this is not a formal hearing. We really  
7 encourage dialogue, questions, back and forth, as Ms.  
8 Korosec indicated, though, we do like people out there  
9 listening in to hear it, so we need you to come to the  
10 microphone. We do like the record complete for the staff's  
11 purpose. So count to 10, run to the podium, grab a mike  
12 and give us your comments and your questions freely  
13 throughout the day. So, with that, Mr. Chairman.

14 COMMISSIONER BYRON: Yeah, Commissioner Boyd, there  
15 is actually lots of comment opportunity the way they have  
16 scheduled the agenda here, and so they are looking for  
17 comments and response after each presentation. Dr. St.  
18 Marie, would you like to --

19 DR. ST. MARIE: Yes, thank you, Commissioner. I am  
20 Steven St. Marie and I work for Commissioner John Bohn at  
21 the California Public Utilities Commission. Commissioner  
22 Bohn and I have discussed the matter of the forecasts of  
23 future demand and energy use in California as being among  
24 the more important things that we have to look at because  
25 that becomes input for the next process, which is, what do

1 the utilities that are subject to the regulation of the  
2 California Public Utilities Commission have to buy, or what  
3 do they have to be prepared to provide to their customers,  
4 etc., etc., down the line. And long gone are the days when  
5 one could assemble the relevant data on a sheet of  
6 logarithmic graph paper and place a ruler next to it, and  
7 thereby pick the next years and the future forecasts. This  
8 is much more difficult work than it was many years ago, and  
9 so we are glad that the CEC staff and outside professionals  
10 who work on this kind of question are working hard and are  
11 here today. Thank you.

12 COMMISSIONER BYRON: Very good. Thank you. So  
13 let's go ahead and begin. Dr. Chris Kavalec is first up.  
14 Doctor, I think there are some grim views in your  
15 presentation, but also some glimmers of hope in there, as  
16 well. So I look forward to it.

17 DR. KAVALEC: Good morning, Committee, and Dr. St.  
18 Marie, and ladies and gentlemen. I am Chris Kavalec from  
19 the Demand Analysis Office. I am going to give two  
20 consecutive presentations here this morning. The first is  
21 going to be on the statewide forecast results for  
22 electricity and natural gas, and the second will be on  
23 efficiency and conservation incorporated within the demand  
24 forecast.

25 So the California Energy Demand Forecasts, or, as I

1 will refer to it, the CED Forecasts, today we are talking  
2 about the draft forecasts, of course, and we are now  
3 working on revised forecasts and the revised forecasts will  
4 consider comments made today and in writing afterwards.  
5 The revised forecasts are going to be released at the  
6 beginning of August with a workshop later in the month,  
7 after which we will do an uncommitted forecast in support  
8 of the CPUC long-term procurement work. I should explain  
9 the concept of uncommitted. We sometimes refer to our  
10 forecasts as committed forecasts, meaning they incorporate  
11 only the impacts of committed utility efficiency programs,  
12 those that have either been implemented, or for which there  
13 is firm funding and a definite plan. There are also  
14 potential efficiency impacts out there in the future that  
15 may be likely, but there is no funding or plan yet. Those,  
16 we refer to as "uncommitted."

17 Our forecast report is available online at this  
18 address and, as I mentioned, I am going to talk about  
19 statewide results and conservation and efficiency, and then  
20 Tom Goren is going to present forecast results for  
21 individual planning areas. And after each of his  
22 presentations, the Utilities will either make a short  
23 presentation or make comments. I believe that we have  
24 three slide presentations from the Utilities today.

25 So, a summary of what I am going to talk about.

1 Reduced electricity consumption vs. our last forecast, the  
2 theme of the day is the economy, but also contributing to  
3 this decline is increased efficiency impacts, as well as a  
4 lower starting point. In other words, our most recent  
5 historical data from 2007 shows lower consumption than we  
6 predicted in the previous forecast. You started -- you  
7 have a lower starting point and you end up at a lower  
8 place, all else equal. And the drop in peak electricity  
9 demand is not as dramatic as that of consumption.

10 A couple of slides about our methodology. We  
11 forecast at the statewide level and for eight planning  
12 areas listed here. Tom is going to provide results for  
13 LADWP, PG&E, Edison, San Diego, and SMUD. The way we  
14 forecast for these areas is with individual sector models.  
15 The residential and commercial models are full end-use  
16 models, meaning the analysis is done at the end-use level,  
17 and "end-use" being, for example, lighting or  
18 refrigeration, using inputs like saturation levels of  
19 appliances. The industrial model is sort of a hybrid  
20 econometric end-use model. The agricultural model is  
21 econometric and we forecast transportation communications  
22 in utilities and street-lighting with a simple trend  
23 analysis.

24 Here is the structure of our forecast. Model  
25 sector results feed into what we call our Summary Model,

1 where annual results are calibrated to historical data,  
2 cooling and heating are weather-adjusted, and we subtract  
3 off some utility program impacts from our model output.  
4 These annual totals are fed into our peak model, where load  
5 shapes are applied, and peak forecasts are developed at the  
6 sector level, and Oilá, you have a forecast that no one  
7 ever disagrees with.

8           We are using this basic structure, but we have made  
9 some changes in our demand forecasts from the last time.  
10 Because of all the attention paid to utility lighting  
11 programs, we have broken residential lighting out as a  
12 separate end use. It was already broken out in the  
13 commercial model, now in the residential model. We  
14 developed new commercial floor space methodology to predict  
15 commercial floor space. For you econometricians out there,  
16 the Appendix in our report describes the commercial floor  
17 space econometrics. We also assumed a higher compliance  
18 rate with 2005 commercial lighting standards. Basically,  
19 we raised the compliance rate to be consistent with our  
20 other standards, and the idea was that all this attention  
21 being paid to lighting and all these utility lighting  
22 programs, it should be easier to be compliant with the  
23 commercial lighting standards, therefore we raised the  
24 rate. And we increased our effort to capture the impacts  
25 of utility efficiency programs.

1           So all these changes affect the forecast, but the  
2 main driver of the difference in our forecasts this time  
3 vs. CED 2007, is reduced economic growth. Both personal  
4 income and total employment are down by almost six percent  
5 by 2018, relative to our previous forecast. I use 2018  
6 here because that was the last year of the previous  
7 forecast, the last year for comparison. And these key  
8 indicators show a short-term drop-off, as we have all seen  
9 because of the current recession, but they also show slower  
10 long-term growth. Economy.com that does our economic  
11 forecast is saying, basically, that the current recession  
12 is creating conditions that lead to lower growth in the  
13 long-term, as well. We also --

14           COMMISSIONER BYRON: Excuse me, Dr. Kavalec, I  
15 think it is worth asking the question -- and I apologize  
16 for the interruption -- on your previous slide, what do you  
17 base all your economic forecasts upon?

18           DR. KAVALEC: What do we base it on?

19           COMMISSIONER BYRON: Yes.

20           DR. KAVALEC: You mean what data do we use? Or  
21 what does Economy.com use? Or --

22           COMMISSIONER BYRON: I think you are beginning to  
23 answer it. I would like to know where you get the data  
24 that you use to make your forecasts.

25           DR. KAVALEC: Oh, I am sorry. This comes from

1 Economy.com.

2 COMMISSIONER BYRON: Do you compare it to any other  
3 forecasts or information?

4 DR. KAVALEC: We did not for this draft forecast,  
5 but we are comparing Economy.com's projections with UCLA's  
6 and Global Insights for the revised forecasts.

7 COMMISSIONER BYRON: Are they specific for the  
8 State of California? I think the UCLA one is California-  
9 specific, are the others?

10 DR. KAVALEC: Yeah, all three do state forecasts  
11 for California.

12 COMMISSIONER BYRON: Okay, thank you.

13 DR. KAVALEC: Okay, so this time we did, rather  
14 than use one set of price projections for electricity and  
15 natural gas, we developed three rate scenarios which we  
16 call the low rate case, the mid-rate case, and the high  
17 rate case. The mid-rate case being 15 percent higher in  
18 2020 vs. 2010, and natural gas 10 percent higher. And in  
19 the high-rate case, 30 percent higher for both fuels.  
20 Different rates affect three sectors; the other sectors do  
21 not have any price response incorporated in the models, and  
22 when I compare our results with results from the previous  
23 forecast, I am going to use the low rate case because, in  
24 the previous forecast, we assumed constant rates, the same  
25 as the low rate case for this forecast.

1           So a look at some results. Short-term drop, the  
2 recession going on, lower long-term growth, you will note  
3 the distance between the two lines gets wider as we move  
4 out, electricity consumption per capita, not surprisingly,  
5 is decreasing, as Californians were proud of our constant  
6 or declining per capita consumption, and we can now be even  
7 prouder, thanks to the tanking of the economy. The state  
8 peak --

9           COMMISSIONER BOYD: That had a hollow ring to it.

10          DR. KVALEC: Whistling in the graveyard? The  
11 statewide electricity peaks, same pattern, short drop-off,  
12 less long-term growth, but the effects are not as dramatic  
13 as with consumption. This difference between peak, what  
14 happens to peak and what happens to consumption, comes from  
15 two things, first, we have noted with the latest historical  
16 data that the consumption drop-off appears to be higher  
17 than the peak drop-off, and also we assume continued  
18 increase in cooling in California, both from net migration  
19 to inland areas, and folks on the coast buying more air  
20 conditioners, so peak grows at a higher rate. Per capita,  
21 slightly declining, not as dramatic as for consumption.  
22 And some numbers to go with these drafts, consumption down  
23 by nine percent, peak by five percent, growth rates between  
24 2010 and 2018, and consumption falls to below one percent  
25 per year, with a peak being just over one percent. And the

1 economy, as I have implied, is responsible for most of the  
2 difference. How much of the difference, you ask? Well, in  
3 2010, we estimate that the economy is responsible for  
4 roughly half of the difference between the two forecasts in  
5 terms of consumption; with increased utility programs, the  
6 impacts that we have estimated for this forecast being  
7 responsible for around 25 percent. In the year 2018, as I  
8 said, we consider only committed utility programs, which  
9 begin to decay after 2011, so that the slice for utility  
10 programs becomes very tiny, it is around one percent of the  
11 difference between the two forecasts, as program measure  
12 effects decay away, the economy going up to around 70  
13 percent, and we have the appearance of residential lighting  
14 savings as a source of the difference, which I will get to  
15 in my second presentation.

16           And going back to the economy for a moment, I just  
17 wanted to show how these key economic indicators mirror  
18 what is going on with consumption. Personal income, short-  
19 term drop-off, slightly lower long-term growth, the  
20 distance between the two lines gets wider; same thing for  
21 statewide employment, short-term drop, you see the recovery  
22 there predicted in 2011, 2012, but then, after that, long-  
23 term growth is less than what was used in the 2007  
24 forecast.

25           Here is an example of a graph with too much

1 information on it, but what I wanted to show was that most  
2 of the decline between the two forecasts comes from the  
3 residential and commercial sectors. So the top two lines  
4 there, the distance between those two lines, shows the  
5 difference in the commercial energy projections for this  
6 forecast vs. last time, and the two lines below that show  
7 the difference between the residential forecasts. The  
8 lines below that, the other sectors, you can see that there  
9 is very little difference at the statewide level, although  
10 that is not necessarily true at a planning area level,  
11 which Tom will talk about. Same story for peak, most of  
12 the responsibility for the drop-off comes from commercial  
13 and residential.

14           And some numbers. Residential consumption down by  
15 13 percent, with peak 4 percent, and corresponding  
16 commercial numbers are 11 percent and 8 percent. The  
17 reason for the larger disparity between consumption and  
18 peak and residential vs. commercial is because the  
19 peakiness, the increased peakiness, is taking place in the  
20 residential sector, going back to the pattern I mentioned  
21 of net migration into inland areas and more air  
22 conditioning in homes.

23           As I mentioned, we did three price scenarios. And  
24 for consumption, this yielded a difference of around 5,000  
25 gigawatt hours by 2020 between the high price case and the

1 low price case. Remember, the high price case is roughly  
2 30 percent higher by 2020. And for peak, the difference  
3 between the high and the low is around 2,500 megawatts by  
4 2020. In other words, consumption is down by around two  
5 percent in the high rate case, and about half that in the  
6 mid-rate case, with the peak reductions, or the peak  
7 changes, a little bit smaller. This corresponds to a price  
8 elasticity of around 6-7 percent. Price elasticity refers  
9 to the response in terms of demand for a given change in  
10 price. So this is saying that, if rates doubled, total  
11 consumption would fall by 6-7 percent.

12 Most of the response is coming in the commercial  
13 sector, and elasticity of 15 percent, with a much lower  
14 elasticity in the other two price response sectors of 1-2  
15 percent. The one problem with these elasticities is they  
16 are dated. We have not updated our elasticities, our price  
17 responsiveness, for a long time, and we are planning to do  
18 that for the 2011 forecast, but for now, these are the  
19 elasticities that we have.

20 In term so of the price cases, we propose to use  
21 only one case in the revised forecast, the mid-rate case,  
22 because 1) we want to spend our time looking at the impact  
23 of different economic variables on the forecast, and we do  
24 not have time to do all three cases again. And the mid-  
25 rate case is convenient because you can talk about X

1 percent above, and X percent below, because we know what  
2 the responsiveness is in this forecast, we really do not  
3 need to do it again, and also I am choosing the mid-rate  
4 case, proposing the mid-rate case, because most experts  
5 expect there to be at least some rate increase for  
6 electricity because of renewables and other things. So  
7 this is what I am proposing and I would like to hear  
8 reaction at some point from the utilities and the  
9 committee, if you have comments, negative or positive.

10 MS. BROWN: I have a couple of questions, if I  
11 might, Chris.

12 DR. KAVALEC: Uh huh.

13 MS. BROWN: What growth rate in population did you  
14 assume in the forecast?

15 DR. KAVALEC: Uhm --

16 MS. BROWN: I am just curious. I mean, is --

17 DR. KAVALEC: Tom, is it around 1.1 percent? Does  
18 that sound right? Just over 1 percent, I believe.

19 MS. BROWN: Just over 1 percent. And is out  
20 migration from the state an issue at all? I mean, are  
21 folks leaving the state based on what we know about the  
22 population growth? You mentioned a lot about shifts in  
23 population in the hot or inland areas, but --

24 DR. KAVALEC: That certainly is an issue in a  
25 severe recession, especially if California is hit worse

1 than other areas. But the DOF, Department of Finance that  
2 does our population forecast, has not updated their long-  
3 term forecast, so we really have no numbers to go along  
4 with that right now.

5 MS. BROWN: Okay. Tom, you wanted to comment?

6 MR. GORIN: If I might add a little bit to that.  
7 This is Tom Gorin from the Energy Commission. We have used  
8 Department of Finance's annual estimates of population and  
9 housing. They update -- they actually update history every  
10 year, so -- in May --

11 MS. BROWN: You do not forecast population growth?

12 MR. GORIN: The last time they forecast was in 19  
13 -- in 2007, they did a long-term forecast. To my  
14 knowledge, they are not proposing to do another long-term  
15 forecast until the census comes out because there is a  
16 difference of opinion on how many people currently are in  
17 California between the U.S. Census Bureau and the  
18 Department of Finance. So they are going to wait until the  
19 Census comes out to do a long-term forecast. Our current  
20 population estimates are trending from 2007 numbers. We  
21 have not incorporated the 2008 numbers because they just  
22 came in in May. We plan to do that. We will trend the  
23 2008 numbers to the 2020 number because there is, if you  
24 trended it to the 2010 number that they came out with,  
25 there are jumps and dips, depending on their most recent

1 estimate of population and what they projected two years  
2 ago.

3 MS. BROWN: Thank you. I only raised it because it  
4 is an obvious impact and the population growth has a lot to  
5 do with demand.

6 MR. GORIN: They have revised their estimate. If I  
7 remember correctly, for last year it is down 80,000 people  
8 from what it was the previous year, so it is ever changing.

9 DR. KAVALEC: Okay, I wanted to talk a little bit  
10 about self-generation since that is receiving an increased  
11 amount of attention in the energy world. And we do a self-  
12 generation forecast which accounts for all of the major  
13 programs that are listed here, as well as for self-  
14 generation from the large commercial and industrial users.  
15 What we do for the forecast currently is a simple trend  
16 analysis. We look at each technology and if there is an  
17 observable trend in the adoption of the technology, we  
18 would continue that trend out, through the forecast period.  
19 If there is not a trend, or there is not enough data to  
20 identify a trend, we take the average of the last three  
21 years and use that as our projection. So using this simple  
22 trend analysis, here is what the peak forecast looks like  
23 for the state. The impact of total self-generation on peak  
24 is slightly over 2,600 megawatts by 2020, and folks are  
25 interested in photovoltaic systems, specifically, so I show

1 a break-out here of photovoltaic and non-photovoltaic.  
2 And photovoltaic is projected to reach over 700 megawatts  
3 of peaked reduction by 2020.

4           Now, there are many that would say that these  
5 projections are a little conservative, that self-generation  
6 is going to take off like gangbusters in the future, and so  
7 what we have begun to do is to develop predictive models  
8 for the self-generation technologies based on factors such  
9 as estimated pay-back and cost-effectiveness. The first  
10 model that we are still testing is designed to predict  
11 residential photovoltaic systems and we have also begun  
12 work on a commercial self-generation predictive model. And  
13 the plan is to hopefully apply these models for the 2011  
14 forecast. The residential PV system model, as I mentioned,  
15 is still not quite ready for prime time, but I wanted to  
16 show an illustrative result, a simulation for the PG&E  
17 territory, where different levels of megawatts installed  
18 are shown here, that depend on the system price and the  
19 electricity rate. And I just wanted to show that the  
20 potential for huge increases in PV system adoption, as  
21 prices fall, particularly when you get below around \$5,000,  
22 growth increases very quickly. So there is some reason to  
23 be optimistic, at least so far in our new analysis for  
24 solar systems.

25           That takes care of electricity. And moving on to

1 natural gas, we forecast natural gas by the three major  
2 planning areas, as well as a little sliver that we call  
3 "other," very tiny compared to the others. This is an end-  
4 user natural gas forecast, so it does not include natural  
5 gas use for generation. The mid and high cases that I  
6 mentioned for natural gas, 15 percent higher, and 30  
7 percent higher by 2020 come from a scenario analysis that  
8 we did in 2007, and you see the source there. Some  
9 results. The same pattern, basically, as electricity, a  
10 short-term drop-off relative to current levels, and then  
11 lower long-term growth. Although the effects are not as  
12 dramatic for natural gas, because we do not -- we have not  
13 included a whole bunch of increased efficiency impacts, so  
14 the drop-off is not as great. This shows a break-out for  
15 the Southern California vs. Northern California territories  
16 by price scenario, roughly a difference of 200 million  
17 therms by 2002, between the high-rate case and the low-rate  
18 case. That corresponds to an elasticity of around 5  
19 percent, a little bit lower than for electricity, and that  
20 comes mainly from the commercial model being a little bit  
21 less responsive for natural gas than it is for electricity.  
22 Okay, so -- and I am going to talk a little bit about the  
23 revised forecast after my next presentation, but I will  
24 stop here and ask for any questions or comments.

25 COMMISSIONER BYRON: Good. Gentlemen? Ms. Brown?

1 Comments, questions?

2           COMMISSIONER BOYD: I guess my only guess and  
3 comment is, there has been a lot of writings in the last  
4 couple of weeks about most of the projections about the  
5 state of the economy are being revised, and being more  
6 gloomy than they were in the past, and I do not know if, in  
7 your review, before you finalize this, how much of that you  
8 are going to pick up. I mean, particularly, UCLA got a lot  
9 of press this week because they revised things to be much  
10 more gloomy for California in the Anderson School forecast  
11 than they had before. And everything is a coin toss in  
12 this arena, it really is, and I just wonder how much of  
13 that, Chris, you will absorb into this process.

14           DR. KAVALEC: Well, one reason that you UCLA's  
15 latest forecast is gloomier is they have not done a  
16 forecast for a while, since before mid-2008 when things  
17 actually did not look as bad. What we are going to  
18 incorporate and are incorporating in the revised forecast  
19 is the June 2009 release from Economy.com, which is a  
20 little bit more optimistic than the previous forecast we  
21 used from the end of 2008. And it is not just Economy.com,  
22 but Global Insights' projections are a little bit more  
23 optimistic. So that means our revised forecast is likely  
24 to be a little bit higher than this one. So things are  
25 still gloomy, but it may be picking up a little bit,

1 according to these companies.

2 COMMISSIONER BOYD: Thank you.

3 DR. ST. MARIE: I am interested in the conclusion  
4 that the growth in the peak is going to be -- this is  
5 electricity that I am talking about -- the growth in the  
6 peak is going to be slower than the growth in the energy  
7 consumption.

8 DR. KAVALEC: The opposite.

9 DR. ST. MARIE: Well, I have got -- okay, I am  
10 sorry, but I have -- page 23, statewide electricity  
11 consumption, jumping by about 40 percent from 2010 to 2020.  
12 And then the statewide peak -- and these are the mid-price  
13 scenarios -- jumping by about 10 percent from 2010 to 2020.  
14 Did I miss something in looking at those graphs?

15 COMMISSIONER BYRON: Good question.

16 DR. KAVALEC: Uhm --

17 DR. ST. MARIE: Statewide electricity consumption  
18 by price scenario, that is page 23 of your --

19 DR. KAVALEC: Oh, slide 23.

20 DR. ST. MARIE: I am sorry, yes.

21 COMMISSIONER BYRON: Dr. Kavalec, why don't you go  
22 ahead and page back to 23 so everyone can see what we are  
23 talking about.

24 DR. ST. MARIE: Okay, so those are the two graphs,  
25 it is actually 23 and 24, together, that I am looking at

1 where I saw this contrast. And, to me, it looks as though  
2 we are forecasting that statewide electricity consumption  
3 and GWH is going to jump about 40 percent over the next 10  
4 years, while statewide electricity peak is going to jump  
5 only about 10 percent from just over 60 to -- to about 69.  
6 And that is why I was surprised at that, because -- you  
7 were surprised, as well, when I asked the question. I  
8 thought the nature of your comments was that we were going  
9 in the other direction.

10 DR. KAVALEC: Let's see, I see a higher percentage  
11 growth in peak here vs. consumption, from 62 to 70 vs. 280  
12 to 300.

13 DR. ST. MARIE: Okay, well, I took 69 over 62.5, I  
14 am sorry, and I must have done that incorrectly.

15 DR. KAVALEC: Yeah, when I sit down, I will check  
16 that to make sure.

17 DR. ST. MARIE: Okay, that is fine. We can talk  
18 about it afterwards. Thank you.

19 COMMISSIONER BYRON: Ms. Brown?

20 MS. BROWN: Yeah. I just wondered, Chris, why is  
21 it that you did not include utility generation in the  
22 natural gas forecast?

23 COMMISSIONER BYRON: Good question.

24 DR. KAVALEC: Because we do a demand forecast and  
25 we -- this is just the way we have done it. We provide the

1 demand forecast at the end-user level, and supply that to  
2 the Natural Gas Office, who does the generation part. And  
3 they put the two together for the total natural gas  
4 forecast.

5 MS. BROWN: Okay.

6 COMMISSIONER BYRON: Dr. Kavalec, I have a couple  
7 of questions, if I may. Going back to slide 11, now, not  
8 to be careful here, I am talking to an economist and I am  
9 sitting between a couple of economists, and I know this all  
10 comes down to how the economy is doing, but then we are  
11 translating that into electrical demand. Go back to slide  
12 11, please. And, you know, growth is one thing when we are  
13 projecting forward, building and new load and new demand,  
14 but whenever we see a downturn like this, I always think of  
15 it as somebody went in and turned the lights off in a  
16 building. But the building is still there. And if I look  
17 back at 2000, when we know there was a significant economic  
18 downturn for the state, and we can see it in your plot  
19 there, I note how quickly it recovered. And, again, I am  
20 not an economist, but I look at these really low -- oh, I  
21 even have to look at the coefficients that you described as  
22 5 and 6 percent, you know, on the doubling of rates, it has  
23 very little impact on people's use. And it responds and it  
24 rebounds very quickly, and I remember back in, oh, 2000,  
25 talking with the ISO at that time, and they were quite

1 concerned because it is load sitting there waiting to be  
2 turned back on, and yet we show significant drop, it stays  
3 down, and in fact the recovery is quite slow. And it  
4 concerns me that, yes, I am sure you have got the economy  
5 forecast as right as it can be at this time, but we cannot  
6 miss on the electricity demand, and so it just concerns me  
7 that we may be under-predicting how this rebound might  
8 respond. So you are the economist, so I give you a chance  
9 to respond to that one.

10 DR. KAVALEC: Well, I agree with everything you  
11 said, and that is why I think it is very important that we  
12 do econ-demo scenarios. We can only do so much because  
13 behavior is ultimately unpredictable, and there are trends  
14 that happen that we never catch until after they happen,  
15 but we are doing the best we can in a very uncertain time  
16 to incorporate different economic variables, and try and  
17 present cases for different future economies.

18 COMMISSIONER BYRON: Well, and we will hear from  
19 some of the utilities later on in their presentations, and  
20 it will be interesting to see what their response will be,  
21 as well. Mr. Gorin?

22 MR. GORIN: I am afraid, Commissioner Byron, I am  
23 in your book, I am not an economist. But I was doing some  
24 looking and I was focusing on the pattern of the early  
25 '90s. There is mitigating circumstances in the early 2000

1 era, the '98 to 2001 era that would drive consumption and,  
2 to take it and bring it back at a faster rate, we had the  
3 expectation that deregulation was going to provide cheap  
4 energy in the '97 and '98 period. We also had the Internet  
5 explosion, and Alan Greenspan's irrational exuberance  
6 speech, and then we had the reality of 2001 in the lower  
7 energy experiment we had, that drove consumption down, and  
8 part of the rebound I think you see from 2001 through 2005  
9 is people returning to the levels that they were used to.  
10 I was looking, just looking at 1990 figures. We are now  
11 two percentage points higher in unemployment than we were  
12 in 1990, which may have some bearing on the recovery. So  
13 we have been analyzing a lot of this information and trying  
14 to figure out how to make sense of it in relatively  
15 uncertain times.

16 COMMISSIONER BOYD: Commissioner, Mr. Gorin makes  
17 pretty good comments. I share his thoughts. To me, the  
18 2000 blip was the result of the electricity crisis that  
19 rippled through the economy. The early '90s was the piece  
20 dividend did not visit California, aerospace and what have  
21 you, military expenditures went down, and for the first  
22 time, unlike the rest of the country, California got  
23 whacked pretty good. This is a worldwide economic  
24 recession that is rippling through the electricity forecast  
25 vs. what happened in 2000; at least, that is my irrational

1 explanation to myself of why the trends are what they are,  
2 and why the recovery was rather quick after 2000, because  
3 we went to great pains to get the lights back on to assure  
4 everybody everything was okay. But economic recessions, so  
5 to speak, or depressions, are a little harder to turn  
6 around, and as well as to forecast. So I think Tom has got  
7 it nailed.

8 DR. KAVALEC: Let me just add one more thing. It  
9 would be nice if at one of these workshops to get somebody  
10 like Mark Zandi of Economy.com in to talk about their  
11 projections. But basically what he is saying, what  
12 Economy.com is saying, to echo what Commissioner Boyd just  
13 said, is that this is a worldwide problem. Conditions have  
14 changed in the world and it is real complicated with  
15 capital flows and all kinds of other economic variables  
16 changing, that lead us to this long-run result of less  
17 growth.

18 DR. ST. MARIE: I also wanted to apologize for my  
19 initial characterization of the difference between those  
20 two graphs; in fact, I went back and saw that I had made a  
21 calculation error. Indeed, energy consumption is growing,  
22 according to these graphs, by less, a lower percentage than  
23 the peak is, just as you had said. Thank you.

24 DR. KAVALEC: That is a relief.

25 COMMISSIONER BYRON: Well, but going to that point,

1 I am quite concerned with that, as well. Even in this  
2 economic downturn, you know, we are still seeing a rise in  
3 peak demand. And that is troubling for how we need to  
4 respond as a state in order to meet that demand, as well.

5 COMMISSIONER BOYD: That is a product, in my mind,  
6 of the mysterious signs of behavioral economics. And as  
7 somebody put it to us -- I forgot to mention in my  
8 introduction that, not only are you and I the IEPR  
9 Committee, we are also the Electricity and Natural Gas  
10 Committee, so we get this in spades throughout each week,  
11 but we had a recent discussion about the behavior of  
12 Californians and what the population's growth has done to  
13 us in pushing people into interior state, the hotter part  
14 of the state, and people are still quick to turn on the air  
15 conditioning --

16 COMMISSIONER BYRON: Comfort.

17 COMMISSIONER BOYD: We have become quite used to  
18 that. Many of us grew up with not knowing what an air  
19 conditioner was, except in fancy buildings and theatres,  
20 and what have you. And now it is just a matter of life,  
21 and no matter what your economics are, you flip on that  
22 thermostat when it is really hot out. At 105° tomorrow,  
23 predicted, by, even though it is a weekend, it will be an  
24 interesting electricity day here in Sacramento.

25 COMMISSIONER BYRON: Let me ask you a couple of

1 other questions real quick. With regard to this plot,  
2 what about -- and Commissioner Boyd is very keen on this --  
3 what about electrification of the transportation sector?  
4 What if that were to happen in a big way? I suspect you  
5 have not factored that in.

6 COMMISSIONER BOYD: Oh, how some of us wish that  
7 were true.

8 DR. KAVALEC: We have not yet, but for the revised  
9 forecast, we are going to incorporate the latest  
10 electricity vehicle forecast coming from the transportation  
11 office, assuming that is done in time for the revised  
12 forecast. But from what I have heard, expectations are  
13 that the impact of electric vehicles under realistic  
14 assumptions is going to remain pretty low relative to total  
15 consumption.

16 COMMISSIONER BYRON: There is some agreement here  
17 at the dais. Go to your next slide, if you would, please.  
18 I think there is some good news here. Despite the economic  
19 downturn, we are still seeing this per capita use of  
20 electricity decline with population growth. I think this  
21 is good news, isn't it, that the energy efficiency  
22 penetration for the first time has now taken us forward  
23 with a negative forecast on per capita energy use?

24 DR. KAVALEC: Yeah, although I would like to see,  
25 as I say, what that looks like under different economic

1 scenarios because part of this is coming from the economy  
2 and, as you say, part of it is coming from efficiency. I  
3 have not done this yet, but I would like to actually see  
4 what it looks like with just the efficiency effects vs.  
5 just the economic effects.

6 COMMISSIONER BYRON: If you would, please, go to  
7 slide 16. Now, you know, these are terms that I am not  
8 necessarily familiar with. Can we get there?

9 DR. KAVALEC: Ah, it got stuck again.

10 COMMISSIONER BYRON: The brown 24 percent is  
11 increased utility program impacts. Where do appliance and  
12 building standards show up in this plot?

13 Dr. KAVALEC: This is relative to the previous  
14 forecast, which incorporated all of the same standards that  
15 we incorporate in this forecast. So the only additional  
16 standards show up from increasing the compliance rate for  
17 commercial lighting standards.

18 COMMISSIONER BYRON: Okay, and so there is  
19 incremental program impacts for utility programs of 24  
20 percent.

21 DR. KAVALEC: Right.

22 COMMISSIONER BYRON: Okay. I am jumping ahead to  
23 your self generation analysis that you did. And on slide  
24 28, you know, you said you began looking at estimated  
25 payback periods and cost effectiveness; but I would point

1 out that self-generation is really controlled by  
2 regulation, by policy and the tariffs that we put in place.  
3 So although these look very optimistic, at least for  
4 photovoltaics, it would be a much larger gain, I would  
5 suspect, for natural gas and, in fact, we are seeing some  
6 of that, we are seeing some significant movement in the  
7 publicly-owned utilities who are not necessarily controlled  
8 in the same way as the IOUs. I guess my question is, maybe  
9 I missed it, but why did you concentrate so much on  
10 photovoltaics here, Dr. KAVALEC, instead of looking at all  
11 of the self-generation?

12 DR. KAVALEC: You mean for the predictive modeling?

13 COMMISSIONER BYRON: Yes.

14 DR. KAVALEC: Well, this was not meant to suggest  
15 that we are concentrating on photovoltaic systems, it is  
16 just the first model that we did, and we are developing  
17 models eventually for all the different technologies.

18 COMMISSIONER BYRON: Okay, good. Any further  
19 questions here at the dais? I think you are opening it up  
20 now to questions from others, correct?

21 DR. KAVALEC: Yes.

22 COMMISSIONER BYRON: Thank you. I will look first  
23 to the audience and then next to WebEx. Are we doing it  
24 where people are supposed to raise their hand on WebEx?  
25 Okay.

1 DR. KAVALEC: No? Nothing on WebEx.

2 COMMISSIONER BYRON: Thank you, Dr. KAVALEC. You  
3 may press on.

4 DR. KAVALEC: Okay, my second presentation deals  
5 with efficiency and conservation that is incorporated in  
6 the forecast. Three sources of savings that we track and,  
7 again, let me mention that the utility and public agency  
8 programs incorporated in the forecasts are only those that  
9 are committed, already implemented, or already funded, and  
10 naturally occurring savings, I will explain in a moment.  
11 The summary of the results related to efficiency and  
12 conservation, the savings from these three sources  
13 significantly reduce consumption and peak demand over the  
14 forecast period over what they would have been. The bulk  
15 of the savings comes from the combination of building and  
16 appliance standards. There are additional lighting savings  
17 we have included beyond what happens from programs and  
18 standards, which I will get to in a minute. And  
19 importantly, we should be aware that this analysis has  
20 important limitations.

21 The first category, utility and public agency  
22 efficiency programs, I am not going to talk about this a  
23 lot because we had a workshop on this back on May 21<sup>st</sup>, but  
24 basically our goal was to update our historic estimates of  
25 utility program impacts, and particularly to capture

1 estimates of the impact of the 2009-2011 investor-owned  
2 utility program plans. We have received helpful support in  
3 this effort from Itron and our demand forecasting energy  
4 efficiency quantification working group, which needs a new  
5 acronym, but is comprised of CEC staff, CPUC staff, folks  
6 from the utilities, ARB, NRDC. And so far, what we have  
7 done is update our program measure impact estimates for the  
8 investor-owned utilities only. By the revised forecast, we  
9 are going to update those estimates for publicly owned  
10 utilities, as well. But for now, all we have is the update  
11 for IOUs.

12           This is what the difference in utility program  
13 estimates look like comparing what we have now for the  
14 current forecasts, and what we predicted and incorporated  
15 in the previous forecast, the major difference being the  
16 large impacts from 2009-2011, which was not included in the  
17 previous forecast because, at that time, 2007, those  
18 programs were not considered committed, and therefore were  
19 not included. To incorporate these impacts, some were  
20 incorporated directly into the models, for example,  
21 residential lighting, and others through post-processing,  
22 meaning subtracting the results from model output. These  
23 are preliminary estimates, still being refined. And the  
24 2009-2011 programs for the IOUs are still in the approval  
25 process, and final approval is not going to happen until

1 later this summer, which unfortunately will be too late  
2 for our revised forecast. So there may be some  
3 modifications of the '09 to '11 programs that are not  
4 captured in our forecast.

5           Second category, standards. We incorporate the  
6 standards in our models through changes in inputs, i.e.,  
7 changes in average use per household at the end use level,  
8 and use per square foot at the end-use level for the  
9 commercial sector. The way that we measure the impact of  
10 each individual set of standards is we start with the most  
11 recent, we remove the impacts of those sets of standards on  
12 model inputs, we rerun the models, and we assign the  
13 difference between the two model runs to savings from that  
14 standard, from that set of standards. So whatever impact  
15 the standards have on modeling inputs is removed, we rerun  
16 the model, the difference is savings for that set of  
17 standards. The next step is to follow the same thing for  
18 the second-most recent set of standards, remove the effects  
19 from those sets, and on down the line until we have  
20 eliminated all the different standards from the model.  
21 Here are the standards incorporated in our forecasts,  
22 beginning with the residential building standards in '75 on  
23 through the latest non-residential building standards, and  
24 the third category, naturally occurring savings, this is  
25 meant to capture changes in energy use that are not coming

1 directly from the utility programs or standards, but could  
2 overlap with programs and standards. More specifically, it  
3 mean the impact of rate changes and additional lighting  
4 savings from the residential sector. We used to refer to  
5 these effects as price and market effects, but the problem  
6 was that market effects is used differently in other  
7 energy-related circles. So we tried the word "naturally  
8 occurring savings," but unfortunately that is also used  
9 differently in other places and one project we are involved  
10 in now is one in which we are attempting to standardize the  
11 terminology we used related to energy efficiency, we call  
12 that our taxonomy work. So eventually this will be worked  
13 out and we will have a standard set of terms, but for now,  
14 for this forecast, naturally occurring savings means price  
15 effects and additional residential lighting savings.

16           As we know, lighting programs, or lighting savings  
17 are the focus of utility programs, as well as legislation,  
18 and we know that committed utility program impacts decay  
19 after the end of the current program cycle, so we thought  
20 it unrealistic to assume that average lighting per  
21 household would return to current levels at the end of the  
22 2011 program cycle. In other words, we thought it  
23 unrealistic to assume that households would immediately go  
24 back to incandescent light bulbs, for example, right after  
25 the 2011 program cycle ended. So therefore we assumed that

1 average residential lighting would continue at 2000  
2 average levels for the investor-owned utilities, and for  
3 the publicly owned utilities, we also assume some lighting  
4 savings, we assumed a gradual reduction starting from  
5 current levels to 75 percent of current levels by 2020.  
6 This is sort of a temporary measure, a temporary assignment  
7 to naturally occurring savings. When we update our POU  
8 utility program impacts, a lot of the savings that is  
9 currently included, and naturally occurring, will be  
10 assigned to POU program impacts. Other savings down the  
11 line might be assigned as an uncommitted effect in our  
12 uncommitted forecasts, to Huffman Bill effects, for  
13 example. But we thought this savings was going to happen  
14 in some way, shape, or form, therefore, we incorporated it  
15 in the forecast.

16           So here is what savings looks like broken out by  
17 category. By 2020, roughly 65,000 GWh of total savings,  
18 meaning that consumption in this year would have been  
19 65,000 GWh higher without these different sources of  
20 savings, I am using the mid-rate case here; so naturally  
21 occurring savings would increase if it were the high-rate  
22 case; and decrease if it were the low-rate case because  
23 there would be less price effects in the low-rate case.  
24 The little sliver at the top right-hand side shows the  
25 additional residential lighting savings we assumed, and

1 added to naturally occurring savings. Note, looking at  
2 1990, the effects are greater than zero. Our programs  
3 track savings all the way back to 1975, and when you get to  
4 1990, impacts have accumulated from the standards and it  
5 also carries forward price effects from rate increases that  
6 happened in the late '70s, early '80s.

7           There was some discussion in the May 21<sup>st</sup> workshop  
8 with the idea of a hockey stick, whether at the end of the  
9 current utility program cycle in 2011 we should see a surge  
10 in consumption, as the programs ended. Now, hopefully this  
11 graph here will allow me to answer that question a little  
12 bit better than I did the last time, a) utility programs do  
13 not go away all at once in 2011, as you can see, some  
14 effects remain because they do not decay away all at once;  
15 at the same time, impacts from building and appliance  
16 standards are continuing to increase, making up for that  
17 loss in utility and public agency programs. Also, lighting  
18 savings begins to make an appearance in 2011 -- additional  
19 savings. So, in other words, we do not see a hockey stick,  
20 a sudden surge in consumption in 2011, because other  
21 sources of savings are making up for that.

22           Peak savings, again, the mid-rate case around  
23 16,000 MW savings by 2020, relative to a world without  
24 these savings sources. The numbers to go along with these  
25 graphs, total consumption is reduced by around 16 percent,

1 compared to the world without savings, 18 percent by 2020,  
2 corresponding peaked reductions are 17 percent and 19  
3 percent, roughly the same. And in 2010, standards make up  
4 around half the total consumption savings, and by 2020,  
5 with less utility program impacts, they make up a higher  
6 amount, 57 percent. And the corresponding peak impacts for  
7 2010 and 2020 are 55 percent and 60 percent, respectively.

8           Utility programs reach a maximum share of the total  
9 amount of savings of over 20 percent in 2011 with a peak  
10 slightly higher at 24 percent, naturally occurring savings,  
11 meaning price effects and additional residential lighting  
12 savings, a little less than a third in 2010, a little bit  
13 more than a third by 2020, as you add in the additional  
14 residential lighting savings, and residential consumption  
15 makes up roughly half of the total savings with the peak  
16 being higher because residential consumption tends to be  
17 peak year.

18           Okay, as I mentioned, this is the mid-rate case.  
19 Had we used the high-rate case, we would have had more  
20 naturally occurring savings because of more price effects  
21 to the tune of around 2,200 GWh by 2020; and had we used  
22 the low-rate case, our naturally occurring savings would  
23 have decreased by around 2,700 GWh. So if we go back to  
24 slide 11 here, in the high-rate case, total savings would  
25 have increased to around 67,000 GWh. In the low-rate case,

1 total savings would be reduced to around 62,000 GWh. And  
2 the corresponding peak numbers, high-rate case, increases  
3 at 450 MW and, in the lower-rate case, decrease of 550 MW.

4 Now, there are some important limitations of this  
5 analysis that need to be noted. Publicly owned utility  
6 impacts have not been updated, as I mentioned, but that is  
7 going to be remedied in the revised forecast. But the  
8 remaining limitations are a little bit more serious.

9 First, we rely on an assumption of a counter-factual, in  
10 other words, that the world without all of these savings  
11 impacts corresponds to the world of consumption today, plus  
12 those savings impacts added back in, when we know that is  
13 not exactly true because the existence of programs and  
14 standards themselves change the market. So, for example,  
15 if efficiency program incentives for air conditioners  
16 increase the saturation of air conditions, okay, not just  
17 induce folks to replace current air conditioners with more  
18 efficient ones, but to buy more air conditioners, then our  
19 counterfactual world has more air conditioners in it than  
20 does the "real counterfactual world." So when we estimate  
21 savings from air conditioning, we over-estimate because we  
22 have more air conditioners. How serious this is, I do not  
23 know. My guess is that the actual counterfactual is not  
24 hugely different from our assumed counterfactual because  
25 most of the major changes in consumption in the last 20-30

1 years have not had anything to do with programs and  
2 standards like electrification in offices in the '80s and  
3 '90s, the crisis in 2001, so -- okay, so that is one  
4 problem. The second problem is that attribution among the  
5 three sources is not an exact science. In other words,  
6 there is overlap. The way that we isolate and measure  
7 these sources of savings is we start with utility programs,  
8 remove the impacts of utility programs, after which we  
9 remove the impacts of standards, as I described earlier,  
10 and finally, we set prices back to 1975 levels to measure  
11 price effects. However, if we were to change the order, if  
12 we took out price effects first, then the impacts of  
13 standards, we would get a slightly different answer. The  
14 reason for that is that we folks -- at least we assume --  
15 folks, when deciding how long to operate an appliance do  
16 not make that decision based solely on electricity rates,  
17 and not just solely on the efficiency of the appliance, but  
18 the combination of the two. It is a simultaneous decision.  
19 Just like we assume motorists, when they make driving  
20 decisions, do not react just to the price of gasoline, but  
21 the price of gasoline in tandem with the fuel efficiency of  
22 their vehicle. So in other words, there is no unique  
23 break-out between price effects and standards. We think  
24 that we have captured the sum of the two pretty well, but  
25 attribution between the two is inexact.

1           Other overlap, utility program impacts and price  
2 effects -- with a rate increase, we know that it is likely  
3 that there is going to be high adoption rates for utility  
4 programs. So that means that, at the gross level, there  
5 will be higher utility program impacts, in other words,  
6 more free riders, more folks taking advantage of utility  
7 programs, but it will also affect net utility program  
8 impacts because there will be -- the marginal consumer out  
9 there who would have done nothing in the face of a rate  
10 increase, but because the utility program is out there,  
11 that person then takes advantage of the program. So some  
12 of these price effects, in other words, could reasonably be  
13 assigned to utility programs.

14           Standards and utility programs. We assume a  
15 compliance rate for the standards in our model of something  
16 around 75 percent, but we know that, in the real world,  
17 utility programs can impact the compliance rate. So we  
18 have a certain compliance rate and, in actuality, utility  
19 programs are contributing to that compliance rate, however,  
20 all the credit is being assigned to the standards in our  
21 model.

22           Finally, we are in a recession now and, if it  
23 continues for another couple of years, the question is what  
24 impact would this have on the adoption of utility programs.  
25 The answer is we do not know, although we are looking into

1 it. It could be that less disposable income means a lot  
2 less participation in utility programs because of the  
3 capital costs, but that is not necessarily true. It could  
4 be that folks buy more CFLs, for example, with less  
5 disposable income if the cost is low enough to reduce their  
6 electricity bills. Okay, so the point of all this is that,  
7 as we go forward in teasing out efficiency impacts, there  
8 are some serious issues that we need to consider and  
9 resolve to some degree, and these are complicated issues  
10 that are not easily resolved.

11 So, finally, the revised forecasts. We are  
12 continuing to refine our program numbers. There is an  
13 issue that has come up recently and that issue is that we  
14 are not sure how the CPUC is directing the utilities to  
15 account for decaying utility program measure impacts. The  
16 question is, is the CPUC requiring utilities to make up for  
17 all the decay in the measures beyond going out into the  
18 future, or are they requiring utilities to only make up for  
19 the decay of measures that have a less than expected useful  
20 life. Do they want them to make up for all decay, or just  
21 earlier than expected decay? And that we are looking into.  
22 It is not clear to us, and apparently it is not clear to  
23 some of the CPUC staff, but hopefully we will resolve this  
24 quickly. In the first case, if utilities are responsible  
25 for making up for all of the decay savings, then that is

1 going to affect, obviously, the decay that we use in our  
2 model forecasts; if it is the second case, that they only  
3 have to make up for earlier than expected decay, that does  
4 not affect us as much because, in our utility program  
5 impacts, we assume that useful lives are as expected.  
6 Realization rates -- we are hoping to tease out realization  
7 rates at an end-use level rather than just apply one rate  
8 to all different end uses. As I mentioned, incorporating  
9 POU impacts from programs, we have updated our econ demo  
10 data. The economy data comes from the latest release from  
11 Economy.com in June, which, as I said, is a little bit more  
12 optimistic than the one last December. And we are also  
13 spending some time analyzing the impact of key economic  
14 variables on the forecast; in other words, creating some  
15 economic scenarios. Okay, and that does it for my second  
16 presentation.

17 COMMISSIONER BYRON: Very good. Hang on.

18 DR. ST. MARIE: I have a question about slide 5,  
19 which is the one that has the great big mountain in the  
20 center of it. I do not think that I understand what the  
21 numbers are that are on that chart, and so, for example, if  
22 you would humor me, the number for 2006 from the green line  
23 is about \$2,000, and from the blue line is about \$5,000.  
24 What does the \$2,000 mean? What does the \$5,000 mean?

25 DR. KVALEC: The numbers mean a cumulative

1 savings, so it is first year savings and then those  
2 savings begin to decay year after year, so it is the  
3 accumulation of all the different years of savings.

4 DR. ST. MARIE: Okay, and so then going to 2011,  
5 when we reach a peak under the revised forecast of  
6 approximately \$12,000. After that, what you are saying is  
7 that, not only are we no longer saving, but our decay  
8 begins to outrun the new investment in savings? Is that  
9 what that means? From 2011 to 2012, we run from about  
10 \$12,000 to about \$11,600.

11 DR. KAVALEC: Right. What this is saying is that,  
12 since we only incorporate committed programs, there are no  
13 additional savings beyond 2011 that are committed.

14 DR. ST. MARIE: Okay. There are no additional  
15 savings --

16 DR. KAVALEC: From utility programs, from IOU  
17 utility programs.

18 DR. ST. MARIE: Okay, so if the utility buys me a  
19 light bulb, are you saying that is the year the light bulb  
20 breaks, or are you saying that I will not get a second  
21 light bulb that year -- on my own.

22 DR. KAVALEC: Yeah, it is --

23 DR. ST. MARIE: So, I mean, do the existing savings  
24 continue at a normally decaying rate? Or is this the  
25 actual measure of the decay?

1 DR. KAVALEC: Yeah, savings continue, but at a  
2 decaying rate.

3 COMMISSIONER BYRON: The thing that I did not quite  
4 grasp that you said, Dr. Kavalec, is that this is a  
5 cumulative savings, so how can we begin to have a negative  
6 curve here after 2012?

7 DR. ST. MARIE: Yeah, it is still difficult for me  
8 to understand that, as well.

9 DR. KAVALEC: Well, basically is it is function of  
10 continually adding in first year savings for every year  
11 through 2011, and then suddenly stopping with new first  
12 year savings.

13 DR. ST. MARIE: Oh, okay. So --

14 DR. KAVALEC: So you reach a plateau, then you add  
15 no additional first year savings, and because of decay,  
16 that begins to fall off starting in 2012.

17 DR. ST. MARIE: So is it a fair interpretation of  
18 that change to be that, if the California Public Utilities  
19 Commission ceases to fund programs, or ceases to tell  
20 utilities to fund programs, beginning at approximately that  
21 time, the effect would be as we see in this chart, rather  
22 than in a counterfactual -- since we are using the word  
23 "counterfactual" today -- a counterfactual assumption is  
24 that the CPUC and the state will remain committed to energy  
25 savings, and therefore one might assume that we would

1 continue to have savings after that date?

2 DR. KAVALEC: One might definitely assume that.

3 DR. ST. MARIE: Okay, but you just do not want to  
4 put it in here because no one has signed an Order saying  
5 that they should continue?

6 DR. KAVALEC: Exactly right.

7 DR. ST. MARIE: Thank you very much.

8 COMMISSIONER BYRON: Did you want to add something,  
9 Mr. Gorin?

10 MR. GORIN: Maybe I can add to the confusion. This  
11 is Tom Gorin. That is just for the utility program, and  
12 the residential model, the way it is modeled now, that top  
13 of the mountain is expected to be flattened out because  
14 that will be counted as naturally occurring. The decay is  
15 the decay in the lifetime of the utility -- light bulbs,  
16 CFLs. But we are assuming that people will replace it with  
17 a light bulb because of the [inaudible] [84:09] and because  
18 of the federal legislation, and that thing goes to the  
19 naturally occurring side as part of the attribution issue  
20 that we have. For the most part, it is not a decaying  
21 forecast, it is just a decaying attribution of the IOU  
22 savings.

23 COMMISSIONER BYRON: Good question. I would like  
24 to stay on this for just one minute longer. If you would,  
25 move to slide 11. And just so that I understand this

1 committed vs. uncommitted, if I note, around 2007, the  
2 utility and public agency programs begin to ramp up  
3 significant and then, of course, around 2011 or so, that  
4 ramping begins to flatten out, and I imagine that is also  
5 -- or 2012, I cannot quite tell -- I imagine that is also  
6 because of the uncommitted programs at that point; however,  
7 as Dr. St. Marie indicated, if we were to assume that those  
8 programs would be funded and become committed, the slope of  
9 that line we would expect to continue relatively unabated,  
10 correct?

11 DR. KAVALEC: Yes, we would.

12 COMMISSIONER BYRON: Okay, good. So I think that  
13 is -- I would characterize that as a limitation of our  
14 analysis. I do not think there is anything you can do  
15 about it, but I would like to make sure that we clarify  
16 that the analysis does not include the expected IOU  
17 committed programs.

18 DR. KAVALEC: Right.

19 COMMISSIONER BYRON: And because it really does  
20 lower the projections out in those out years, and I realize  
21 there is little you can do about it because we do not know  
22 what will happen in terms of those programs. I suppose you  
23 could do a similar thing with regard to our standards,  
24 although we do have a 30-year track record that is backing  
25 those up.

1 DR. KAVALEC: But, do not forget, we are trying  
2 to do exactly that in our uncommitted forecast.

3 COMMISSIONER BYRON: Okay.

4 DR. KAVALEC: It is going to include utility  
5 program impacts from 2012 to 2020, or expected utility  
6 program impacts.

7 COMMISSIONER BYRON: Good answer. Any other  
8 questions for Dr. Kavalec?

9 MS. KOROSEC: We have a question from the WebEx  
10 from Noah Long. Noah, your line is open.

11 MR. LONG: Yeah. Can you hear me?

12 COMMISSIONER BYRON: Go right ahead.

13 MR. LONG: Thanks so much. Yeah, I just have a  
14 couple of questions. One is about the issue that was just  
15 discussed a second ago with decay. I think it was slide 4,  
16 the one with the mountain in the middle, and my  
17 understanding is that, in the Northwest, and you guys might  
18 know this better than I do, but my understanding in the  
19 Northwest is that they use total resource costs to set our  
20 energy efficiency, for the planning they assume all of that  
21 -- and this sort of goes into what I think Tom said about  
22 it sliding into the naturally occurring -- they assume  
23 that, you know, once included, so a CFL or a more efficient  
24 refrigerator, will yet then be replaced by at least as  
25 efficient of a model, and so that decay does not mean --

1 even if it means not in the utility program anymore, it  
2 does not mean that the data suddenly go away. How are you  
3 guys -- is that the same way you are dealing with it? It  
4 sound like, with the lighting, you are because of an  
5 upcoming standard. But with other things you may not be  
6 dealing with it that way?

7 DR. KAVALEC: That is exactly right. Lighting is  
8 the only case where we assume a market transformation.

9 MR. LONG: Okay, and with other things, you assume  
10 that the decay will mean, actually, people will go back to  
11 less efficient models?

12 DR. KAVALEC: That is right.

13 MR. LONG: Okay, and is that something that this  
14 working group is -- is that addressed? Or is that up to  
15 the specific planned assumption?

16 DR. KAVALEC: Yeah, one of the aspects of  
17 efficiency that we are working on diligently is the idea of  
18 market transformation.

19 MR. LONG: Right.

20 DR. KAVALEC: But we have not developed it enough  
21 to completely incorporate it in the model forecast yet.

22 MR. LONG: Great. And then, if I could just ask a  
23 little bit about this issue of attribution, and that goes  
24 back to slides 11 and 12, I guess a couple of things, one  
25 is I am not totally sure -- I have not made up my mind yet

1 -- I guess [inaudible] [88:31] is the right way to say  
2 about the idea of the baseline price being 1975?

3 DR. KAVALEC: Right.

4 MR. LONG: It just makes [inaudible] [88:38] quite  
5 difficult because, I mean, prices have increased everywhere  
6 and it is sort of hard to know what prices should be. And  
7 I guess part of that implies the attribution between what  
8 we are calling right now naturally occurring and everything  
9 else because, you know, maybe we would not have done --  
10 well, for example, building standards would not be what  
11 they are without the current price because of the cost  
12 effectiveness test, and the same for utility programs. So  
13 all those things sort of mixed together based on that  
14 counterfactual. Is that a fair assessment?

15 DR. KAVALEC: That is a very fair assessment.

16 MR. LONG: And then the last thing is, I mean, this  
17 is an issue that NRDC has raised a few times here, but just  
18 attribution between utility and naturally occurring,  
19 particularly, my understanding is that, until just a couple  
20 years ago, because those were viewed as one block, and just  
21 more recently have been divided out. And is that -- it  
22 seems to me that those are the two that are probably the  
23 most -- that the lines between them are probably the most  
24 gray, because of that problem. Is that something you agree  
25 with?

1 DR. KAVALEC: Uhm, well, it is all kind of gray.  
2 But I agree that that is definitely a challenge.

3 MR. LONG: Right. And I guess, I mean, in terms of  
4 the modeling exercise, I think I understand the perspective  
5 that you are talking, but I guess my concern is that, when  
6 we underestimate the effectiveness of all the policies that  
7 we have by calling a big chunk of what we have done  
8 naturally occurring.

9 DR. KAVALEC: Okay. Noted.

10 MR. LONG: So that is all for now.

11 MR. GORIN: Noah?

12 MR. LONG: Yes.

13 MR. GORIN: This is Tom Gorin.

14 MR. LONG: Hi, Tom.

15 MR. GORIN: I would like to make a couple comments  
16 about your questions. In the first one, in the models, if  
17 you look at utility rebate program to buy an appliance that  
18 exceeds the standards at that point in time --

19 MR. LONG: Right.

20 MR. GORIN: -- that is the kind of model -- there  
21 is an early replacement of that appliance, and when that  
22 appliance decays, it can only be replaced by an appliance  
23 that meets the standard in the year it decays in. So that  
24 would be assumed it would be replaced by a more efficient  
25 appliance than was originally purchased. Does that make

1 any sense?

2 MR. LONG: I think that makes -- so it would be  
3 replaced by a model than was originally purchased, but not  
4 necessarily as efficient as it was.

5 MR. GORIN: Well --

6 MR. LONG: Depending on how quickly the [inaudible]  
7 [91:31]?

8 MR. GORIN: Right, and like a refrigerator, if you  
9 buy something in, say, 1998 that is 15 percent more  
10 efficient than the standard in 1998, and it decayed in  
11 2008, the existing refrigerator you could buy would be more  
12 efficient than the one that was 10 percent more efficient  
13 in 1998.

14 MR. LONG: Right. So that would imply that,  
15 really, I mean, we probably do not have too much of a decay  
16 problem, afterall. Right?

17 MR. GORIN: Well, it is still open to debate. And  
18 the attribution problem, I think, is being more clouded  
19 when utilities get credit for promoting building required  
20 standards.

21 MR. LONG: Right.

22 MR. GORIN: So that makes, you know, finer shades  
23 of gray scale.

24 MR. LONG: Right. Yeah, in a way, I wish that, you  
25 know, in order to be more saturate, but at least useful, we

1 could just have this all be one color and say, [inaudible]  
2 [92:39].

3 MR. GORIN: Well, from a standpoint of an energy  
4 forecast, that may be more useful from a forecasting  
5 perspective for procurement, but from an attribution  
6 standpoint where a lot of the money changes hands, that is  
7 not quite as useful.

8 COMMISSIONER BYRON: That is correct. And  
9 everybody is always going to want to drill down on and  
10 understand the basis for the savings.

11 MR. LONG: Right. And my only last comment is that  
12 I really appreciate that you are going to be adding to the  
13 uncommitted program because I think it is sort of an  
14 exclamation point when the utility program is dropping off  
15 here, so that will be really useful when we see the  
16 projections for their increase, and continued increase.

17 DR. KAVALEC: And it helps resolve somewhat the  
18 acrimony over our definition of committed and uncommitted.

19 MR. LONG: Great. Thank you very much.

20 MS. KOROSSEC: All right, we have another WebEx  
21 question from Barbara George. Barbara, your line is open.

22 MS. GEORGE: Email --

23 COMMISSIONER BYRON: Ms. George, would you begin  
24 again, please?

25 MS. GEORGE: Yeah, hi. Can you hear me?

1 COMMISSIONER BYRON: Yes.

2 MS. GEORGE: Okay. I had a question, it is not  
3 directly on these slides, but it was something that I  
4 picked up from looking at the table, the Appendix, Table  
5 8.7 which was sent out with the work, and what I found  
6 really interesting and wanted to get some more information  
7 on was that, in the naturally occurring savings, the amount  
8 in the residential are -- well, the amounts of naturally  
9 occurring savings in the commercial sector are modeled at  
10 15 times as much as in the residential sector. In other  
11 words, for 2008, in PG&E's territory, the commercial  
12 consumption in the naturally occurring, the savings in the  
13 naturally occurring, is about \$6,500, and it is only \$119  
14 in the residential. So -- and that is true also in peak,  
15 the peak is actually 15 times greater, and the consumption  
16 is even more. And I have been trying to understand what  
17 that is attributed to.

18 DR. KAVALEC: Okay, that is coming about because of  
19 the much higher price responsiveness in the commercial  
20 model, so for a given change in rates, consumption of  
21 commercial energy drops by a lot more, in other words, more  
22 savings than does residential. Residential has very little  
23 price responsiveness included in the model.

24 MS. GEORGE: But do you think that is true in real  
25 life, you know, it is after a model, but can it be 15 times

1 in business?

2 DR. KAVALEC: Well, there are many that would say  
3 that our residential price elasticity is too low, but we  
4 are going to, as I mentioned, we are going to re-examine  
5 the price responsiveness in our models after this forecast.  
6 Unfortunately, that is what we have for this cycle.

7 MS. GEORGE: Okay. Well, what I wanted to do was  
8 to know what I can carry back to the CPUC as far as this is  
9 concerned because, if these figures are anywhere close to  
10 being true, it would mean that the CPUC programs are  
11 attacking the wrong sector because they concentrate on  
12 commercial. And residential savings are pretty much CFLs  
13 and not much else. We only have a certain percent of the  
14 money in the CPUC programs once residential in the last  
15 round of programs. So I am fascinated by these numbers  
16 because they are basically saying that the free ridership  
17 in the commercial sector is extremely high, and that, in  
18 other words, the commercial property owner is responding to  
19 prices.

20 COMMISSIONER BYRON: This is good. This is a key  
21 question. Is the PUC spending the IOU funding in the right  
22 sectors. Dr. Kavalec?

23 MS. GEORGE: Yeah, it is completely backwards  
24 because they are concentrating on commercial rather than  
25 residential, and what this seems to be saying -- and this

1 is what I understood from the 1970s, which is where I  
2 guess some of these figures are coming from, is the price  
3 effects from the 1970s. I am not sure that the price  
4 effects now are that unevenly distributed, but they might  
5 be. And it certainly would indicate that the need for  
6 programs is in the residential sector because the  
7 commercial sector is going to do a lot more work itself.

8 DR. KAVALEC: Yeah, I think that is a very  
9 interesting point. I would not be comfortable in saying  
10 that until we have re-examined our price response, however,  
11 because, as I said, these price responses are from the  
12 '80s, and they have not been updated for a while.

13 MS. GEORGE: Then those are based on price response  
14 studies in the '80s? Is that what they are?

15 DR. KAVALEC: Yes.

16 MS. GEORGE: And those prices in the 1980s that did  
17 show that the impacts were much greater?

18 DR. KAVALEC: Yeah. At least the data that we had,  
19 that we used, did show that.

20 MS. GEORGE: Well, I would be very interested in  
21 getting some [inaudible] [99:20] for that data, so that at  
22 least I could do that for my comments.

23 DR. KAVALEC: Okay, yeah. We have been emailing  
24 back and forth, so we could continue that, or we can  
25 actually talk on the phone.

1 MS. GEORGE: Okay, great.

2 DR. KAVALEC: Okay, thanks.

3 MS. GEORGE: Thanks much.

4 COMMISSIONER BYRON: Okay, my misunderstanding, I  
5 thought Ms. George was from the Public Utilities  
6 Commission. I understand she is with Women's Energy  
7 Matters.

8 MS. GEORGE: That is right.

9 COMMISSIONER BYRON: Okay, thank you. Any other  
10 questions on WebEx? Good. We are a little bit ahead of  
11 schedule. I was tempted to press on with two presentations  
12 before lunch, but I think it might be a good idea to take a  
13 short break and we will resume in about 10 minutes and stay  
14 on schedule. Thank you.

15 [Off the record at 10:44 a.m.]

16 [Back on the record at 11:01 a.m.]

17 COMMISSIONER BYRON: All right, we are at the 11:00  
18 item on the agenda. Tom Gorin, from our Demand Analysis  
19 Office, will be addressing the staff forecast results for  
20 the San Diego Gas & Electric Planning Area in comparison to  
21 SDG&E's forecast. In fact, I think for the rest of the  
22 afternoon, it is the Tom Gorin show. Mr. Gorin, would you  
23 give us some indication -- I suspect it is not just you and  
24 Dr. Kavalec that is behind all this -- can you mention some  
25 of the other staff that are involved in this work?

1 MR. GORIN: And then I will get in trouble for  
2 leaving somebody out.

3 COMMISSIONER BYRON: Go ahead, take a chance.

4 MR. GORIN: Take a chance. Glen Sharp is doing a  
5 residential forecast. Mohsen Abrishami is a commercial  
6 modeler. Bryan Alcorn is working on industrial. Mark  
7 Ciminelli is doing peak forecasts. Mitch Tian is doing the  
8 peak. And we have --

9 COMMISSIONER BYRON: Ms. Gough.

10 MR. GORIN: -- Andrea Gough, who is supervising the  
11 QFER collection. Asish Gautam is our new self-gen  
12 forecaster. We have a bunch of new people supervised by  
13 Kae Lewis, working on DSM analysis and evaluation. And one  
14 of the newest irritants we have from the PUC is Don  
15 Schultz, helping the DSM people out.

16 COMMISSIONER BYRON: All right, well, that gives an  
17 indication that there are a lot of staff involved in this,  
18 and that is great of you to just mention their names. Mr.  
19 Schultz, welcome. We do not think of you as an irritant.

20 MR. GORIN: I should have read off in the report,  
21 but --

22 COMMISSIONER BYRON: That is okay. If you think of  
23 others, you have a few more presentations coming up, you  
24 can mention a few others.

25 MR. GORIN: I would rather not go through any of

1 these presentations, but I feel there is a need to. There  
2 are a lot of slides in these and what I have prepared them  
3 for is to use them as a Cliff Notes to the report that  
4 probably nobody wants to read. This is sort of a picture  
5 book overview of each of the utility planning area  
6 forecasts and a preliminary comparison to what they  
7 provided us in February - April time period. So I am going  
8 to blow through some of these slides relatively quickly.  
9 If you have questions, do not hesitate to stop me and ask  
10 for explanation.

11 In my 20 plus years here in providing forecast  
12 reports, nobody has ever really called me up and asked me  
13 what a sentence was meant to be in a report, they always  
14 asked me what the graph means, or what the number in the  
15 table means, so this is sort of to give an overview to  
16 people that just want a cursory analysis of it.

17 This is for the San Diego Planning Area. Down  
18 arrow. I am technologically challenged at the moment. Our  
19 forecast for San Diego is lower because of things that  
20 Chris has mentioned. We are projecting about 7 percent  
21 lower in 2010 and, depending on a rate scenario that goes 9  
22 to 11 percent lower by 2018, this is a break-out by sector,  
23 the biggest drops are in residential, industrial and  
24 commercial building. TCU is dropping actually more, but it  
25 is a smaller sector. Peak forecast is only 2 percent

1 lower. I will go through these slides. These are the  
2 values in the table. You will note that in 2007, which was  
3 a projected year in the last forecast were about starting  
4 from a 2.5 percent lower value on consumption and actually  
5 peak was higher than we had expected. This is the  
6 difference in the forecast. We are projecting it to grow  
7 at a slightly lower rate, from a lower point. Per capita  
8 consumption is projected to be flat, it was slightly  
9 increasing last time, and we are coming from a lower rate  
10 because of more recent data. And I actually -- this is a  
11 little bit different order of utilities than I have done it  
12 before, and we started with San Diego because it was  
13 easiest to compare to the San Diego forecast, and I will  
14 get into that later. So our peak forecast is not as -- it  
15 is slightly lower. We assume people in San Diego, even on  
16 the coast, will use air conditioners when it gets hot.  
17 Maybe they should not, but that is our assumption. The per  
18 capita peak is going to remain constant and the load factor  
19 is going to decline because most of the savings that we are  
20 seeing are energy related and are not peak related. I  
21 think this could be a relatively constant story across the  
22 utilities.

23 Residential sector is 5 percent lower. The  
24 household income projections drives that down a lot.  
25 Lighting savings, we have touched on; that reduces use per

1 household beyond 2011 by about four percent. Lower  
2 birthrate from a lower starting point -- use per household  
3 is now projected to be flat. You can notice kind of the  
4 saw toothed history of use-per-household, and as in all  
5 forecasts, we get tempted by forecasting the period of the  
6 last increase. So, you know, in 1998, 1999, we were  
7 forecasting an increase, and then 2001 came, and our  
8 forecasting -- we decreased, and there does not appear to  
9 be a period where we are going to have complacent growth in  
10 the economy. I am not sure what the next bubble is going  
11 to be, but we will probably have one.

12           In the residential model, we use household income,  
13 which is a different animal from personal income. And the  
14 way household income is derived in our current forecast is  
15 multiplying per capita income times persons per household.  
16 That shows a slower recovery than would be seen if you used  
17 the difference in graphs between personal income. And it  
18 is an artifact of the way it is calculated, as far as I can  
19 tell. Our peak is not that much changed for residential  
20 over the last time. Peak use per household has continued  
21 to go up because we assumed every new household has an air  
22 conditioner, effectively, and they are going to use it.

23           Commercial sector has a lower starting point. We  
24 have slightly less overall projected floor space of the  
25 commercial model. I should note, in the residential model,

1 our forecast of population in households is relatively  
2 unchanged from the last forecast; that is why I did not  
3 show it. If you look at it in the report, I doubt you can  
4 see any difference in the graphs of this forecast vs. the  
5 last forecast. We are looking at somewhat more decay of  
6 commercial floor space, a faster decay rate in terms of  
7 age, so there are more new buildings which are more  
8 efficient being put out there than we had previously  
9 forecast. We changed the compliance rate with commercial  
10 lighting standards, which impacts retrofit of commercial  
11 buildings, which is why there is a greater decline in use  
12 per square foot of commercial buildings, because we are  
13 assuming that people, that commercial building operators  
14 that retrofit their buildings have to comply with the new  
15 lighting standards. So these are the price scenarios. You  
16 can see that there is more price elasticity in the  
17 commercial building model than any of the other models.  
18 This shows the slight decline in floor space and we are  
19 projecting, with the lighting and the combination of floor  
20 space that we are putting out, projecting in new buildings  
21 that commercial kilowatt hours per square foot will decline  
22 and, you know, go back to the levels of the early '90s.  
23 The peak is somewhat lower from a starting point value than  
24 it was the last time. And peak per square foot is  
25 projected to decline at a faster rate because there is more

1 -- lighting has a bigger impact on commercial peak than it  
2 does on residential peak because lighting is used more  
3 during the day in commercial buildings than it is in  
4 residential buildings. So increases in efficiency and  
5 lighting will have a greater impact on commercial than  
6 residential.

7           The other sectors are only 18 percent of total  
8 consumption. Eight percent of that is the transportations  
9 and communications in the utility sector, which is the CCU  
10 sector, 7 percent industrial, and agricultural water  
11 pumping, and mining load construction and street lighting,  
12 we pick up an additional 3 percent. And they only comprise  
13 13 percent of the peak. The TCU sector, we have a lower  
14 starting point based on historic consumption data that we  
15 have. The industrial sector is the same, although  
16 industrial value of production, which value shipments which  
17 is what drives the forecast, is part of the big decline,  
18 and then Economy.com is projecting a rather rapid recovery,  
19 and then a leveling off. I am not exactly sure if that is  
20 changing their more recent forecast, but tapering off  
21 improves in all the service areas.

22           Industrial sector peak is also lower and it is a  
23 function of what we estimate their peak was. San Diego,  
24 the last three years, if I remember right, have peaked at  
25 what I would call "odd times." Last year, I think they

1 peaked in October. The two previous years, they peaked on  
2 Saturdays, so they are becoming not what you would call a  
3 normal California utility from a peak standpoint. Other  
4 sector peak is the same growth rate, just from a lower  
5 starting point.

6 I put the efficiency savings tables in for all the  
7 utilities, just for the sake of completeness. The 2009-  
8 2011 utility programs are based on the current filings  
9 through the CPUC. Self-generation forecasts are based on  
10 recent history and I guess this is a point of interest to  
11 both us and San Diego Gas & Electric. We have been in  
12 contact with them and we are trying to resolve this little  
13 mountain here in the middle. On peak estimates and  
14 consumption estimates for self-generation, if I have this  
15 right, we relied on self-reporting that self-generators  
16 have to report to the Energy Commission. San Diego, I  
17 think, has some other data where they keep track of their  
18 self-generators, and we are trying to resolve the issues.  
19 It turns out, in some of the reporting to the CEC, the  
20 reported peak generation was greater than the nameplate of  
21 the unit, so we are trying to go through those records and  
22 make some adjustment to the history. But the reason that  
23 is important is we forecast, from the Energy Commission's  
24 standpoint, consumption, which is sales for both Utility  
25 sales and direct access sales, and self-generation. And

1 what we would like to have is a more complete picture of  
2 self-generation because, when a self-generator decides not  
3 to generate, the utility -- it is my belief that the  
4 utility is the one that provides the energy to them that  
5 they are using, so if the gas prices go up and they decide  
6 it is too expensive to run their generator with the high  
7 gas prices, and they go back to utility, that consumption  
8 needs to be accounted for somewhere, so that is why we are  
9 interested in getting more accurate self-generation  
10 information from a historical perspective.

11 I think comparisons to the San Diego forecasts, and  
12 I do not know if the representative from San Diego wants to  
13 come up and talk about them now or wait? You will comment  
14 later. We are basically seeing that our forecast is lower  
15 than the San Diego forecast. There is a starting point  
16 difference that we are going to try and resolve because  
17 their sales in 2008 is higher by almost three percent. We  
18 have not included the 2008 QFER sales from San Diego yet.  
19 I think we are anticipating doing that in the revised  
20 forecast. We are still trying to clean up some of that  
21 data. The managed utility sales, which includes all  
22 uncommitted efficiency, which includes -- I think includes  
23 -- the PUC goals past 2012; that forecast is about six  
24 percent higher by 2015, and 7.5 percent higher by 2020. I  
25 tried to -- the unmanaged forecast is 8 percent higher by

1 2015 and 13 percent higher by 2020. I tried to tease out  
2 the difference between our forecast and the San Diego  
3 forecast. They included 2009 to 2011 programs as  
4 uncommitted, and we decided to count them as committed, so  
5 I tried to take the difference of that out of their  
6 unmanaged sales forecast and peak forecasts. The managed  
7 peak is closer than the energy forecast. By the end of the  
8 forecast, they are 2 percent higher than ours. The  
9 unmanaged peak is 7 percent higher. And essentially that  
10 is back to the 2007 levels that we were predicting in our  
11 forecast. So if we take this forecast, the 2008 starting  
12 point difference would reduce the different in the forecast  
13 slightly. Our residential forecast would go up and we  
14 would essentially be, I think, the same through 2012. And  
15 the real divergence -- there is some divergence between the  
16 managed and unmanaged forecast in the post-2012 period.  
17 Between our forecast and San Diego's, the real divergence  
18 comes in the definition of managed and unmanaged forecasts.  
19 Same thing happens in the commercial industrial sector,  
20 although in the commercial industrial sector, San Diego is  
21 projecting more growth than we are in the short-term  
22 recovery period. The peak forecasts are similar. The San  
23 Diego forecast, with all uncommitted energy savings is  
24 slightly higher than our forecasts. Both of the unmanaged  
25 forecasts are higher. We have a difference of opinion on

1 what the 2007 history was and probably a difference of  
2 opinion of what the 2008 numbers are. We are trying to  
3 resolve those.

4 So with that, if there are comments? Questions?

5 COMMISSIONER BYRON: I think your presentation does  
6 raise a few questions. Let's go ahead and -- do you have  
7 someone here from San Diego Gas & Electric?

8 MR. GORIN: Yes.

9 COMMISSIONER BYRON: Okay, let's go ahead and do  
10 that and I think we will get all the facts out on the  
11 table.

12 MR. VONDER: My name is Tim Vonder. I am with San  
13 Diego Gas & Electric. And I do not have a presentation  
14 today on our forecast, but we would like to take this  
15 opportunity to make a few comments on staff's forecast of  
16 our service territory.

17 Basically, I would like to cover three areas and  
18 first start with the economics scenario, the economics and  
19 demographics that lie in staff's forecast vs. our forecast.  
20 And like Chris said, staff relied on 100 percent  
21 Economy.com forecasts for their economics, and we did not  
22 rely 100 percent on Economy.com. We had a blend of  
23 Economy.com and Global Insight when we did our forecast,  
24 and those economic drivers were actually higher than the  
25 Economy.com. So there is some difference in our forecasts

1 due to that. It is really hard for us to attribute how  
2 much of a difference there is due exactly to that.

3 COMMISSIONER BYRON: But can we assume they are  
4 more optimistic about economic recovery?

5 MR. VONDER: Economy.com at that time was less  
6 optimistic --

7 COMMISSIONER BYRON: I am talking about your  
8 forecast.

9 MR. VONDER: Yeah, the blend of our economic  
10 drivers were more forward looking, I mean, well, they are  
11 higher than theirs. The other area that I would like to  
12 comment on is, well, many years ago, and I will not say how  
13 many years ago, but my wife taught Kindergarten and I  
14 taught college, and we would prepare for class the night  
15 before, and she would always tell me that, you know, she  
16 taught beginnings, and I polished her students years after,  
17 and what she did was really far more important than what I  
18 did. And when you teach beginnings, I have to agree with  
19 her, that beginnings are very very important. And in the  
20 world of forecasting, beginnings are very very important.  
21 And we have really made a concerted effort to work with  
22 staff, making sure that they have good history data for our  
23 service territory, and that, in our models, we used 2008  
24 actuals, and staff did not. And so we have been working  
25 hard with staff to try to help them get a good set of

1 historical data for our service territory, and incorporate  
2 2008, if they can. And we are working on that. We have  
3 made some progress. And they have been very willing to use  
4 the information that we are providing, and so thank you for  
5 that, and we pledge to continue to work in the future  
6 perfecting that body of data because I think it is to  
7 everyone's benefit to do that.

8           The other area of difference is in the energy  
9 efficiency area. And in our forecasts, we did include  
10 assumptions about uncommitted energy efficiency in the  
11 future years. But when we prepared our forecast documents,  
12 filled out the forms, we did indicate on those forms the  
13 level of uncommitted energy efficiency that we assumed in  
14 our forecast. So Tom was able to use that information to  
15 try to pull out part of what we had put into our forecast  
16 that is uncommitted, so that it would be comparable to what  
17 they had, or what they claim is in their forecast, which is  
18 just the committed. So you can see there that, once you  
19 pull that out, there is a difference between our before and  
20 after, and it kind of looks -- you are going to hear this  
21 term "hockey stick," probably, quite often throughout the  
22 day. But by pulling that out of our forecast, you can see  
23 that we have somewhat of a hockey stick. It is a kind of a  
24 hockey stick for a hockey player with short legs, but it  
25 does have the resemblance of one. And staff's forecast

1 theoretically, now, should look like a hockey stick since  
2 they, too, do not have a full compliment of uncommitted DSM  
3 in their forecast. But it looks a little straighter, more  
4 like a pool cue. So we are really looking on trying to  
5 understand uncommitted and we really have to applaud  
6 staff's effort in trying to sort out the EE impacts and  
7 standards impacts in the history. There has been a working  
8 group that has been working very hard, CEC has been an  
9 integral part of that working group in trying to sort it  
10 out, and we certainly applaud their effort, and I think  
11 they have made a lot of progress. We are still trying to  
12 read the report and still trying to understand how it is  
13 all getting sorted out, but hopefully, like we are helping  
14 them with actuals on the consumption and peak side,  
15 historical and current year, we are hoping that they can  
16 help us sort out historical energy efficiency impacts.  
17 They have done some things like apply realization rates to  
18 history, and we would like to develop a good history of  
19 energy efficiency impacts. And that kind of accounts for  
20 the differences. We want to continue to work together to  
21 build a better forecast. So thank you.

22 COMMISSIONER BYRON: Mr. Vonder, if you will stay  
23 up there for a little bit. Let's have a little discussion  
24 around this. Did you want to respond, Mr. Gorin?

25 MR. GORIN: I wanted to mention one thing that I

1 forgot to mention, and the reason that I put San Diego  
2 first in this comparison is they were the only ones that  
3 had a clear -- that submitted forms that had a really clear  
4 demarcation of what uncommitted in commercial and what  
5 uncommitted in residential was, so I could make these  
6 comparisons at both the residential and commercial level.  
7 I have been in contact with Edison and we are trying to  
8 resolve those issues right now on a way to look at what  
9 portion of uncommitted would be attributable to residential  
10 and commercial, and maybe helpful to hopefully make  
11 comparisons at a finer level for forecasts for those two  
12 types of forecasts.

13           COMMISSIONER BYRON: Let's drill down just a little  
14 bit more on these differences that exist. I am a little  
15 bit confused, and I am sure Mr. Gorin can explain why it is  
16 that, you know, disagreement on the '08, and I think you  
17 said the '07 actuals, or what Mr. Vonder referred to as the  
18 "starting points."

19           MR. GORIN: I do not think we -- we had maybe a  
20 disagreement on self-generation for '07. I think the  
21 numbers, the green and the red numbers for 2007, are pretty  
22 close except for 2001, and that is -- or 2000, which may be  
23 some self-generation problem. I think the real differences  
24 in 2008, we have not included 2008 sales, and that would  
25 increase our forecast line, if you will, up to their level.

1 And I have put a chart together that had that, but I  
2 thought that was one too many lines in the chart. That  
3 would indicate, I think, that our forecasts probably cross  
4 out in 2011 and 2012.

5 MR. VONDER: Yes, something like that.

6 MR. GORIN: So they are pretty comparable out to  
7 that level -- I mean, out to that year. And after that,  
8 they are projecting slightly more growth than we are.

9 MR. VONDER: Yeah.

10 COMMISSIONER BYRON: Is that the primary  
11 difference, is the growth in the San Diego service  
12 territory?

13 MR. VONDER: Yes. Like I said, we are working with  
14 them to try to get that 2008 number [inaudible] [33:13].

15 COMMISSIONER BYRON: So then it is not just really  
16 the economic recovery, it is also faster growth rate than  
17 assumed?

18 MR. VONDER: It is a starting point issue -- it  
19 raises it. After they raise it, the growth rate is not  
20 much of an issue.

21 MR. GORIN: The growth rate after 2012 would be an  
22 issue. That is economically driven.

23 MR. VONDER: That is from the economics after that,  
24 Economy.com's scenario kind of levels off.

25 COMMISSIONER BYRON: Okay. I am curious back on

1 Mr. Gorin's slide 29 that showed SDG&E self-generation  
2 peak estimates plummeting there in essentially one year. I  
3 think by -- does that look like 2007? Mr. Vonder, do you  
4 have a sense of what happened there?

5 MR. VONDER: It is in the reporting. Our history  
6 does not look like that. Like Tom said, in those earlier  
7 years where that mountain is, some of the reporting that  
8 they got from the QFER data, was it -- or from the data  
9 that was being reported by the ESPs, they were reporting, I  
10 guess, higher than our records had indicated in the  
11 utility, itself. We are working on getting that correct.

12 COMMISSIONER BYRON: So the reporting in, for  
13 instance, 2005 and 2006 was higher than actual?

14 MR. VONDER: Yeah, higher than what we have.

15 MR. GORIN: If I have my facts straight, which I  
16 may not, but our -- the mountain is based on self-reported  
17 information that we get from the generators. And in some  
18 of those cases, the peak estimates were greater than the  
19 nameplate capacity of the equipment that generated the  
20 peak, and we are in the process of going through and -- we  
21 thought -- we were of the naïve assumption that there would  
22 be less than, or equal to the nameplate capacity of the  
23 equipment and, apparently, that was not the case. So we  
24 are going through and trying to clean up the data and  
25 limiting the peak capacity, the peak output of the

1 generators to the nameplate capacity of the equipment, at  
2 least. So that mountain may go away.

3 COMMISSIONER BYRON: Yeah, I suspect. Okay, any  
4 other questions? Any questions from the audience? WebEx?  
5 All right, good. Mr. Vonder, thank you very much. The  
6 agenda calls for a lunch break at this time, correct?

7 MS. KOROSEC: Yes, that is correct.

8 COMMISSIONER BYRON: I think the general consensus  
9 here is that let's go ahead and do another presentation, if  
10 the parties are here, and then we will take a break after  
11 that one.

12 MR. CANNING: Edison is here and --

13 COMMISSIONER BYRON: Please go ahead and identify  
14 yourself.

15 MR. CANNING: I am Art Canning, representative from  
16 Southern California Edison. We are probably going to have  
17 a longer discussion period than San Diego did. I have a  
18 sed rate slide and I just had two more, and I will have  
19 comments about some of the earlier slides from the staff.

20 COMMISSIONER BYRON: All right, we will take that  
21 vote as wanting to go to lunch, and then we will come back  
22 afterwards. So let's do that. Let's take a break. I  
23 would hope that we could be back and underway again at a  
24 quarter to one. I hope that is agreeable. That gives us  
25 just a little over an hour for lunch. Thank you very much.

1 We will reconvene at 12:45.

2 [Off the record at 11:38 a.m.]

3 [Back on the record at 12:50 p.m.]

4 MS. KOROSSEC: All right, we are going to go ahead  
5 and get started now. Tom?

6 MR. GORIN: I guess we are working our way north in  
7 the state.

8 COMMISSIONER BYRON: That is a nice way to do it.

9 MR. GORIN: This is for the Edison planning area.  
10 We have done, since we have returned to the forecasting  
11 arena, we have concentrated on planning areas rather than  
12 service areas, and we may change that at some time, but the  
13 geography of these keeps changing a little bit politically,  
14 depending on who is in or who is out of what balancing  
15 authority, or transmission area, or distribution area. So  
16 our forecast for Edison is 9.5 percent lower, growing to 12  
17 percent by 2018. Commercial and residential are about the  
18 same reductions of 11 percent residential, reduction gets a  
19 little bigger over time than commercial. Industrial sector  
20 goes down rapidly at first and then stages a slight  
21 comeback. Peak forecast for 2010 is 5 percent lower, and  
22 we hope that only increases to 6 percent. Per capita  
23 consumption and peak now are projected to decline and the  
24 load factor will decline. These are the numbers for the  
25 forecast years, you will note the 2007, we are starting at

1 2.5 percent lower than we projected two years ago. But  
2 peak is higher.

3           These are the basic charts that we have seen for  
4 the other utilities. We are projecting a slower recovery.  
5 Per capita consumption is -- we are projecting going down  
6 at a faster -- going down rather rapidly compared to the  
7 past. Peak is growing at about the same rate as we  
8 projected before in a previous forecast. It is just  
9 starting from a lower point. And per capita peak is  
10 relatively constant in the low rate case; if we use the  
11 mid-rate case, it is going to be half way between those two  
12 bottom lines. The load factor is projected to decline,  
13 although not as rapidly as it has in the last few years.  
14 It is projected to decline at a faster rate than we  
15 projected in the previous forecast.

16           Residential consumption is down and projected to  
17 continue to go down. Use per household is going to be  
18 flat. The CFL savings that we put in a model, based on  
19 utility -- we held the level of utility program penetration  
20 of CFLs constant throughout from -- we held it constant at  
21 the 2011 level through the end of the forecast, and that  
22 reduces use per household about six percent. So that is in  
23 large part the reason for -- a reason for the lower growth  
24 rate. And this graph, we are projecting use per household  
25 to be constant. It has grown since the energy crisis, but

1 in the '90s, there was a period when it was also constant.  
2 This is differences in the household income projections.  
3 And sort of the pattern I was alluding to earlier, that we  
4 have here in the recession and recovery, it is a slower  
5 recovery in the out years than happened in the '90s, but it  
6 has projected more of a rapid recovery in the 2012 and 2013  
7 period than happened in the early '90s. The peak grows  
8 about the same rate as we projected in the past, it just  
9 start from a lower peak based on current analysis that we  
10 have been doing on current weather-adjusted peak numbers.  
11 And peak use per household goes up because of the people  
12 that have air-conditioners, we feel, are still going to be  
13 using them at a similar rate. Commercial consumption, sort  
14 of the same story, starts at a lower rate. There is less  
15 projected floor space and increased compliance with  
16 lighting standards. We are starting from a 2007 value of  
17 commercial building consumption that is lower than what we  
18 had projected in 2007. And we are projecting an increase  
19 at a lower rate. The floor space projections that we  
20 currently have in the draft forecast are increasing at a  
21 lower rate than we had in the past, and that in part drives  
22 the lower commercial model consumption forecast. We are  
23 projecting a future decline in use per square foot because  
24 the lighting standards in the new buildings that are being  
25 put up are much more efficient than the ones that are being

1 torn down. The commercial sector peak follows essentially  
2 the same pattern as the energy forecasts, but the  
3 difference of growth rate is slightly higher than the  
4 energy forecasts. Peak use per square foot declines as the  
5 consumption use per square foot declines.

6 Industrial sector kind of falls off the table in  
7 the early years at the starting point and recovers through  
8 maybe 2014, and then is projected to remain constant,  
9 relatively constant, for the remainder of the forecast.  
10 Yeah, industrial sector peak is actually lower than we  
11 projected before, but it is projected to increase a little  
12 bit in the mid-term, and then remain constant.

13 The other sectors are 13 percent of the total, the  
14 TCU model, Transportation, Communications and Utilities.  
15 It is 5 percent agriculture and water pumping, it is 4  
16 percent -- 3 percent mining, and 1 percent street lighting.  
17 Two of those forecasts with the biggest difference are the  
18 TCU model, which has a lower starting point in mining and  
19 these sectors comprise 7 percent of peak. This is a TCU  
20 forecast. We are projecting a slower growth rate because  
21 of the economic drivers we are using. And peak is starting  
22 from a slightly lower point and growing at about the same  
23 rate to the mid-term and then trailing off with the  
24 economic indicators.

25 And these are the tables of savings by category

1 that we have put in the chapters for the forecasts. There  
2 are detailed -- more detailed tables in the forms online.  
3 We have similar problems with the self-reporting of non-pv  
4 self-generation with Edison. I have talked with the people  
5 from Edison and we are gong to get together and try to  
6 resolve some of these historic reporting issues to try to  
7 come to a better agreement on what total consumption was in  
8 the historic period.

9           Uh, I made the same -- or attempted to make the  
10 same adjustments to forecast comparisons with a SCE  
11 forecast by removing the 2009-11 programs. I was only able  
12 to do that at the total system level. Basically, this is  
13 the same story, maybe a little bit more pronounced, that we  
14 had for San Diego, their expected growth in years past.  
15 2012 is greater than our expected growth. Their unmanaged  
16 forecast is returning to growth levels that we experienced  
17 coming out of the energy crisis, so we should -- we will  
18 probably have discussions about those differences, I would  
19 guess. My view is that the majority of difference comes  
20 from the forecasts in the commercial sector. Their  
21 unmanaged forecast suggests -- or actually, maybe it is  
22 their managed forecast -- is projecting growth in the out  
23 years that our current forecast is not. The residential  
24 forecast, there is probably less difference. I mean, there  
25 is a big drop in 2009, I believe. And in the Edison

1 forecast, there is probably a starting point difference  
2 that we should try and resolve for residential forecasts  
3 for 2008. And we are working on that with processing the  
4 2008 QFER data. If the residential forecast was benched to  
5 the 2008 value, it would raise it up and we would not have  
6 the decline, I think, in 2009, that they have; but the  
7 ending point would be the same because, after the  
8 recession, they have faster growth.

9 Peak forecast, there is not such a great  
10 difference, there is a difference in history of the 2008  
11 value, I believe -- 2007. We, for the revised forecast,  
12 will probably try and resolve that difference and that may  
13 have an impact on our calibration, which may raise our  
14 forecast some. With that, are there questions? We could  
15 have Edison's presentation.

16 COMMISSIONER BYRON: Yes, and we do want to hear  
17 from Mr. Canning. A couple quick questions to make sure we  
18 are all on the same page. And I go all the way back to the  
19 title page, SE Planning Area Forecast. Is there any  
20 possibility that we have an error in what is in our  
21 planning area vs. their planning area, and if you can  
22 attribute to that, otherwise we will wait for Mr. Canning  
23 to speak.

24 MR. GORIN: Mr. Canning can probably contribute to  
25 that better than I can.

1           COMMISSIONER BYRON:  And also these  
2  discrepancies, these differences in history, that also is a  
3  little bit of a concern, too, because that -- if you cannot  
4  get the past right, it always raises doubts about our  
5  ability to forecast, so those two issues.  Could you  
6  comment on those just briefly before Mr. Canning speaks?

7           MR. GORIN:  What I tried to do to make a comparison  
8  from our forecast to theirs is I benchmarked our forecast  
9  to their values in 2007.  And for planning purposes, I  
10 think, for the resource adequacy results, we do a very  
11 detailed break-out of the utilities in the planning area.  
12 And Edison is approximately 90 percent, SCE is  
13 approximately 90 percent of the SC planning area.  There  
14 are --

15          COMMISSIONER BYRON:  That is all right, you do not  
16 have to list them all, but --

17          MR. GORIN:  Well, some of the largely -- the  
18 municipal utilities are included in the planning area, and  
19 not in the service area, if I am right.  The peak -- what  
20 was interesting to me is the peak history is about the  
21 same.  There is not as big a difference in the peak as  
22 there is in the sales, when I benched them.  And --

23          COMMISSIONER BYRON:  All right, well, my question  
24 was, are we confident we have the same -- the areas in both  
25 their forecast and ours?

1           MR. GORIN: I think we are for Edison. PG&E may  
2 be a different kettle of fish because of the contractual  
3 arrangements.

4           COMMISSIONER BYRON: Okay, Mr. Gorin, thank you.  
5 Let's go ahead and let Mr. Canning present their results.  
6 Mr. Canning, I note before lunch you indicated you had more  
7 slides and perhaps more controversy, and so we are  
8 certainly interested in hearing from you. But I will  
9 concede right off the bat that this is a very big  
10 difference, this forecast, vs. the previous forecast by  
11 this Commission, and we certainly want to understand any  
12 differences you might have and what you agree and disagree  
13 with in this forecast.

14          MR. CANNING: Okay. I have a basic set and then we  
15 added two more additional slides on, which were just  
16 getting up to date. So the Commission has made big  
17 downward adjustments. We recognize the recession is going  
18 on. We agree with that, and you will see slides later on  
19 where we are pretty much in agreement.

20          COMMISSIONER BYRON: All right, we are all in  
21 agreement there is a recession.

22          MR. CANNING: Yeah, in the load forecasts, even,  
23 for those three years. But what we are concerned about is  
24 the long-term growth, meaning after 2010, there seems to be  
25 a big difference, and we do not see the economic source of

1 that. Now, this morning, it sounds like a lot of it is  
2 this naturally occurring conservation, which I am a little  
3 unclear about, and there may be some issues on model  
4 calibration, that Tom and I have discussed, too, that some  
5 of the data they are using on that self-gen looks  
6 suspicious.

7           Okay, the first one, here is -- we just took a look  
8 at what the CEC was presenting to us, what the staff were  
9 presenting. So we looked from here, from several different  
10 periods. And '91 to 2001 was a trough to a trough,  
11 economic trough, in '91 there was a recession, in 2001  
12 there was a recession, and we said, okay, let's look across  
13 similar -- that is a better comparison going from '90 to  
14 2000, which would be from a recession to a peak. So we can  
15 see the growth rates there, and I have just highlighted  
16 down from 2010 to 2020 from the data that was sent to us,  
17 the 2009 IEPR forecast with CED forecast, you know, the  
18 households are the same growth rate. The income, real  
19 income, was actually at a higher growth rate from that  
20 period, and this -- 2007 is probably -- 2010 to 2018, but  
21 we use that period there. And then floor space is a little  
22 bit lower. But, you know, we looked at this and we said  
23 this is not a source of a big reduction in the long-run  
24 forecast growth rate. So I am really worried about the  
25 2010 to 2020 growth rate, that is what I am trying to show

1 here. That seems to be the bigger issue. Let's go on  
2 here. Here is the retail sales forecast, so if the  
3 economics are not too much different, we look at the 2010  
4 to 2020 forecast that are highlighted there from the last  
5 CED forecast, this one dropped from 1.4 down to .8 only,  
6 and then somewhat of a drop on the peak. And, again, here  
7 I picked periods that sort of modeled the economic series,  
8 only after I looked at this this morning I said, oh, 2001  
9 was not a good year because that was a crisis on top of an  
10 economic recession, so it was really double counting. I  
11 gave that period a very low reported growth rate. I would  
12 probably rally -- maybe shoot '89 to '99, that would be  
13 sort of a peak to peak. But I am trying to get what the  
14 long-term growth actually has been. But in any case, the  
15 recovery period after 2010 seems to be where there is a big  
16 shift in the forecast, and yet I did not see that big a  
17 shift in the economic factors that I looked at. And we  
18 have gotten more information today about some more of the  
19 detail on the economics than we had earlier. So these two  
20 graphs really are pretty much what Tom has already showed  
21 you, the shift between the CED from the last forecast to  
22 this one, and actually I am going to skip right through  
23 them because, that was energy, this is peak, the next one  
24 gets a little bit more interesting. This is us vs. -- our  
25 most recent forecast vs. the CED forecast, the current one.

1 This is peak demand. I was very gratified when, for the  
2 Resource Adequacy Analysis, I saw that your weather-  
3 adjusted peak for 2008 was within 10 megawatts or 20  
4 megawatts, or something like that, of ours. I said,  
5 "Finally, finally, after all these years, we finally have  
6 an equal starting point." So that was good news. And I  
7 thought you would be using that as a starting point here,  
8 and you are shaking your head, no, that was not your  
9 starting point for this forecast? The 2008 weather-  
10 adjusted?

11 MR. GORIN: Yeah, that was the starting point.

12 MR. CANNING: Okay, well, in any case, we were  
13 equal on that. You can see on the graph that we are pretty  
14 much the same through 2013, and then, after that, we show  
15 faster growth than what the staff is showing. So here we  
16 are going to really compare that second decade between  
17 Edison and the staff. The top row are the economic  
18 indicators showing that Edison has a tenth a percent higher  
19 growth in households, real income just three-tenths a  
20 percent higher, really not much, and a tenth on floor  
21 space. This is slightly higher, not enough to justify that  
22 big a difference in the forecast because, if you look at  
23 the bottom section there, the retail sales, and there is a  
24 little bit -- well, no, the retail sales should be the same  
25 definition, although you include the resale cities in with

1 ours, so then we just took the growth rate there.

2 COMMISSIONER BYRON: Where do you get your rates,  
3 your growth rates?

4 MR. CANNING: So my growth rates are off our  
5 forecast that we just -- it is an updated forecast we  
6 presented just a week or two ago --

7 COMMISSIONER BYRON: But what is the basis for the  
8 1.8 percent retail sales?

9 MR. CANNING: Starting from our 2010 forecast to  
10 our 2020 forecast, we are forecasting 1.8 percent growth  
11 and, looking at staff's forms, they are forecasting on  
12 retail sales 0.8 percent growth.

13 COMMISSIONER BYRON: Yes, and staff answered my  
14 question as to where they get their 0.8 percent. Where do  
15 you get your 1.8 percent? Theirs comes from Economy.com --

16 MR. CANNING: Oh, the economics, oh, we get it from  
17 Global Insight. We also subscribe to Economy.com. They  
18 have --

19 COMMISSIONER BYRON: Are we reading these things  
20 differently? I am not an economist, so I do not understand  
21 how you can have a factor of 2 difference from the same  
22 material. And that question goes to my staff, as well.

23 MR. CANNING: Well, okay. The top section here is  
24 the economic numbers. We have the Global Insight forecast  
25 of April, I think it was, staff is using Economy.com as of

1 December? Is that right?

2 MR. GORIN: Right.

3 MR. CANNING: Okay, so you have got two different  
4 vendors, slightly different timing. The real income  
5 difference, 2.5 vs. 2.8, that is probably in the bandwidth  
6 of what people can forecast out that far. And, of course,  
7 for floor space, it is close enough, so those really are  
8 not very different.

9 COMMISSIONER BYRON: Well, I was looking at retail  
10 sales which are --

11 MR. GORIN: Maybe I can clear this up. Retail  
12 sales is their forecast of consumption, it is not the  
13 economic --

14 MR. CANNING: Thank you, Tom.

15 MR. GORIN: -- retail sales.

16 MR. CANNING: I am sorry, we did not label this.  
17 This is a last minute graph. So the top half is economic  
18 indicators, the bottom section is our electricity sales.  
19 That is why there is a such a big difference, and so our  
20 forecasts are different because we forecast those. We did  
21 not get that from somebody else. And a fairly big  
22 difference, again, in the peak demand out there. Let's see  
23 if this next slide -- okay, here is where we took -- we  
24 just took the total forecast for planning area megawatt  
25 hours and divided it by household, and then we calibrated

1 their numbers because planning area is bigger than service  
2 area, it includes MWD, which is a fair amount of kilowatt  
3 hours, and the resale cities, so we just calibrated to the  
4 same 2007 point, I think it was, and the history matches  
5 pretty closely. You can see the forecast, this is megawatt  
6 hours per household. So this is dividing all the megawatt  
7 hours for the whole system by the number of households. We  
8 are pretty much matched to 2012, 2013, and then they head  
9 north and they head south. There is something going on  
10 here, so if this is this natural occurring -- because the  
11 economics are not that much different -- I do not  
12 understand how we can be that far different if we are that  
13 close for the first four years, our economics are that  
14 similar, and yet this intensity measure right here looks so  
15 much different. I have got the additional dotted line  
16 there that shows without electric vehicles, which does  
17 impact the forecast, as you get in the out years, we had  
18 assume quite a bit of plug-in hybrids coming along. And  
19 the next one? Okay, we are going to pull up another set of  
20 slides that we just had my staff send up this morning.

21           Okay, so I called my staff and said, "Listen, take  
22 a look at our kilowatts per household." So here we are  
23 actually looking at usage per household, calculated our  
24 history, their history, and compared the forecast. So the  
25 histories compare fairly well, with the exception of the

1 last two years, and we will have to check data on that.  
2 You will notice the Edison forecast, which is the lower  
3 one, drops through 2011. That is sort of the bottom of the  
4 recession for us, as well as the lag effects of price  
5 increases that are coming along, and after that with income  
6 growing, we say that usage per household will start to  
7 increase again. Now, if I went off into the graph, it  
8 would certainly have to flatten off at some point in time,  
9 but we said there is going to be a recovery in usage per  
10 household after the recession and when income starts  
11 growing again. People will spend that income. And some of  
12 it goes into electricity use. In there, it -- we  
13 incorporate whatever naturally occurring conservation  
14 occurred in the past; the model expects that to happen into  
15 the future, too. And the other difference is this contains  
16 our uncommitted conservation savings in the future, so that  
17 is even a little bit more of an exaggeration. Without  
18 that, our line would be a little bit higher, as would the  
19 history. I mean, what we do is we go back to the beginning  
20 of the 1990 and we add back in, from 1990 on, the  
21 conservation savings that occurred each year. And we run  
22 the regression on that higher series. So I just did not  
23 have time to go ahead and plot that in to show that, okay,  
24 it is a higher historical series of growth rate, and it  
25 will be a higher forecast, too, because that includes what

1 would have happened if it had not been for conservation  
2 programs. In any case, we have got slightly increasing  
3 electricity prices and a slightly faster income growth, but  
4 the same household growth, and you can see a big difference  
5 in the shape of the forecast; we go a little bit deeper in  
6 the recession and then we come out, and the staff stays  
7 right there at a flat level. Yeah, and I guess -- I have  
8 asked Tom for additional information, so maybe we can work  
9 and find out where this is coming from, but this just did  
10 not match when I compared the economics.

11           Here is a comparison of kilowatt hours per square  
12 foot in the commercial sector. Here, we do have a  
13 definitional difference in our recorded history. We record  
14 commercial by the way we reported in the financial reports,  
15 and Tom uses it by SIC code, and those are two slightly  
16 different groups of customers, so the histories are going  
17 to be different. I did not try to match them here. But  
18 what is dramatic here is the kilowatt hour intensity in the  
19 staff forecast dropping, where we have got certainly flat  
20 for about five years there, as do the effects of the  
21 recession, and before we start coming out, but then a  
22 slight increase after that. And Tom pointed one time to  
23 the mid-'90s, well, you can see in the mid-'90s during the  
24 worst of the aerospace recession, the kilowatts per square  
25 foot on our data is increasing pretty fast. It is not to

1 say this is going to be the same sort of recession at all,  
2 but it can happen. So these two sectors and these usage --  
3 these energy intensity in the residential and commercial  
4 sectors appear to be the source of difference. So a couple  
5 comments. Tom has told us that he has reduced the forecast  
6 because he has assumed the lighting standards will be more  
7 effective in the future. Well, we have assumed that  
8 lighting standards will continue to be as effective as they  
9 have been in the past, and we have actually in our  
10 forecast, because it subtracts out the uncommitted  
11 conservation, we have deducted out the forecast effects of  
12 the Huffman Bill past 2016, as well. So Tom is assuming a  
13 behavioral shift here that we are not assuming. The  
14 employment numbers in the long-run, we need to check  
15 because we should be very very close on our total  
16 employment levels, between our forecast and his, but we did  
17 not get your forecast of employment on the original tables  
18 you sent us, so we were not able to compare that. So that  
19 is one thing that I need to check on because they should be  
20 pretty close from 2010 to 2020. We are both using  
21 Economy.com. The way you have constructed your household  
22 income by taking personal income, dividing by households,  
23 then multiplying by per population per household, that is  
24 possibly -- that is what, in one of his earlier slides, I  
25 think --

1           MR. GORIN: We, this time we took per capita  
2 income and multiplied it times persons per household.

3           MR. CANNING: Okay, well, that gives you that --  
4 you are getting those roll-offs in growth of your household  
5 income index after 2011, or something like that, 2013. And  
6 we are not seeing that. If we just take personal income  
7 and divide by households, it is staying at a fairly  
8 constant growth rate. It is not rolling off the way -- I  
9 am going to try to point to one of Tom's -- but -- it might  
10 be on page 12 of Tom's pitch on us.

11          MR. GORIN: I would think it should end up as the  
12 same number, though.

13          MR. CANNING: If you look at Tom's presentation  
14 about the Edison forecast, you can see that the SC  
15 household income goes down in the recession, and we can  
16 agree with that, has a recovery, and then grows at a slower  
17 rate. It really slows down. Ours would have a recovery  
18 and then would more or less follow the forecast from the  
19 previous CED, I think. So there is -- and it might be  
20 because of the way you construct your -- your assumptions  
21 about persons per household because that enters into the  
22 equation, and that could affect this variable, which then  
23 affects residential energy consumption.

24          The other point was on self-gen, which is Tom's  
25 slide on page 30. You have been asking questions about

1 that all along. I have told Tom that is not what happened  
2 at Edison. Tom has been using data as self-reported by the  
3 generators; we go out and our account managers, well, when  
4 a person wants to put a self-generator in, they have to get  
5 an energy connection request from us, we find out all the  
6 information, and we know when that machine came in online.  
7 We do not know its actual total production behind the  
8 meter, we are not allowed to meter that, but we can  
9 estimate that. We know when the machine came on line, and  
10 if they were to take it out of service permanently, we  
11 would know that also, so we can construct a historical  
12 series of estimated self-generation that I think will show  
13 a very different picture. You will not see that big  
14 decline from 2001 to 2007. Thermal co-generation did drop  
15 right after the crisis, it went up during the crisis, and  
16 then it dropped and some people found their uneconomic co-  
17 generators and they settled down, and then it has been  
18 growing at 35 to 45, 55 megawatts a year since then.  
19 Photovoltaics have been increasing and their picture may be  
20 pretty close. So this number actually goes into Tom's  
21 model as a recorded part of a consumption, which he models.  
22 So if we change this, we are changing his history, and it  
23 will change his model, which will change his forecast,  
24 also. I hope that makes sense, but when you actually start  
25 changing the historical data, and his model is trying to

1 track that, this is going to change -- this is going to  
2 shift the shape of the recorded data that he has got in his  
3 model. So we have agreed we are going to work together and  
4 given how we have -- the list of customers that we have  
5 said have come in, and how we have built our annual self-  
6 generation estimates.

7           Yeah, and with that, Tom has agreed also we will  
8 look at the model calibration factors, which in past years  
9 we had an issue with, so he will show us what the actual  
10 recorded data was, first what the model predicted for each  
11 year in history, and sometimes there is a bias to the  
12 trend; and if there is not, great, but that has happened in  
13 past years. So we have got more exploration to do to try  
14 to see if we can find out a little bit more why -- we can  
15 correct some differences, perhaps. And then this issue  
16 about the naturally occurring is still something that, as I  
17 saw the size of it, it looked, you know, it has increased  
18 from 2008 to 2020, that is half as much as what the utility  
19 programs would be, it is a very large increase in naturally  
20 occurring. So when they come back in the next workshop and  
21 bring in the incremental EE, then I supposed a lot of that  
22 will be overlap, but right now that just looks like a big  
23 source of the difference in the forecasts.

24           COMMISSIONER BYRON: Wait, I want to understand,  
25 make sure I understood what you just said. So a big source

1 of the difference in the forecasts is this -- what you  
2 said was incremental EE, do you mean the uncommitted EE?  
3 Is that what you meant?

4 MR. CANNING: Well, right now in their forecasts,  
5 they have the naturally occurring, which is growing at a  
6 fairly fast rate. We do not know what their incremental EE  
7 is going to look like, how much it will be in comparison to  
8 ours. So we are going to have to wait and see that. In  
9 other words, we are comparing here their forecast before  
10 incremental EE, and --

11 COMMISSIONER BYRON: When you say "incremental," do  
12 you mean "uncommitted EE?"

13 MR. CANNING: Yes, uncommitted, excuse me. Yeah,  
14 so the uncommitted forecast, theirs may have a lot of  
15 overlap with their naturally occurring and it will not fix  
16 the forecast, but it will maybe explain a little of the  
17 difference there.

18 COMMISSIONER BYRON: When you do your forecast, Mr.  
19 Canning, do you go next door and check with the folks in  
20 the environmental -- excuse me, in the Energy Efficiency  
21 Program and see if you all agree on the amount of committed  
22 and uncommitted energy efficiency you are putting in?

23 MR. CANNING: We are joined at the hip,  
24 practically. We use their numbers in the forecasts and we  
25 use the numbers they have submitted to the PUC historically

1 as what has actually been accomplished.

2 COMMISSIONER BYRON: So then we can assume that the  
3 difference in these two forecasts is primarily the economic  
4 recovery and growth that you are projecting versus what our  
5 staff is projecting?

6 MR. CANNING: Yes, well, the economics do not look  
7 that much different. There is something else going on.

8 COMMISSIONER BYRON: Well, and that is what we are  
9 trying to get at the bottom of. I mean, you did say you do  
10 not understand why they are so different, but I am hoping  
11 that we might get some light shed on that.

12 MR. GORIN: I have, I guess, a comment or a  
13 question for Art.

14 MR. CANNING: Sure.

15 MR. GORIN: You said you added historic savings  
16 back to your restored consumption for utility program  
17 savings?

18 MR. CANNING: Yes.

19 MR. GORIN: And those are as reported to the PUC ex  
20 ante?

21 MR. CANNING: Yes, ex ante because I do not think  
22 there is any ex post as the way the PUC defines it.

23 MR. GORIN: So they are not ex post verified, so  
24 what would happen to your results if what we seem to be  
25 finding now, that the programs do not quite save as much as

1 they were originally built to save? That would reduce  
2 the historic -- your estimate of historic consumption,  
3 right?

4 MR. CANNING: Yeah, it would reduce our estimate of  
5 historic consumption, it would lower the equations, and if  
6 you apply that same forecast to the forecast of EE, then it  
7 is probably going to wash out, actually, as far as the  
8 ultimate sales forecast.

9 MR. GORIN: Well, that would -- wouldn't that lower  
10 your trajectory of projected consumption?

11 MR. CANNING: It would lower your trajectory of  
12 projected consumption, included committed and uncommitted  
13 EE, yes. But then it is also, if you have some sort of  
14 reduction factor, and apply that to the forecast period,  
15 too, then it will reduce the amount of uncommitted EE, and  
16 so the final sales forecasts might not change that much.  
17 It might come down some because there is so much more  
18 conservation going on in the future.

19 MR. GORIN: And then, okay -- we can probably --  
20 should probably talk about that more and try to make some  
21 resolution to it.

22 MR. CANNING: Okay, well, like I say, the other  
23 thing that seems to be in there is your assumption on the  
24 compliance -- commercial customers for the lighting  
25 standards. That seems to be a big source of the shift in

1 the commercial forecast, which does seem to be where we  
2 are most different.

3 MR. GORIN: Right. I did look at our report and  
4 our persons for household projections for Edison, which I  
5 left off of the slide show in the interest of brevity, we  
6 are projecting a slight decline over what we did before, so  
7 that would lower the household income projects because  
8 there are a tenth of a person less per household. But that  
9 is, going out, it widens that gap.

10 MR. CANNING: Yeah. The other thing that is going  
11 on right now is certainly vacancy rates are up and, so,  
12 when you start doing commercial kilowatt hours per square  
13 foot, we actually put it in an occupancy factor to try and  
14 account for that because, obviously, if you take the  
15 recorded kilowatt hours and divide by the existing square  
16 feet, a lot of which are vacant, you are going to show a  
17 drop in intensity that is really fictitious. Well, it  
18 certainly is biased, or I do not know what it is, but you  
19 have got a lot of empty buildings out there. If the square  
20 feet are being counted and not the kilowatt hours, that is  
21 going to affect it, so we have tried to adjust the  
22 commercial square footage on the commercial side; on the  
23 residential side, we used active residential meters, so  
24 those are called "accounts," or "customers," active  
25 customers, rather than households. So the household

1 number, if you have not got a vacancy rate in there, then  
2 you are going to show a little bit higher households and a  
3 lot of which are empty because of the foreclosure crisis,  
4 and all that, so then you are going to end up a little bit  
5 lower estimated usage over the last year or two. We have  
6 estimated what we think the vacancy rate is, and put that  
7 in there, too. So those are things we shall, yes, the  
8 vacancy rate will get -- those homes will get sold off and  
9 then they will return into service, but right now, if you  
10 do the simple division of fewer kilowatt hours by the same  
11 number of households, same number of square feet, you are  
12 going to get what looks like a declining intensity in the  
13 last two years.

14 COMMISSIONER BYRON: Dr. Kavalec?

15 DR. KAVALEC: Yeah, I had a question sort of  
16 turning this around from our forecast being low to your  
17 forecast being high. What I do not understand, I was  
18 looking at some of your numbers, and so I want to better  
19 understand your model and the way that you forecast.  
20 Looking at historical growth from '90 to '97, I see a 1.4  
21 percent increase in sales per year. And then, in 2010 to  
22 2020, you have an annual growth rate of 2.3 percent per  
23 year. Yet, at the same time, comparing the two periods,  
24 personal income growth is down, and floor space is down.  
25 So I am wondering what is driving this much higher growth

1 rate relative to 1990 to 2007 versus the forecast period,  
2 if it is not the econ demo?

3 MR. CANNING: I cannot answer that because I do not  
4 have those numbers in front of me.

5 DR. KAVALEC: Okay, we can talk about this more  
6 offline.

7 MR. CANNING: Okay, but, yeah, we should be  
8 consistent on that point. The sales forecasts should  
9 reflect the economic demographic factors going on.

10 DR. KAVALEC: Yeah, so I saw this growth rate for  
11 unmanaged is -- I mean, it is higher than it was in the  
12 late '90s in the boom period.

13 MR. CANNING: The unmanaged?

14 DR. KAVALEC: Yeah.

15 MR. CANNING: Okay, now, that is --

16 DR. KAVALEC: And the managed, too, is higher than  
17 historic.

18 MR. CANNING: Okay, well, the managed is the one  
19 that we actually produced. Tom did his best to generate  
20 the unmanaged.

21 COMMISSIONER BYRON: Excuse me, gentlemen. When  
22 you use "managed" and "unmanaged," unmanaged what?

23 MR. CANNING: With and without uncommitted EE. So  
24 he is looking at the forecast if there were no -- we only  
25 gave him the forecast deducting committed EE because that

1 is what we tell our management, this is what is going to  
2 show up on the meters. Staff wants to forecast without  
3 that uncommitted EE, and it makes the comparison difficult.  
4 If we had been as intuitive as San Diego was, we would have  
5 filed two forms, one with uncommitted EE and one without,  
6 so staff could have done an easy comparison. I did not  
7 find out about that until this morning that that would have  
8 helped them out. It is certainly something we can do, and  
9 then I could speak better to Chris' question on that  
10 because I cannot do it off the top of my head.

11 MR. GORIN: Yeah, let's talk later about that.

12 COMMISSIONER BYRON: All right, I just have one  
13 more thing I would like to wring out of this if it makes  
14 sense. Mr. Canning, earlier, like on about slide 4, I was  
15 trying to follow what you were describing with regard to  
16 looking back at earlier periods, and I believe you looked  
17 back at the '91 to 2001 period, and you were trying to  
18 match up these similar troughs and peaks and apply those  
19 rates of change to the future.

20 MR. CANNING: Yes.

21 COMMISSIONER BYRON: And then, later on, oh, the  
22 numbering is not good -- on your new page 1, you did a  
23 similar thing where you ran a regression analysis on the  
24 series beginning in 1990. So my question is really to  
25 staff here. This seems -- I am losing Mr. Gorin here --

1 MR. GORIN: I am listening.

2 COMMISSIONER BYRON: My question really is to  
3 staff. This approach where they go back and use these what  
4 they observed historically, let's say, for a period of  
5 time, trough to trough, or trough to peak, or whatever,  
6 back in the '90s, they are using a regression analysis back  
7 then and applying it now. And I am just wondering, is that  
8 the sort of thing that we do? Or is that sort of a unique  
9 approach to trying to forecast the future? I guess it is  
10 even more -- I will stop there -- do we do that same kind  
11 of thing where we go back and we look at earlier periods of  
12 time that match up, at least in their appearance, with  
13 today?

14 MR. GORIN: We try to do similar things. The art  
15 form of that is picking the years. And I have a tendency  
16 to use as far back as we can go, which is -- sometimes we  
17 look back to 1980 and growth between then and now. But if  
18 you look over the historic period, there are different  
19 reasons for different patterns of growth.

20 COMMISSIONER BYRON: Uh huh.

21 MR. GORIN: If the slide that Art had up there on  
22 kilowatt hours per square foot for commercial buildings, if  
23 you look at the early '90s, there was a lot of growth to  
24 '98. That is when the proliferation of office and computer  
25 equipment came in.

1 COMMISSIONER BYRON: Right.

2 MR. GORIN: You know, I look at our old forecasts  
3 before that period and they were done on typewriters.

4 COMMISSIONER BYRON: Well, and that is kind of  
5 where I am going with this. Isn't that kind of approach,  
6 when you use old regression analysis -- I should say  
7 regression analysis based on older data -- it does not take  
8 into consideration these kinds of factors -- more efficient  
9 appliances, a whole different kind of demand response based  
10 upon, like you say, computers instead of typewriters.

11 MR. GORIN: You know, maybe in the future after  
12 2014, there is going to be a new proliferation of some kind  
13 of energy intensive device. I think we have enough -- the  
14 computers that we have now are probably not going to show  
15 that kind of growth rate.

16 COMMISSIONER BYRON: So I think what I am really  
17 questioning, isn't this approach flawed? If you are using  
18 this kind of old regression analysis?

19 MR. CANNING: You are using "old" there --

20 COMMISSIONER BYRON: Old data, old data --

21 MR. CANNING: What it shows --

22 COMMISSIONER BYRON: -- the past.

23 MR. CANNING: -- is how people have changed their  
24 energy intensity over time. So if you look at usage per  
25 household back in 1980, it was quite a bit lower, and, yes,

1 they have added appliances over time, and that intensity  
2 has gone up. So it is not -- yeah, it is old data, but Tom  
3 runs his model on 1980s to 2007 data, too. So you are  
4 looking for the relationship between energy and the  
5 relevant economic drivers, and you are looking to see,  
6 well, did that change anywhere, but if there is a constant  
7 relationship, what is that relationship, and then assume  
8 that that holds true in the future. And then you step back  
9 and say, "Well, what outside of that relationship is going  
10 to change?" Well, energy efficiency is one of the big  
11 things.

12 COMMISSIONER BYRON: Right.

13 MR. CANNING: So you are assuming that the people's  
14 income to their home energy use has had a pattern over that  
15 period of time, that is more stable. So it is not an old  
16 pattern, it is picking up the changes in people's use as  
17 their income is going up.

18 COMMISSIONER BYRON: Yeah, I did not mean to  
19 emphasize "old," Mr. Canning, that is not my point. My  
20 point is just whether or not it is taking into  
21 consideration all the other changes that have taken place  
22 between a period of 20 years ago to today. I am just  
23 concerned that if it is not capturing all those other  
24 changes, then we are trying to forecast based upon 20-year-  
25 old trend that does not correspond to what we would see

1 today -- more efficient air conditioners, more  
2 appliances, but more efficient appliances, different kind  
3 of demand set up in an office per square foot than we would  
4 see 20 years ago.

5 MR. CANNING: So as those changes have taken place  
6 over time, that is what the econometric model is picking  
7 up, is how is that changing. If -- so the relationship is  
8 actually -- I mean, as income has gone up, people have, you  
9 know, they have bought bigger TV's and things like this,  
10 they have used more appliances. But it is not an outdated  
11 relationship.

12 COMMISSIONER BYRON: Yeah, I have made you  
13 defensive. I am trying to understand what you tell me you  
14 can understand, and that is why these are so different.  
15 And that is all I am trying to do, is just wring out one  
16 possibility here. If you have other ideas, and we will  
17 work together, that would be very helpful for this  
18 Commission to help understand why these forecasts are so  
19 different in their trends and where they end up.

20 MR. CANNING: Okay, I think the bottom line is we  
21 are pretty similar through the recession period; after the  
22 recession period, we are more similar to where they were in  
23 the previous forecast, the CED 2007, than they are now.  
24 What have they shifted? They have put in those natural  
25 occurring and they have put in the commercial compliance to

1 lighting, those seem to be the two big changes within the  
2 model that they have made, that have made the 2010 to 2020  
3 growth rate shift downward. The economics do not seem to  
4 explain it. So that is what I am -- that would be my  
5 estimate of where the changes come from.

6 MR. GORIN: I --

7 COMMISSIONER BYRON: Mr. Gorin, let's see if we can  
8 wrap this up.

9 MR. GORIN: I think they are looking at it from an  
10 aggregate sector level and we are, in actuality, doing a  
11 similar thing at a more disaggregate end-use level. So we  
12 are trying to figure out what the pattern of lighting is  
13 going to be, what the pattern of television is going to be  
14 over the future, and figuring out ways that that may be  
15 reduced. It may not be fully captured in an aggregate.

16 COMMISSIONER BYRON: Okay. Dr. St. Marie, did you  
17 have something you want to add?

18 DR. ST. MARIE: A question for Mr. Canning. Your  
19 presentation has been very good on the differences between  
20 the methods and the specific sections. Just for overall  
21 materiality, can you give me a characterization of the  
22 difference in overall megawatts of demand at peak between  
23 your forecast and CEC forecast in the year 2020, which is  
24 at the very end of this set of forecasts?

25 MR. CANNING: I am going to ask Tom if he did that

1 calculation because I am not sure that I actually --

2 DR. ST. MARIE: Twenty-one versus 19? No, that is  
3 per household. Oh, what I have got is per household.

4 MR. CANNING: Well, Tom and I are looking at the  
5 graph and I think it might be 2,000 megawatts, but this is  
6 also with, Tom pointed out, my uncommitted EE, and I need  
7 to check and see if that is really what --

8 DR. ST. MARIE: Okay, but if it is 2,000 megawatts  
9 and it is, let's say, 50 megawatts per peakers, we are  
10 talking 20 peakers -- I am sorry -- 40 peakers. Okay? So  
11 this is a material difference.

12 MR. CANNING: This is a material difference, yes.  
13 After 2013, we start to gather a bigger and bigger material  
14 difference, that is right.

15 DR. ST. MARIE: Okay, thank you very much. That  
16 was the point I was trying to get onto the record. Thank  
17 you.

18 COMMISSIONER BYRON: Well, and Commissioner Boyd  
19 likes -- he likes to permit 500 megawatt peakers.

20 DR. ST. MARIE: Five hundred megawatt peakers?!

21 COMMISSIONER BOYD: You are right. I mean, just  
22 look at our caseload. We will get 800 megawatt peakers,  
23 650 megawatt peakers, which -- as Commissioner Byron knows  
24 why he brought it up -- bothers me quite a bit.

25 COMMISSIONER BYRON: Okay, well, we digress. I am

1 sorry. Mr. Canning, thank you for much. Do you have  
2 anything else you would like to add?

3 MR. CANNING: Nope. Thank you very much. Thank  
4 you, Tom.

5 COMMISSIONER BYRON: Thank you for coming.

6 COMMISSIONER BOYD: A comment while they are  
7 changing speakers. By this time of today, I am beginning  
8 to think that Flex-Your-Power is not predicted to work too  
9 well in the future in terms of peak demand growth. It is  
10 rather phenomenal, so there may be another administrative  
11 effort that may have to be undertaken to address that in  
12 the future.

13 COMMISSIONER BYRON: And I think, is it Mr. Gorin  
14 that is continuing to head north here in his presentations?  
15 We are on to PG&E. Correct?

16 MS. KOROSSEC: If we could have your indulgence for  
17 just a moment while I load up PG&E's presentation?

18 COMMISSIONER BYRON: All right. This is the staff  
19 forecast results for the Pacific Gas & Electric planning  
20 area in comparison to PG&E's forecast.

21 MR. GORIN: Okay, this is PG&E planning area, which  
22 includes all the great majority of municipal utilities  
23 within PG&E. In the early '90s, we did a service area  
24 forecast, as well as a planning area forecast for PG&E. It  
25 may be the case, and I think PG&E would like us to go back

1 to that, and we may entertain that, there is just a lot  
2 of small parts in PG&E that are not part of their service  
3 area. But I tried to make comparison as best I could. The  
4 forecast -- here is 4 percent lower in 2010 and that grows  
5 to be 7-8 percent, led by reduction in residential use.  
6 Peak forecast is 3 percent lower, growing to 5 percent  
7 lower. Same kind of stories as you have heard previously.  
8 I probably will not belabor the point a lot. We are  
9 growing at a lower rate after 2013. Per capita  
10 consumption, now projected to decline. Planning area peak,  
11 it increases, but from a lower starting point and it is  
12 projected to grow approximately the same as our previous  
13 forecast, just from a lower point. And per capita peak has  
14 the same shape as our previous forecast, maybe tails off a  
15 little more at the end of the forecast. And the load  
16 factor continues to go down. We are projecting it to go  
17 lower than we had projected before and, as in the other  
18 service areas, a lot of the savings from residential  
19 lighting, which are not directly related to peak savings.  
20 Residential forecasts starts from a lower value and grows  
21 at a lower rate. The growth rate increases slightly after  
22 2011, but not much. Our use per household flattens out as  
23 the majority of the savings other than lighting from  
24 utility programs decline.

25 COMMISSIONER BYRON: Now I just want to make sure,

1 again, when you keep saying "PG&E", it means for the  
2 planning area?

3 MR. GORIN: Yeah, for the entire planning area.

4 COMMISSIONER BYRON: Okay.

5 MR. GORIN: Which includes entities like Modesto,  
6 Turlock, Roseville, Redding, other utilities. And in the  
7 revised forecast, we will -- and for other purposes, we  
8 break out the other utilities in their growth. But PG&E  
9 service area is approximately 88 percent to 90 percent of  
10 that planning area. Same story with income, household  
11 income. There is a greater increase in the late '90s  
12 because they had this Internet phenomena in Silicon Valley  
13 that increased household income there, and so they had a --  
14 took a bigger hit in the 2000 period. Residential peak  
15 grows at the same rate it has before. Peak use per  
16 household, same situation.

17 Commercial building sector, start slightly lower.  
18 In 2010, this increases to 7 percent. We have a noticeable  
19 drop in commercial floor space projections from our  
20 previous forecasts. This is due to the economic drivers  
21 used in the commercial forecasts and that, along with  
22 increased compliance with the lighting in existing  
23 buildings, drives down the commercial forecast over last  
24 time. And the increased compliance with the lighting  
25 drives down the use per square foot where it had been

1 constant in the past. Commercial sector peak grows at a  
2 slower rate than projected before -- partly because of  
3 reduced floor space and partly because the lighting savings  
4 affect peak in the commercial sector more than in the  
5 residential sector. Peak per square foot declines just as  
6 consumption did. Industrial sector is lower in the short-  
7 term and it has a more rapid recovery. This is the same  
8 pattern as in the other utilities. So in PG&E, the end  
9 result is about the same at the end of the forecast.

10 Industrial sector peak, we have started at a higher  
11 point based on our recent estimates of industrial peak, and  
12 that is actually projected to grow in the short-term, and  
13 then flatten out.

14 The other sectors in the forecast are only 15  
15 percent of the total. TCU sector is 5 percent,  
16 agricultural water pumping is 6 percent, mining, oil  
17 extraction is 3, and street lighting 1 percent. But they  
18 only affect 4 percent of the peak. The TCU sector is  
19 projected to increase right at the moment and that is a  
20 factor of calibration. We have -- that may decline. Our  
21 forecast for the revised forecast may come down somewhat.  
22 And the peak is higher. Same story for the efficiency  
23 savings and peak savings -- they are presented here for  
24 completeness. There are the similar historic difficulties  
25 with self-generation, although I am not sure that PG&E has

1 any information on their self-generators. I have not  
2 talked with them about that yet, as I have talked with the  
3 other two utilities. They did not file any forms reporting  
4 self-generation in their service area, as far as I can  
5 tell.

6           The comparison of the forecasts, again, with PG&E,  
7 I benched, tried to bench the two forecasts to the same  
8 starting point. And we are really just comparing growth  
9 rates from that starting point. Their sales forecast is  
10 about 2 percent higher in 2010. Their managed sales  
11 forecasts, which includes all their uncommitted efficiency  
12 programs is 3 percent higher by 3.5 percent higher by 2015,  
13 and 4.5 percent higher by 2020. When you take out all of  
14 the uncommitted efficiency savings, their forecast is 7  
15 percent higher than ours by 2015, and 11 percent higher by  
16 2020. I think the major differences are short-term growth  
17 in the commercial sector. This -- I was only able to  
18 compare uncommitted, their unmanaged forecast, which  
19 removes the effective uncommitted programs at the total  
20 service area level. All of their uncommitted programs  
21 after 2012 are unspecified as to what sector the savings  
22 come from. So you can see their unmanaged growth is a lot  
23 higher than ours; our short-term growth is about the same,  
24 and if we could adjust for 2008 starting point, our  
25 forecasts might be fairly close. The difference is that

1 uncommitted savings, for the most part. For residential  
2 sector, as far as I could tell, if we adjusted for the  
3 difference in 2008, the forecasts may be fairly similar.  
4 But we are still working on the 2008 QFER data to try to  
5 get it in our revised forecast. But commercial forecast,  
6 the PG&E forecast is growing slightly faster after 2010  
7 than our forecast. We have a difference of opinion of  
8 where the industrial sector is headed, but it looks in the  
9 PG&E service area, so this may be a source of difference in  
10 the overall forecast. They had faster recovery than we do,  
11 and they continue to increase while our forecast flattens  
12 out.

13           Peak forecast -- they are growing at a slightly  
14 faster rate and, if you look at their difference between  
15 our forecast and their unmanaged forecast, that is probably  
16 about 3,000 megawatts by the end of the period, which is  
17 noticeable. So with that, I could entertain questions or  
18 turn it over to PG&E.

19           COMMISSIONER BYRON: Mr. Gorin, let's go ahead with  
20 PG&E.

21           MR. ASLING: Well, uh, good afternoon. My name is  
22 Richard Asling and I work for the Pacific Gas & Electric  
23 Company, and I want to make a few observations and  
24 comments. And I have labeled this presentation "Work in  
25 Progress for Discussion Purposes Only" because I was really

1 putting this together yesterday afternoon after trying to  
2 read through the materials as quickly as possible. So I  
3 really do view this as an opportunity for discussion and I  
4 think it has been a lively discussion so far, I was not  
5 here for the morning session, but I think that might  
6 continue.

7           Just an overview of some of the things I wanted to  
8 talk about, so I did want to talk about the draft peak  
9 forecast. I am actually just going to concentrate on the  
10 peak forecast here. I think, as Tom mentioned in his  
11 presentation, except for some what I think are actually  
12 differences in just the definition of what the uncommitted  
13 is, actually are energy demand forecasts, they are really  
14 not that different, but when we get to the peak demand  
15 forecasts, then I think we see a pretty major difference.  
16 And I -- just like Art had spoken about -- and I do not  
17 know what Tim had to say earlier, but definitely following  
18 up on Art, it is the only thing I am going to focus on, is  
19 that there seems to be this very large disconnect between  
20 the historic period and the forecast period, and I do not  
21 see anything in the model inputs that justifies that degree  
22 of departure. Now, I am not saying that the future is  
23 going to be a perfect replica of the past, but I just do  
24 not see the justification for the type magnitude of the  
25 drop that is in the draft forecast. And when I looked at

1 it, I saw -- and I will highlight this a little bit  
2 later, what I saw was that the primary differences were  
3 really in two sectors, one is the commercial sector and the  
4 other is the agricultural sector, that looked like that was  
5 where the bulk of it was. And the drop in the commercial  
6 sector appeared to be driven primarily by this new floor  
7 space forecasting model, and I call it "new" because when I  
8 was reading the report, it looked like it was something  
9 that you had developed just very recently, this might have  
10 been the first test of it. So it is a new floor space  
11 forecasting model. And the other thing was it looked like  
12 the agricultural growth was just an assumption, assuming  
13 zero growth in agricultural peak -- after a certain point  
14 in the forecast, it was just locked in at this one number.

15 MR. GORIN: I still need to check.

16 MR. ASLING: Subject to check. I also wanted to  
17 just keep sort of mentioning that I think the level of all  
18 of the forecasts are too low because the temperature  
19 statistics that are used to set the one and two recurrence  
20 level, so the base case temperature that is used for these  
21 forecasts is based on historical data. It does not take  
22 into account the effects of climate change and there are a  
23 number of studies that have been sponsored by the  
24 California Energy Commission that are on the California  
25 Energy Commission website, which suggests that, if one

1 changes to temperature statistics which are based on  
2 climate change modeling, peak load forecasts, for example,  
3 will probably increase at this base case level, the one and  
4 two recurrence interval, will probably increase between 200  
5 and 500 megawatts, just by incorporating a temperature  
6 statistic which takes into account climate change.

7           And lastly, I want to spend just a little bit of  
8 time talking about the process because I think the process  
9 could take more advantage of the amount of expertise that  
10 is available in the forecasting than it currently does.  
11 And I do not know, I have said this so many times, I guess  
12 -- maybe I will make a commitment that this will be the  
13 last time I will say this, but the end-use model that the  
14 staff is using cannot be verified by any other stakeholder.  
15 So no stakeholder that is going to be using this forecast,  
16 or is commenting here today, can actually verify the  
17 forecasts that are being presented here, nor can we verify  
18 the estimates of the embedded energy efficiency savings.  
19 So what we really have is a report and a string of numbers,  
20 and that we have to just take that, and then try to look at  
21 that and see, okay, does that make sense logically? But we  
22 cannot actually vet the model itself. So the thing I want  
23 you to really look at here is -- if I had a laser pointer,  
24 I might be able to pull this off, but I am just going to --  
25 well, I will just describe it. So if you look at the

1 bottom part of this table, which is the PG&E forecast,  
2 what you will see is that, in the historic period, 1990 to  
3 2000, and also 2000 to 2007, the growth rate is very  
4 consistent, very consistent, it is around 2 percent. And  
5 then, yeah, of course we have a drop there in this  
6 recessionary period, and we have a pretty much very similar  
7 drop to what is in the draft forecast for this period, but  
8 then what happens is, after the recession, in 2010 to 2018,  
9 the growth rate in the draft forecast here is about half  
10 the historical growth rate. I am going to really focus on  
11 that. So the question is, why is that? So when you look  
12 at another table that was in the report, I just took a  
13 little excerpt from that table and added another -- this  
14 data was in the report. So this is the growth rate by the  
15 various segments of the market, so growth rate for  
16 residential peak, commercial peak, industrial and  
17 agricultural and other, and then total demand. And again,  
18 what I want you to concentrate on here is to look at two  
19 things, really, one is the historic growth rate, 1990 to  
20 2007, you know, pretty much the same as what you saw in the  
21 previous table. So it is close to 2 percent. And then I  
22 want you to look at two things here, one is that, in the  
23 forecast period -- oh, I also want you to look at in the  
24 historic period, residential and commercial, they are very  
25 close. The growth rate is very very close. Residential

1 and commercial are moving together in the historic  
2 period, and that is pretty much the case throughout the  
3 historic period, residential and commercial tend to move  
4 together. But in the forecast, residential drops from just  
5 a little bit over 2 percent to just under 2 percent, but  
6 commercial drops from being 2.5 percent to being about one-  
7 half percent, so that is a 75 percent decline in the  
8 commercial growth rate from the history to the forecast  
9 rate. So two things are happening here. One thing is the  
10 growth rate in commercial is dropping dramatically from the  
11 historic period, and the other thing is that the growth  
12 rate in commercial has somehow disassociated itself with  
13 the growth rate in the residential. And I question that.  
14 I really question that. The other thing is, what you see  
15 is agricultural growth, it goes from being about 1 percent  
16 per year to being zero. That is a 94 percent drop in  
17 agriculture. And just to put this in perspective, so those  
18 two classes, commercial and agriculture, make up about 40  
19 percent of the total peak load, so if you are off on those,  
20 you are going to be off on the total. So it is not trivial  
21 segments for PG&E. So what I would just request is that  
22 staff really take a look at that commercial forecast, and  
23 then really take a look at the assumption about  
24 agricultural growth. And really, just thinking in terms of  
25 -- you know, to me, commercial floor space, for example, is

1 very much linked in the long-term to growth in  
2 households, growth in population, because growth in  
3 households and growth in population are in turn linked to  
4 employment, and employment is linked to commercial floor  
5 space, so they have to be moving together, and if you are  
6 forecasting them over the long-term to not be moving  
7 together, then I think you need to question whether that  
8 forecast makes sense because, in the history, they do move  
9 together. And the other thing is that Ag, over the last  
10 several years, has actually been, I think, by percentage,  
11 the fastest growing peak. And the reason for that is  
12 because there have been a lot of water cuts from the  
13 flowing water, and there has been a lot of conversion from  
14 diesel and natural gas pumps to electric pumps to reduce  
15 greenhouse gases, and that is likely to continue. And it  
16 will probably take a while for California agriculture to  
17 adjust to that, so that the crop rotation and things like  
18 that become different adjusting to the lower flowing water  
19 supplies. But I think to have a no-growth in agriculture  
20 peak does not make a lot of sense, either.

21 Here, I am just trying to kind of look at what the  
22 difference is and the economic drivers, and the primary  
23 one, as I mentioned earlier, is that the growth in  
24 commercial floor space from the historic period, it is a  
25 fairly long historic period, 1992 to 2007. So this is not

1 a historic period in which there was a recession or there  
2 was a big boom, this is a long period of time. During this  
3 period 1990 to 2007, I am trying to remember, but I think  
4 we had one, two, three, I think about four recessions in  
5 this period of time, so it is a pretty long history there,  
6 and it is showing that growth in commercial floor space in  
7 the history is about 2 percent, and then growth from the  
8 forecast model, over the period 2010 to 2020, so, again,  
9 after we are over the recession, hopefully, it is down by  
10 33 percent. And at the same time, household population, it  
11 is only down by 6 percent -- household, or actually up by 2  
12 percent, things like that, so again, there is this kind of  
13 disconnect. So that is all I wanted to point out there.

14 Chris and I, we exchanged many voicemails, but  
15 never were able to connect on this table right here, so I  
16 am still a little bit confused by this table. You probably  
17 explained it this morning -- or are you going to explain it  
18 later?

19 COMMISSIONER BYRON: Dr. Kavalec, unfortunately,  
20 you have to either put the mike in your hand, or turn your  
21 back on the speaker.

22 DR. KAVALEC: Basically, that is the break-out of  
23 our different sources of savings by sector. Did you have a  
24 specific question about it?

25 MR. ASLING: Well, just, you know, maybe you can

1 take a look at this slide, it does not have to be now, or  
2 we could talk later, but I just wanted to make sure I  
3 understood it, but essentially what I was trying to point  
4 out here was that, you know, the drop in commercial, as far  
5 as I could tell, it does not seem to be due to a  
6 difference, you know, a larger amount of energy efficiency  
7 in the forecast period that is in commercial, than in the  
8 historic period, because when I look at this table and I  
9 calculate the average annual commercial and agricultural  
10 energy efficiency savings from 1990 to 2008, I get 47  
11 megawatts per year, and when I look at the forecast period,  
12 2011 to 2020, I calculate 20 megawatts per year. So I am  
13 just trying to, again, just reiterate this observation --  
14 commercial peak growth goes down by 75 percent, and the  
15 floor space drops by 33 percent -- I question that, also,  
16 but -- that is only 33 percent, so that is less than half  
17 of the drop in the commercial peak growth. But actually,  
18 commercial and agricultural energy efficiency savings were  
19 60 percent higher in the historic period than they are in  
20 the forecast period. So I am just following up on this  
21 notion that I do not see the rationale for the big drop in  
22 commercial, and the big drop in commercial is really  
23 driving the big drop in overall forecast.

24 COMMISSIONER BYRON: That is a very helpful  
25 observation.

1           MR. ASLING: And this slide is really wordy. I  
2 will try to just hit the key points. I talked a little bit  
3 about incorporating global climate change into the  
4 temperature statistic and what impact that would have. So  
5 one, just to sort of give an example of what is going on  
6 with the current temperature statistics, so if you  
7 calculate the temperature statistics based on the history,  
8 what you would estimate is that, in the year 2006, we have  
9 approximately a one in 40 recurrence interval temperature.  
10 In 2007, we had approximately a one in five recurrent  
11 interval temperature, based on the historic calculation.  
12 In 2008, we had an approximately one in 10 temperature  
13 recurrence interval, right? So I am going to admit here  
14 that I took a statistics class a long time ago, but I was  
15 tackling the probability of that happening back to back to  
16 back, if the temperature statistic was correct, and that  
17 probability -- subject to check -- is one in 2,000. And  
18 so, to give you some idea of something to compare that to,  
19 that is exactly the same probability as flipping a coin 11  
20 times in a row and getting heads every time. So I just  
21 leave you with the question of, if that happened, would you  
22 want to take a second look at that coin? Because I know I  
23 would. And again, there are a number of studies on the  
24 website that give estimates of what this change would be.

25           MR. GORIN: Is that our temperature you

1 statistically did the calculation on? Or yours?

2 MR. ASLING: It was the three-day weighted max --  
3 it was from our history, but check it out. I am just  
4 trying to put it into some context. So I am just saying  
5 that it is very unlikely that you would get one in 40. All  
6 right, and here is just a little recent data, so even  
7 though our model also shows a drop in 2009 and 2010 due to  
8 the economic downturn, I think we talked about this a  
9 little at the March 21<sup>st</sup> workshop, and we have not actually  
10 seen that in 2009, once we have gotten into the period  
11 where there has been at least a little bit of air  
12 conditioner use. So what you are looking at here is --  
13 this is PG&E temperature normalized peaks for 2008 and  
14 2009, admittedly, only through May. But what you will see  
15 is that, once we come out of the winter, and we get into  
16 March, April and May, that the peak for 2009, which is the  
17 -- I will call it red, it is not exactly red, but the  
18 reddish bar is actually pretty much the same level, or in  
19 some cases just a little bit above the peak for 2008, which  
20 is the blue bar. And I know there can be disagreements  
21 around temperature adjustments and things like that, but I  
22 just wanted to say that, you know, we have talked a lot  
23 about this drop that is going to happen because of the  
24 economic downturn, and we do see that on the energy side.  
25 On the energy side, we are seeing that, but on the peak

1 side we have not seen that. We are not into the peak  
2 season yet, so by the time we have a chance to look at the  
3 revised forecasts, we will have the June and we will have  
4 the July data, so we should have a much better idea of  
5 really what the impact on the peak load is of the economic  
6 downturn. And maybe that will help us to revise the  
7 forecast if we could get that information in time.

8 I just wanted, again, a very wordy slide. But what  
9 I wanted to do here was just make a couple of observations,  
10 one is, and this is really about the process, so one thing  
11 I want to say, I very much appreciate the process, I like  
12 the fact that we can come here, we can talk, you know, we  
13 can talk about our disagreements, and the next day we can  
14 call each other on the phone and we can work through it,  
15 and we can make progress. So I really very much value  
16 that. One thing that I have noticed over the last several  
17 rounds of the IEPR is that I think that the stakeholders  
18 invest an enormous amount of time in this process, but I do  
19 not think that the expertise of the stakeholders is being  
20 used as effectively as it could. And I would like for the  
21 Commission and the staff, too, to think about how they  
22 could use the expertise that is available, you know, to the  
23 maximum extent possible. And this is because we are  
24 talking about the future here, okay, there is a lot of  
25 uncertainty about what will happen in the future, and there

1 is an enormous amount of uncertainty, more than there has  
2 been in the last decade or more, about what is the future  
3 path of energy growth. And it is even more critical  
4 because we know the energy growth and energy consumption is  
5 intimately linked with greenhouse gasses and further  
6 climate change, so we are at that point in time where we  
7 are really really interested in doing this, but there is a  
8 lot of uncertainty about what the future will be. And it  
9 is pretty well accepted in the literature that consensus is  
10 going to produce superior results when there is a lot of  
11 uncertainty, than reliance on a single point of view --  
12 unless you could show that that single point of view was  
13 somehow informed by superior skill, superior knowledge, or  
14 superior insight. And just standing before you today, I  
15 will admit that I do not have superior skill, you know,  
16 expertise, or insight about the future. You know, I do not  
17 know -- as much as I have studied energy demand, both on  
18 the gas side and on the electric side, and in other parts  
19 of energy industry, risk management and things like that, I  
20 really think there is a great deal of uncertainty about the  
21 future of energy demand growth. So what I would suggest,  
22 just as something to think about, is that it might be  
23 possible at the end of this process to adopt a forecast  
24 which, with some sort of averaging of the aggregate  
25 forecasts that were submitted by the various stakeholders

1 and the CEC's final forecast, in order to produce a true  
2 consensus forecast.

3 I would also like to mention that I think there is  
4 an over-emphasis on this idea of central tendency. So what  
5 we talk about here is this string of numbers, the so-called  
6 expected value. But I think one thing that we are seeing  
7 here is that there is a very very high degree of  
8 uncertainty in this forecast, a high degree of uncertainty,  
9 especially when you are talking about 2015, or 2020, which  
10 is the real purpose of these forecasts. The purpose of  
11 this forecast is not to forecast 2010, we have other ways  
12 of doing that. But the purpose of these forecasts is to  
13 look at what sort of resources we are going to need in 2015  
14 and 2020, and there is just an enormous amount of  
15 uncertainty, and that uncertainty is reflected in this  
16 difference in the forecast, from one forecast cycle to the  
17 next, which is a two-year period. The outlook for the  
18 future has changed by -- in SC service territory, alone --  
19 2,000 megawatts. In PG&E service territory, 2,000  
20 megawatts. Statewide, I do not know, 5,000 or more. So  
21 that is an enormous amount of resources that need to be  
22 planned for. And those resources could be demand response  
23 or energy efficiency, it does not have to be, you know,  
24 power plants, or anything like that, but we need to plan  
25 for that. So what I would suggest is, when I look, one

1 thing I notice when I look at the scenarios that were  
2 done, the rate scenarios, one thing that happened there was  
3 that there actually was not a lot of dispersion in the  
4 forecast results that was due to the rates. And that is  
5 because, you know, historically, at least, there has been  
6 fairly low elasticity from energy demand to price, and  
7 especially at peak. So there was not -- that probably is  
8 not capturing, nor should anyone think that that is  
9 capturing the true amount of uncertainty in the forecasts,  
10 those three scenarios. So what I would ask is that, if it  
11 is possible for the revised forecasts to build out a  
12 forecast that has really a lot more uncertainty in it, that  
13 really reflects -- and I do not know if you can do a  
14 statistical model on this or not, but that would reflect  
15 something like, at least, you know, an 80 or 90 percent  
16 confidence interval around the expected value. One reason  
17 why I think that is very important is because, at least  
18 from my point of view, and other people might disagree with  
19 this, but from my point of view, the financial implications  
20 of the forecast error are not symmetrical. When you have a  
21 situation as you have here in the electric industry, where  
22 you have a very inelastic supply, and you have a very  
23 inelastic demand, being short is going to be very very  
24 costly, very costly. And being a little bit long is really  
25 not going to be that costly, so that -- I really question

1 the idea that we would be choosing the expected value as  
2 the planning forecast. I am sorry, did you say you  
3 understood what I was --

4 COMMISSIONER BYRON: Very good observation.

5 MR. ASLING: Okay, thanks. Yeah, so I think that  
6 is something to really think about. So I have been told  
7 that at PG&E, we like to summarize everything with "the  
8 ask," the ask. I do not really like that one. So here is  
9 what I ask today, I ask that staff review and revise, if  
10 they find it appropriate, the commercial and agricultural  
11 sector peak load. I think the drops that are in there  
12 right now are too much. I would ask that the staff take --  
13 at least give some thought to the notion of somehow the  
14 change in the temperature statistics so that it  
15 incorporates climate change, there is a lot of research and  
16 authority been done on that. And I would ask that the  
17 staff reduce scenarios that are more confidence interval  
18 oriented so that they go beyond the rates and really take  
19 into account things like the air variance in the commercial  
20 floor space forecasts, for example, things like that. And  
21 then I would ask the Commissioners if you could give some  
22 thought to the idea of, at the end of this process, having  
23 staff develop a consensus forecast which is -- somehow  
24 explicitly takes into account the forecasts that were  
25 provided by the stakeholders in the process, also. And I

1 am sorry, that was a little longwinded, but that is the  
2 end of my presentation.

3 COMMISSIONER BYRON: Good observations. I  
4 appreciate it very much. Any questions before I give staff  
5 a chance to respond?

6 COMMISSIONER BOYD: No, I agree that those were  
7 some very good comments made.

8 COMMISSIONER BYRON: Gentlemen, would you like to  
9 respond to any of those points? You do not need to, of  
10 course.

11 DR. KAVALEC: Well, I will not respond to  
12 everything, but a couple things. Rick's idea of developing  
13 sort of a common forecasting methodology or group, I --

14 COMMISSIONER BYRON: You mean a consensus forecast?

15 DR. KAVALEC: Yeah, with input from various  
16 parties. I have been thinking about that and I thought it  
17 might be a good idea to begin a forecasting group model on  
18 our Demand Forecasting Energy Efficiency Group that has  
19 been meeting since last fall to exchange information and  
20 about input data and about modeling, and so on. As far as  
21 uncertainty, that is something that we have also been  
22 thinking about, and we are in the future going to attempt  
23 to build that into our models. In our revised forecast, as  
24 I mentioned this morning, we are going to look at econ demo  
25 scenarios, and economic variables tend to be the biggest

1 sources of uncertainty in a forecast, so I like to think  
2 we are covering that uncertainty in not maybe a  
3 statistically formal way, but we are addressing it. In  
4 terms of the commercial peak, the difference there, as far  
5 as I know, it comes from the lower floor space and from the  
6 higher compliance with commercial lighting standards, and I  
7 can provide a break-out of that and we can talk about it a  
8 little bit later. In terms of the Ag forecasts, a large  
9 reason for the drop in peak comes from a large increase in  
10 energy efficiency impacts attributed to Ag. Whether that  
11 is the whole story or not, I would have to check with our  
12 agricultural modeler.

13 COMMISSIONER BYRON: Okay. If there are no other  
14 questions, I was going to ask if Mr. Baker would come  
15 forward from the Public Utilities Commission. I think he  
16 might have some comments. Oh, wait, we do have -- if you  
17 will hold on for just a moment. We do have some questions  
18 on WebEx.

19 MS. KOROSK: Yeah, we just have a couple of  
20 questions on WebEx. We have one from K.K., Barbara George  
21 first. Barbara, your line is open.

22 MS. GEORGE: Oh, hi. I actually had a question  
23 earlier for Edison. This is actually -- I wanted to find  
24 out why the utilities are using self-reported numbers. Why  
25 aren't they using the results of the EM&V, that is the

1 Evaluation Measurement Verification, that we know those  
2 numbers are very different, and the utilities actually  
3 maintain a website called CALMAC where they post all the  
4 EM&V reports, and so they have access to them. I would  
5 like to know why they are not using them.

6 MR. CANNING: This is Art Canning from Edison.  
7 Actually, I use the numbers that are given to me by our  
8 representatives and that are on CALMAC, but I do not know  
9 how they might differ. So we will have to look into that  
10 because these are the forecasts of uncommitted ER, the ones  
11 that the PUC says targets our goals.

12 MS. GEORGE: The PUC says is what?

13 MR. CANNING: So the PUC has said in various  
14 decisions that these are the targets, or goals, in future  
15 years.

16 MS. GEORGE: Well, yeah, but your report was --  
17 your historical data was based on the -- some report. I  
18 mean, it has been a little while since your presentation,  
19 so I do not have the exact slide, but it was on the --  
20 there was a question to you before about where those  
21 numbers came from and they were from the utility reports  
22 rather than from the EM&V. That is my recollection from  
23 earlier today, so I --

24 MR. CANNING: I will have to check out my energy  
25 efficient people and find out if there is a difference, and

1 which ones we are because I usually take it based on --  
2 I wish I could answer you better, but I cannot.

3 MS. GEORGE: Well, there is a tremendous difference  
4 between the utility report and the final verification.  
5 Yeah, there is the final verification for '04-'05 was like  
6 40 percent in specific programs, and the utilities were  
7 claiming more like 80 percent, so huge differences, as I  
8 know there was a difference in the December -- in the  
9 report that occurred last fall, that was where the staff,  
10 the EM&V report show that the utilities should not get any  
11 profit because they had only made -- or, you know, the low  
12 70s realization rates, and in the utility report they all  
13 said they should get profits and they were, you know, at  
14 least 10-20 percent more. So --

15 COMMISSIONER BYRON: Okay, I think we get your  
16 point, Ms. George.

17 MR. CANNING: I got it and I will check on it.

18 MS. GEORGE: Thanks.

19 MS. KOROSSEC: All right, our next question is from  
20 someone on WebEx identified only as K.K. I will open your  
21 line, so go ahead and ask your question.

22 MS. KAPLAN: Katie Kaplan. This is Katie Kaplan.  
23 Can you hear me?

24 MS. KOROSSEC: Yes, we can.

25 MS. KAPLAN: Okay, great. This is Katie Kaplan on

1 behalf of Integrated Energy Solutions, and I just had a  
2 couple questions for the CEC staff and hopefully for the  
3 utility presenters, as well. I just was curious if you  
4 spent any time looking through the historical information  
5 that all of the IOUs and the CPUC have collected over the  
6 last four years on all of the inputs that you have  
7 articulated today, you know, demand response, energy  
8 efficiency. We have learned a lot and I think the IOUs and  
9 other market participants spend a tremendous amount of time  
10 and effort trying to true-up the forecasts with what  
11 actually happened for a number of those critical inputs,  
12 and as we now see, there is a significant difference  
13 between, I think, what the IOUs collectively have  
14 articulated in their forecasts, and what the CEC staff has  
15 come up with. And I was just wondering if you have spent  
16 any time looking through that information, or if you have  
17 spoken with the ISO and considered their input formally,  
18 and just have they actually kind of gone back and looked  
19 and said, yeah, that they think this might be a realistic  
20 set of assumptions?

21 COMMISSIONER BYRON: Before everybody jumps in to  
22 answer, can we limit it to one answer? Could staff answer  
23 this question?

24 DR. KVALEC: Yeah, and you are asking what data we  
25 have collected, or what data we are using for our

1 evaluation of energy efficiency and other impacts?

2 MS. KAPLAN: Yeah, and other inputs. I mean, the  
3 Resource Adequacy Forum at the PUC has done a great job  
4 collecting a lot of really important historical information  
5 and a lot of your presentation was based on reviewing  
6 historical information as inputs into our forecast. I was  
7 just wondering whether you had spent any time looking  
8 through any of the information. I think a lot of the IOUs  
9 did include the same type of data in their presentations,  
10 but seeing that the CEC forecast has become part of the  
11 resource adequacy and procurement processes, I just was  
12 curious if you had reviewed those and incorporated the  
13 findings into your forecast.

14 DR. KAVALEC: Well, what we have used in the  
15 forecast was data collected by the CPUC primarily for our  
16 energy efficiency impacts, and we put together a historical  
17 time series. But we are always interested in new sources  
18 of data. One thing we found is that there are many varied,  
19 scattered sources of data, so if you have a list you want  
20 to provide, I would be glad to look into that.

21 MS. KAPLAN: I would point you to the reports that  
22 have been developed by the PUC staff in the Resource  
23 Adequacy Department. Every year they present a report that  
24 goes through what the CEC forecast was, or the ISO forecast  
25 was for that time period, and measures of what actually

1 transpired on the grid, and they look back to the long-  
2 term forecasts that the CEC has provided, as well as short-  
3 term ones. And, honestly, we found that to be -- and I  
4 think, you know, the IOUs and other folks would agree -- we  
5 found that process to be very informative as far as future  
6 decisions with regard to procurement and the demand  
7 response proceedings has come out of that process, as well.  
8 So there is a tremendous amount of data there that I am  
9 sure the PUC would be happy to share that is already  
10 publicly together in the documents.

11 DR. KAVALEC: Okay, thank you. Any other source  
12 you want to mention?

13 MS. KAPLAN: I just was -- have you spoken with ISO  
14 and gotten their input at all on this forecast?

15 DR. KAVALEC: No, we have not.

16 MS. KAPLAN: Is there a plan to do that?

17 MR. GORIN: Yeah, we work with the ISO on the  
18 short-term forecast.

19 MS. KAPLAN: No, and I realize that, but, I mean,  
20 as we go forward and are trying to be more collective in  
21 our planning processes, obviously we know that when you  
22 have too many forecasts, that is when you really start to  
23 get into trouble. So I just was curious if there had been  
24 an effort, you know, just if you consulted with IOUs to get  
25 some input from the ISO. I thought maybe that would be

1 somewhere to start.

2 MR. GORIN: We do periodically consult with the ISO  
3 and they monitor our forecasts. I do not know if the  
4 representative of the ISO wants to make a comment about it?

5 COMMISSIONER BYRON: That is not necessary. It is  
6 okay.

7 MS. KAPLAN: Yeah, I mean, I was just curious more  
8 than anything.

9 COMMISSIONER BYRON: All right, well, we appreciate  
10 your question.

11 MS. KAPLAN: Yeah, thank you for taking the time to  
12 answer it. I appreciate it.

13 COMMISSIONER BYRON: All right, thank you. Mr.  
14 Baker? And while you are coming forward, I just wanted to  
15 thank our previous speaker. We did not really get a chance  
16 to thank you, Mr. Asling, that was very helpful and  
17 informative, and very good observations. Thank you.

18 MR. BAKER: Good afternoon, Presiding Commissioner  
19 Byron, members of the IEPR Committee. I am Simon Baker,  
20 PUC staff member in the Energy Division's Procurement  
21 Section. And thanks for the opportunity today to comment  
22 on the forecast issues for the three IOUs. Today, I will  
23 limit my comments to the energy efficiency conservation and  
24 self-generation assumptions. As you know, the PUC and its  
25 procurement proceeding has deferred to the IEPR process to

1 generate load forecasts that are used for the 10-year  
2 procurement planning proceeding, which determines the need  
3 for new system resources to maintain reliability. And in  
4 the previous LTTP docket, our commission deferred to the  
5 IEPR process and encouraged collaboration in the IEPR  
6 process to sort through some of these complex issues of  
7 teasing out embedded effects of energy efficiency and  
8 incremental effects of energy efficiency, with respect to  
9 our Commission's energy efficiency goals. So staff are  
10 definitely to be commended for the hard work that they have  
11 done so far on producing the forecasts and the  
12 documentation, so that we can have this discussion today.  
13 And I will just say that it has been a very rewarding  
14 process the past several months, especially being involved  
15 in the Demand Forecast and Energy Efficiency Quantification  
16 Project. I think it is a really fruitful setting to be  
17 continuing to examine these issues and hopefully come up  
18 with some solutions to some challenging technical issues  
19 that we face in sorting this out. I would second Richard's  
20 comment and Chris' comment and suggestion about a possible  
21 common forecasting methodology; that is something that is  
22 consistent with the PUC's practices and procedures to have  
23 transparency in any modeling exercise that results in  
24 Commission decisions. And also a continuation of the  
25 stakeholder group, initiated in the DFEEQP, potentially

1 extended to broader load forecasting issues. I think  
2 those are good ideas.

3           First, I would like to just provide a little bit of  
4 background in terms of how the procurement proceeding  
5 utilizes the forecasts and deals with energy efficiency to  
6 determine this net short for new system resources. As you  
7 know, the CEC has a Reasonably Expected to Occur standard.  
8 And in the LTTP, we have a similar standard, we have not  
9 really given it a name yet, call it a Deliverability Risk  
10 Assessment. But essentially, it is the one proceeding at  
11 our Commission where we have to take policy driven goals  
12 such as energy efficiency, or demand response, or  
13 renewables, or RPS Programs, and really interpret them for,  
14 you know, what do we expect the delivered megawatts will be  
15 from these resources? And how sure are we of that? So  
16 sure that we are willing to stake reliability on that bet?  
17 And so it is a different milieu, the procurement  
18 proceeding, in terms of looking at the expected delivered  
19 megawatts from those resources. Now, that is not to  
20 diminish the value of those goals to the extent that you  
21 might make more conservative estimates about delivered  
22 megawatts from those resources in the LTTP. It does not  
23 diminish the value of the energy efficiency goals, or the  
24 necessity that the utilities continue to strive to meet  
25 those goals. But this deliverability risk assessment, we

1 see as being very analogous to the challenge that the  
2 IEPR Committee faces in making a determination on the load  
3 forecast of what is reasonably expected to occur. Now, we  
4 see that as basically being a combination of looking at the  
5 historical data of what are the drivers of load, and then  
6 you are also applying some expert judgment, and as has been  
7 said, this is a roomful of experts, and so we have an  
8 opportunity to really work together, share data, share  
9 expertise, and come at the best guess of what is an  
10 inherently uncertain thing to predict. So for energy  
11 efficiency, the Reasonably Expected to Occur standard is  
12 pretty well defined, it is categorized into two -- well,  
13 two buckets, the committed and the uncommitted, and we are  
14 all familiar with those two buckets. For self-generation,  
15 the standards are not quite so clear, and so some of my  
16 comments today are going to be probing at ways that we can  
17 come to some agreements about what are appropriate  
18 standards for what to include in the forecast when it comes  
19 to self-generation. But I will begin with comments on  
20 energy efficiency, so as a result of this experience of  
21 collaborating with staff and doing this work, we have a  
22 better understanding of the uncertainties in savings  
23 estimations as a result of differences in modeling methods  
24 and assumptions made related to the forecasting, the rate  
25 of naturally occurring, and also the impacts compared to

1 utility programs. We see there is still much work to be  
2 done in assessing the degree of overlap that may exist  
3 between utility and other programs, savings estimates, and  
4 the PUC's goals. However, we are grateful that staff has  
5 created the modeling framework that will make these  
6 comparisons possible in the next few months by publishing  
7 their estimates of total savings by year, and explicitly  
8 stating how utility savings from different types of  
9 programs and end uses were treated at the end use level in  
10 the CEC forecasts. The actual savings estimates for  
11 utility program savings by end use has not yet been  
12 disclosed. In addition, the discussion on how to resolve  
13 potential overlaps in savings attribution between these  
14 different categories of savings has not yet occurred. The  
15 analytical tasks remaining include discussions about the  
16 CEC staff's analysis and what they did to exclude or  
17 discount savings from utility programs for specific uses,  
18 based on their potential overlaps in the efficiency  
19 measures promoted by the programs of the CEC building  
20 standards or price that needed changes. In other words,  
21 the methods used to attribute energy savings to a utility  
22 program or a building standard for specific end uses has  
23 still not been resolved, but we are getting much closer to  
24 agreement on the total level of savings to be included in  
25 the baseline forecast.

1           And I will just emphasize, too, that at the PUC  
2 in our recent Energy Efficiency Goals Proceeding, the goals  
3 that were adopted are total market growth goals, which  
4 means our Commission has not yet adopted utility-specific  
5 goals. Our goals basically encompass utility programs, as  
6 well as the savings from codes and standards, and naturally  
7 occurring, so it is the entire universe of savings from  
8 conservation that the total market goals are based upon.  
9 So this question of attribution is an important one, but  
10 the fact that we are getting much closer on the estimation  
11 of the total savings is a very good sign, and we are  
12 encouraged by that.

13           The Table 8.6 in the staff forecast document  
14 illustrates the progress that has been made in developing  
15 specific methods to handle utility program estimates for  
16 each use. It is probably useful to say that analytical  
17 staffs at CEC, and also Itron, the PUC contractor  
18 collaborating on this project, are in agreement for roughly  
19 80 percent of the end uses. But the remaining 20 percent  
20 may be the hardest to solve. For example, totally  
21 excluding the savings from utility programs in the other  
22 commercial lighting category, which include savings from  
23 utility programs promoting T-8 lamps and electronic  
24 ballasts, is an area of disagreement between the CEC and  
25 Itron staff, and we look forward to resolving those

1 remaining analytical uncertainties.

2           Staff has done really good work in estimating total  
3 energy and peak savings from programs, standards, and price  
4 impacts that are included in the forecasts, and Table 8.1  
5 provides very useful total savings information that will  
6 allow us to compare models at the sector level, and  
7 calibrate energy savings between models. This analysis  
8 also provides useful perspective on the effect of total  
9 savings achieved over time. A key question is whether the  
10 trend in the level of total savings at a percent of the  
11 load will continue after 2011 due to the impacts of future  
12 programs implemented after 2011, the so-called "uncommitted  
13 period." This boils down to a question of whether there is  
14 significant increase in utility program efforts and  
15 continued updates to standards can counteract the  
16 inevitable decline returns on program dollars spent in  
17 energy efficiency market, what you would call "saturation  
18 of the market." To get a better handle on these potential  
19 saturation effects, it will be important to contrast these  
20 forecasts, the program savings, or drops in energy  
21 intensity, with more recent trends and examine how they  
22 interact with forecasts of continued structural growth, or  
23 lower levels of economic growth for each end use. And with  
24 that, I will just again say that we look forward to working  
25 together with the CEC staff to share data and continue the

1 good work that we have already begun.

2           On the self-generation forecast, my comments are  
3 going to be mostly constrained to the California Solar  
4 Initiative Program. And the first observation is that,  
5 based on what we see in trends for installations and  
6 pending applications in the CSI program, the program is  
7 well on target to meet its 1900 megawatt goal by 2017. But  
8 we observe that the staff draft forecast does not take into  
9 account recent data on trends and installation rates. The  
10 proposed methodology would average the 2007 and 2008 per  
11 year solar installation data as a predictor of future  
12 installations. But we do not see that as being consistent  
13 with basically the trend of the last decade, which has seen  
14 year over year growth in installation rates. The proposed  
15 methodology would essentially assume that installation  
16 rates are flat as an average of 2007 and 2008 rates, and we  
17 have supporting tables and figures that we will be filing  
18 along with written comments to help to inform this  
19 dialogue. To look at this in a little bit more detail,  
20 what we did was we developed three scenarios, high, medium  
21 and low, and the medium case scenario, would just assume  
22 that pv capacity continues to grow at just 50 percent per  
23 year, which is close to the per annual growth rate over the  
24 past decade. Under that scenario, 1,700 megawatts would be  
25 installed by the end of 2012, that is five years in advance

1 of the date for the program, 2017, the goal. In a low  
2 scenario, where you would use the same installation rate as  
3 2008, you would still get there by 2018, and so the key  
4 conclusion here is that, even in the low scenario, we see  
5 that CSI program goals are likely to be met, are reasonably  
6 expected to be met within the forecast period, and should  
7 therefore -- we should look at that as potentially being  
8 included in Reasonably Expected to Occur.

9           Now, as I mentioned at the outset, it is still not  
10 clear in my mind what the standard is for Reasonably  
11 Expected to Occur when it comes to self-generation. And I  
12 imagine that that may be a subject of dialogue here in this  
13 setting. We observe in looking at another self-generation  
14 program the NSHP Program, the National Solar Home  
15 Partnership Program, that a different methodology would be  
16 used there. There, the methodology did not look at the  
17 average of installed capacity over the past two years, it  
18 looked at the average of installed plus pending. Now, if  
19 you were to consider pending applications, as well, in the  
20 CSI program, there, again, you would see higher rates of  
21 assumed penetration from self generation. We are not  
22 saying one methodology is better than the other, we are  
23 just saying they should be consistent one way or the other,  
24 but there should be a consistent standard about what  
25 reasonably is expected to occur when it comes to self-

1 generation. And then, the last point that I will make on  
2 self-generation is that, this is a really a great  
3 opportunity for our two staffs to work together in refining  
4 projections for DG penetration, especially since our  
5 Commission has a lot of good data that could potentially be  
6 input into this process. We have over 22,000 publicly  
7 available data points on solar system cost to use as a  
8 possible starting point on cost estimates. We also have  
9 meter performance data out of this self-generation  
10 incentive program, and CSI program evaluations that could  
11 potentially be utilized, including eight impact evaluations  
12 that could be used in this effort. So I think that pretty  
13 well summarizes kind of the key points that we wanted to  
14 make today in terms of ways that we continue to collaborate  
15 and come to some agreements about what Reasonably Expected  
16 to Occur means in the IEPR process. And, again, I will  
17 just close by saying, you know, we see Reasonably Expected  
18 to Occur as being the same thing in terms of its  
19 application, both in the IEPR process and in the LTTP. And  
20 so we have a lot in common in terms of coming to agreements  
21 about methodologies associated with making those  
22 determinations. And with that, I will draft out my  
23 comments and ask if you have any questions for me.

24 COMMISSIONER BOYD: No questions. I just want to  
25 compliment the speaker for the presentation. We have got a

1 raft of notes here. Thank you.

2 COMMISSIONER BYRON: Yes, very good. And we do  
3 appreciate the offers for cooperation. This Commissioner  
4 welcomes it, but I think the people of California expect  
5 it, so that is good. I think I will reserve my comments  
6 with regard to tying all of this together later, but really  
7 appreciate your being here and your summary of the feedback  
8 on the investor-owned presentations. Thank you, Mr. Baker.

9 MR. BAKER: Thank you very much.

10 COMMISSIONER BYRON: So we are going to pick up  
11 speed now, right? Do we have, in addition to your  
12 presentations, Mr. Gorin, do we have respondents as shown  
13 on the agenda from both the SMUD and LAWP today? Are there  
14 people here?

15 MR. GORIN: People are here from SMUD to respond,  
16 and L.A. was going to be on the phone. I do not know if  
17 they are there now, or not.

18 COMMISSIONER BYRON: We will find out. All right?

19 MR. GORIN: I am going to, in the interest of time,  
20 go through this really fast. It is the same story as you  
21 have heard before, pretty much. Lower forecast because of  
22 economic conditions and some other things, the SMUD  
23 forecast is only about 5 percent to 7 percent lower. For  
24 the peak forecast, actually, is lower than the energy  
25 forecast than we had last time. Same kind of flat per

1 capita consumption, a much lower starting point from  
2 peak, but it is expected to grow at about the same rate,  
3 flat per capita peak. The load factor for SMUD is  
4 projected to be flat, but that is probably because it is  
5 pretty low already, and it has been relatively flat in  
6 recent history.

7           COMMISSIONER BYRON: Now, Mr. Gorin, I hope you  
8 will not mind, because these presentations look so similar,  
9 they are all depressing with regard to the economic  
10 forecast, will you just call out anything that you think is  
11 unique here that we need to know?

12           MR. GORIN: Yeah. One thing I wanted to point out,  
13 which is in relationship to something that Edison brought  
14 up, we now project persons per household for SMUD in the  
15 future to be flat. We in the past projected it to  
16 increase. That may not seem like a huge difference of, you  
17 know, like 500th or 2,500ths of a person per household, but  
18 it makes a huge difference in household income because you  
19 have less people multiplied per capita in income. With  
20 less people, you get a slower growth rate.

21           Everything else is relatively similar to what you  
22 have seen before. We have a little more commercial floor  
23 space at SMUD than we had projected last time. With the  
24 new economic forecast by Economy.com, that may change. I  
25 think, if I remember right, the only county in California

1 that is worse off now than it was in the December  
2 forecast is Sacramento County. It might have something to  
3 do with the state workers, I do not know. Everything else  
4 declines, just our industrial forecast is actually higher  
5 than it was last time, based on the economic projections of  
6 industrial growth, and industrials at the peak follows that  
7 same -- the other sectors are relatively small. PCU is up  
8 because of increased starting point due to QFER sales, and  
9 we have not incorporated 2008 consumption into our forecast  
10 yet, through SMUD. The peak, though, is somewhat smaller.

11           This is where everything is different than what you  
12 heard before, and I talked with Mr. Toyama yesterday a  
13 little bit about this, and he can expound on it a little  
14 more. He gave me a call yesterday and said that he thought  
15 our forecast was higher than theirs. The way they count  
16 committed and uncommitted savings is, in my way of  
17 thinking, opposite of the way the IOUs count it. And so I  
18 put four forecasts on this slide. Ours is the black one.  
19 The higher line is what we will call the SMUD Unmanaged  
20 Forecast, which is essentially similar to the utilities  
21 unmanaged forecast. If I understand it right, SMUD's  
22 planning forecast is the green line, which is practically  
23 flat. And the goals forecast from their board actually  
24 declines over time. So SMUD may want to comment on whether  
25 this is a fair characterization of the differences in our

1 forecast or not. But my understanding is the forecast  
2 they are planning to is the forecast that is relatively  
3 flat.

4 COMMISSIONER BYRON: That would be the green one?

5 MR. GORIN: That would be the green one.

6 COMMISSIONER BYRON: Okay.

7 MR. GORIN: Our peak forecast is slightly lower  
8 than their unmanaged forecast here -- I am challenged with  
9 the new Excel -- in that their forecast would be the line  
10 with the X's on it, which is the blue line. And so their  
11 planning forecast is much lower than we are projecting them  
12 to be. And with that, we go with SMUD's presentation.

13 MR. TOYAMA: Good afternoon. This will basically  
14 be a continuation of Tom's forecast, but the first part,  
15 what I wanted was to just give you a really brief review of  
16 what we do, or some of the modeling issues that we look at.  
17 First of all, ours is primarily statistical. We try to do  
18 -- we have basically a forecast that serves all purposes  
19 for SMUD planning needs, one being short-term forecast,  
20 going out one, two, three years, the other being a long-  
21 term forecast. Now, the unmanaged forecast that Tom talked  
22 about was a forecast which we use to examine if things were  
23 to go -- if things were to replicate themselves over time  
24 in the same way it does now, then that would be our  
25 unmanaged forecast, what it represents is our forecast, if

1 SMUD were not to continue its energy efficiency programs,  
2 or its DG programs, and it is basically a simple trend.  
3 And that is what our unmanaged forecast is. From the  
4 unmanaged forecast, we then produce a managed forecast in  
5 which we then subtract energy efficiency distributed  
6 generation and some of the new building standards and  
7 appliance standards that are coming into effect within the  
8 near future.

9           This slide basically shows some of the differences  
10 in our forecast over time. Population growth, we both have  
11 relatively slow population growth, a very low difference.  
12 If we look at the residential customers, we are looking at  
13 basically a difference of about 10,000 customers. In a  
14 good year, we get about 10,000 customers. In the future,  
15 we are projecting something less than that, but overall, it  
16 is a very low difference. Our energy efficiency sale in  
17 terms of gigawatt hours are practically identical, in fact,  
18 we are just a little bit lower than the CEC's. Our peak  
19 forecast in terms of energy efficiency is very similar, as  
20 well, or slightly higher, about one percent.

21           There is quite a bit of difference in our  
22 distributed generation forecast, and I do not know exactly  
23 why they are so different, but ours is primarily based on  
24 our pv program. We think we are going to get in the next  
25 10 years, at least 125 megawatts, at least that is what our

1 plans are, and maybe double that for other programs that  
2 we have for our commercial sector. Our energy sales over  
3 the 20-year period, or the 10-year period, is lower than  
4 the CEC's, about 7 percent lower. But in terms of overall,  
5 we do not think that is a big amount to overcome should our  
6 programs not deliver the gigawatts that we think it is  
7 going to give us. Our peak, as well, is only about 300  
8 megawatts lower, 9 percent. That is a large number, but I  
9 think that, in general, it is something that we can plan  
10 for, should we realize that our programs are not as  
11 effective as we think they will be.

12           The last issue, or the last couple of points, shows  
13 what our unmanaged energy sales per customer are, and they  
14 are per person. We did not have a breakdown of our total  
15 number of accounts in the future from the slides that we  
16 were given, and so I did everything on a per customer  
17 basis. So on our unmanaged, we see that it is fairly high.  
18 And that is what it is now, actually. But with our managed  
19 forecast, we show that we are well below the CEC's -- about  
20 8 percent below their managed forecast.

21           The next slide just sort of goes over these points  
22 once again. This shows you that our growth rate, one  
23 percent, is one of the forecast -- I guess that is the DOF  
24 forecast. We are looking at about a 1.5 percent forecast.  
25 That -- in all respects compared to the relative history of

1 SMUD, they are both low. As you can see in the past, we  
2 have had anywhere from 3-4 percent growth; if we look in  
3 the '80s, we had about 5 percent growth. So 1 percent, 1.5  
4 percent growth, at the end, it does not make much of  
5 difference, they are both low.

6 Energy efficiency, we end up at the same place, but  
7 we take a rather different path. We think that we are  
8 going to be able to get much more energy efficiency in the  
9 next couple of years. We believe our programs, with the  
10 given level of participation now, is getting roughly about  
11 100 gigawatt hours a year. We look to increase that in the  
12 future as we expand our budgets in 2010. Same thing with  
13 our peak. We are getting approximately about 30 megawatts  
14 of energy efficiency a year in terms of peak savings. And  
15 if we looked at both of those numbers, that is roughly  
16 about 1-1.5 percent of our growth, which is what we are  
17 expecting to see in the near future anyway, so we think  
18 that with our energy efficiency, both for energy, as well  
19 as peak, we will be able to keep our load at least flat,  
20 and hopefully decrease it over time. This is the retail  
21 sales forecast that Tom presented. As you can see, our  
22 unmanaged forecast is slightly above the CEC's, and our  
23 managed forecast is just below the CEC's. The same thing  
24 is true for peak. It is flat, as Tom was saying, and we  
25 think that, with our programs, that we will be able to

1 maintain a relatively flat peak, and relatively flat  
2 retail sales.

3           This is where we sort of diverge in terms of the  
4 way we look at our future projections. We do not -- with  
5 our unmanaged, we are relatively flat, which is the dark  
6 line. The CEC's line for what we would refer to as our  
7 managed forecasts is relatively flat, as well. We think  
8 with our energy efficiency programs, that we will actually  
9 be able to reduce the energy use per customer overall, and  
10 up until about 2020, it is relatively flat after 2020 in  
11 terms of energies per customer. This forecast that we have  
12 accounts for the building standards, our energy efficiency  
13 programs, the appliance standards. We think it is fairly  
14 reasonable forecast. And, again, as we -- we deal with  
15 this forecast every year, and so we are able to adjust  
16 these parameters as we go forward. But we think with our  
17 current plans that we will be able to meet the blue line  
18 forecasts, with the existing programs that we have now.

19           One mention, or one thing to talk about, is the  
20 Board goals. The difference between our Board goals and  
21 what we have in the blue line is the blue line is based on  
22 our current programs and what we expect to get out of the  
23 current programs in the future. The Board goals, while  
24 being quite aggressive, have -- we are not able to, at  
25 least today, substantiate our ability to achieve that goal.

1 And so, as a Board goal, we use it, but we are just -- we  
2 think in the future, perhaps, that future standards and, as  
3 well, transit growth of the economy, may allow us to  
4 achieve those goals, but right now we just cannot quantify  
5 them, and so that is why the energy efficiency for sales  
6 and peak are much lower than the Board goals that you saw  
7 in Tom's slide. I think that is the end of my  
8 presentation.

9 COMMISSIONER BYRON: Mr. Toyama, you handled that  
10 very deftly in terms of the Board goals vs. what your  
11 forecast is, but I think it does merit comment. SMUD is  
12 doing an exemplary job in moving forward on implementing a  
13 lot of the state's policies. I am very hopeful that your  
14 Board is going to influence the company in a substantial  
15 way and you will probably even move closer to those Board  
16 goals. But I understand your answer and I think it is very  
17 good. So let me ask you just very directly, you are unique  
18 amongst the service territories' planning areas that we  
19 have done forecasts for here today, and your forecast is  
20 much lower than ours. Would you attribute that to more  
21 substantial economic downturn? Or would you say, because  
22 you are implementing these energy efficiency goals in a  
23 more substantial way?

24 MR. TOYAMA: I would attribute it more to our  
25 modeling technique because, given the way that we model our

1 load, and with evidence of the last couple of years, our  
2 load per customer, our sales per customer for each of our  
3 classes, have been relatively flat. We have seen also in  
4 the areas, especially with the commercial customers, that  
5 we have been able to achieve reduction in average use per  
6 customer. We are assuming it is from our programs, but I  
7 think our modeling technique basically assumes that, after  
8 we sort of grind out some regression models, that it  
9 maintains a relatively flat load. We do not have price  
10 elasticities, we do not have incremental elasticities, and  
11 so, with those two variables in there, we might see a  
12 difference in load, we might see it increasing over time,  
13 but our evidence indicates that, at least over the last  
14 couple of years, our load per customer is relatively flat,  
15 and that is with energy efficiency programs that were about  
16 a half a percent of annual growth. Since then, or since  
17 2007, we have doubled our efficiency impacts, and that is  
18 how we are going to get this downward trend. But I think,  
19 in general, our forecast model basically looks at the last  
20 couple of years as what the energy use behavior is today,  
21 and forecasts that out in terms of our managed, or  
22 unmanaged forecasts. And so we are just replicating what  
23 we see now in the future, and just having a growth factor  
24 which is our population growth. We think our energy  
25 efficiency will get us even lower than that. So if we had

1 a profit income elasticity variable in there, then it  
2 might be different, we might see an increase in average use  
3 per customer. But when we try to model income elasticity,  
4 you know, it is modeling an indirect effect because income  
5 elasticity gives you more wealth or more income to buy  
6 other things. But we do not know what that process is and,  
7 in fact, we do not even know what those things will be in  
8 the future, which makes it difficult to model. And so,  
9 when we do actually try to estimate either price or income  
10 elasticity, we always get opposite parameters than you  
11 would think from economic theory. And so, given that, and  
12 not using those in our equation, we tend to get a flat  
13 growth. And so I think it is more of a modeling technique,  
14 or what we choose to model, and how we choose to model.  
15 But primarily our forecast is also a short-term forecast.  
16 We use energy efficiency DG and other things to bring it  
17 down, but we are really trying to explain really just -- in  
18 terms of what our uses of this forecast is, the most  
19 immediate use of our forecast is primarily looking at  
20 short-term procurement issues. So we are trying to pick up  
21 the volatility in daily sales, transfer that into the way  
22 that we purchase our capacity and energy, primarily option  
23 contracts. We extend the forecasts in terms of the long-  
24 term forecasts by applying these future programs to it,  
25 which we think gives us, then, changes in the structure of

1 the equation, but it is difficult to really estimate  
2 changes in the structure of an equation which is going  
3 forward. We can measure that going backwards, or within a  
4 sample equation, or in-sample modeling effort, like going  
5 forward, it just simply introduces an uncertainty which we  
6 cannot really measure, and so that is why we choose not to  
7 include it. It just really complicates things quite a bit,  
8 and we just do not know what the distribution of those  
9 savings would be anyway, or that growth would be. We only  
10 put in what we think we can get.

11 COMMISSIONER BYRON: Well, my compliments to the  
12 Board goals and to the staff at SMUD for being so  
13 successful in implementing the state's policies, going  
14 forward. I hope you are successful. Any questions from  
15 the dais?

16 COMMISSIONER BOYD: No, just ditto your comments.

17 COMMISSIONER BYRON: Any response at this time?  
18 Tom?

19 MR. GORIN: No.

20 COMMISSIONER BYRON: Okay. Mr. Toyama, thank you  
21 very much. Do we have any questions? Okay. Mr. Toyama,  
22 thank you. Very good. So we will proceed to our last  
23 staff forecast results for the Los Angeles Department of  
24 Water and Power's planning in comparison to their forecast.  
25 And again, Mr. Gorin, if you would not mind, I think we can

1 really concentrate on where there are differences that  
2 you want to point out.

3 MR. GORIN: Okay. And I believe we have a  
4 representative from LAWP on the phone.

5 COMMISSIONER BYRON: Good.

6 MR. GORIN: Mike Cockayne, are you there?

7 MR. COCKAYNE: Yes, I am here.

8 MR. GORIN: Okay. I emailed -- did you get the  
9 presentation I emailed this morning?

10 MR. COCKAYNE: Yes.

11 MR. GORIN: Okay. I am just going to go through it  
12 briefly in the interest of time. I think our forecast for  
13 L.A. is the same ballpark as the rest of the utilities. It  
14 is lower -- 5-7 percent lower on sales, the peak is not  
15 that much lower, though, because I think our peak was low  
16 before. Per capita consumption, the peak forecast you  
17 could maybe argue that it may be low now compared to recent  
18 history, but we will have to wait through this summer and  
19 see. The L.A. load factor is projected to be flat, at a  
20 lower rate now, but because of more recent peak events in  
21 L.A. Residential consumption and use per household, we  
22 changed in household population numbers for L.A., we  
23 increased them. And, also, the number of households. We  
24 have been -- I think a residential forecaster has been in  
25 contact with L.A. Since we do most of our economic and

1 demographics by county, L.A. is way too big a county, and  
2 there is four -- five utilities that we split out of L.A.  
3 County, and the distribution of population among the cities  
4 in that county gets to be tricky at different points in  
5 time, and so we are now projecting that there is an in-  
6 migration into the City of L.A. that we had not projected  
7 before, basically. Commercial is lower. We are looking at  
8 lowering of commercial floor space in the short term for  
9 L.A., but by the end of the forecast, it is about the same.

10 I think the biggest problem we had with L.A. was  
11 considering -- and I would not call it a problem -- a  
12 difficulty. There is the same self-generation issues that  
13 we have had with the other utilities that we are going to  
14 try and work out for the historic estimates. And I think  
15 these differences in historic values are kind of translate  
16 into the comparisons that I tried to make, because we have  
17 a different view of what historic consumption was in L.A.  
18 than the L.A. forecast does, and I think a lot of this has  
19 to do with differences in self-generation reporting and we  
20 are going to try and work with LADWP to iron this out. I  
21 think the overall forecast, if I could tempt to compare  
22 them, is our forecast does not show as big a drop from the  
23 current recession or as much of a -- and it shows a slower  
24 recovery than the L.A. forecast. They may have done some  
25 comparisons also.

1           The residential history is relatively good  
2 between the two forecasts. We have not incorporated 2008  
3 data, that they have, yet. I am assuming that their 2008  
4 is their version of what actually happened. We have not  
5 incorporated the QFER data yet. So our forecast would  
6 probably be higher then, until like 2018 or something like  
7 that. Where it gets messy is commercial and industrial,  
8 and we need to work together to resolve this difference in  
9 history, which creates a difference in starting point. I  
10 mean, the shape of those two forecasts is relatively  
11 similar; they are just a constant increment apart for most  
12 of the forecast period.

13           Peak shows less variation in history. The  
14 forecasts are pretty much the same shape. There is a  
15 bigger drop from L.A. and a greater recovery, just like the  
16 consumption forecast. So if -- I think Mike Cockayne is on  
17 the phone, if you want to comment?

18           MR. COCKAYNE: Yes, thank you. I apologize for not  
19 being able to be up there today, but I will do my best.  
20 One thing I want to observe is that, since we print out  
21 this forecast, which was done last September, we have a new  
22 signed April 2009 forecast, and actually the April 2009  
23 forecast is closer to the CEC forecast than the one you  
24 have seen, so we have kind of moved together. The LADWP  
25 forecast does include uncommitted energy efficiency, so our

1 uncommitted -- what we forecast for energy efficiency is  
2 maybe 2021 goals, where we need to reach 10 percent for  
3 cells and energy efficiency by 2016. So after 2016, then  
4 everything is uncommitted, so we do tend to have that  
5 hockey stick after 2016, that our cells and peak grow  
6 pretty fast after that.

7 I do believe we have a calibration issue because  
8 our cells in 2008 were a lot higher than forecast by the  
9 CEC. I think there might be an adjustment upward.

10 In terms of economics, we use the UCLA forecast. I  
11 just want to comment that what was said earlier, that UCLA  
12 only updates every two years, actually, they prepare for us  
13 an L.A. County forecast prepared once a year in the summer,  
14 and we get three quarterly updates. That is economics in  
15 LADWP forecasts. I do have differences in personal income.  
16 I am using the personal income from UCLA, but we believe  
17 that you are going to see differences in savings and tax  
18 rates going forward, so I had savings rates actually  
19 negative and like the 2005-2006 time period, those savings  
20 rates will be increasing to 7 percent of personal income by  
21 2018, and then I keep them constant after that. Also, I  
22 weighed tax rates, so actually we take that personal income  
23 variable and try to change it into personal consumption.  
24 There is also an issue in L.A. County that we have a high  
25 amount of transfers. You have a large percentage of

1 foreign born citizens and they tend to send money out of  
2 the country. We have a large amount of money leaving the  
3 county. So transfers also have a negative impact on  
4 personal income.

5           In terms of policy, I am glad that the population  
6 for the CEC is going higher. In L.A. County, it is the  
7 Mayor's strategy to build transit-friendly housing going  
8 forward, that is pretty much mostly high density housing  
9 near subway stations. If you look at the population data  
10 the last couple of years, you will see that the cities that  
11 have subway stations seem to have an increase in  
12 population; that is true in Los Angeles and Pasadena. The  
13 question is whether this is must a blip in the data, and in  
14 the future we will tend to see the migration out to the hot  
15 areas like the CEC has forecast, but I think that is an  
16 important question. But in terms of my forecast, I think  
17 what has occurred is that I have lowered the personal  
18 income and I have increased the number of households, so  
19 that kind of offsets each other. So that is kind of where  
20 I am in the forecasting process there.

21           I guess the fifth issue is the data issue. That  
22 data is very difficult for me to compare forecasts from a  
23 center level. We use our First Accounting System to  
24 classify ourselves. We send the CEC the data by its NAIC  
25 codes. I think, right now, the class codes, the First

1 Accounting codes, and the NAIC codes are not well  
2 matched. We have made two attempts to prove the quality of  
3 that data, we have basically failed. They were kind of low  
4 budget attempts, and basically my supervisor told me to say  
5 that we have a funding issue, that we tried to fund that  
6 project to its fullest, and it tends to get cut in the  
7 budget in the final round. So that is kind of where we are  
8 right now. Right now, there is now budget to correct that,  
9 so we need to find funds somehow to correct that data  
10 issue. So that is all I have to say. Thank you.

11 COMMISSIONER BYRON: Thank you, Mr. Cockayne. A  
12 lot of unique service territory data and information that  
13 you have. I think it shows a really good understanding of  
14 your population and your customers for your service  
15 territory, a number of unique aspects there. I could not  
16 help but notice as I was looking at the comparison on slide  
17 34 of Mr. Gorin's presentation, how you had about six years  
18 of a very steep peak demand. You are probably breathing a  
19 bit of a sigh of relief, at least in terms of that not  
20 continuing. I am also encouraged to hear that your revised  
21 forecast in April is closer to ours, but I still suspect we  
22 have more work to do in understanding what these  
23 differences are. Is that correct?

24 MR. COCKAYNE: I would have to agree with that,  
25 yes.

1           COMMISSIONER BYRON: Well, I would like to thank  
2 you, Mr. Cockayne, for being on -- I do not know if you  
3 stayed on all day with us, or if you just joined late, but  
4 that was very helpful.

5           MR. COCKAYNE: Well, thank you. Well, I learned  
6 the definition of "counterfactual." So all day was a good  
7 thing.

8           COMMISSIONER BYRON: So you have been on with us  
9 for a while?

10          MR. COCKAYNE: Right.

11          COMMISSIONER BYRON: Okay, well, very good. Thank  
12 you. I believe now we are going to go to public comment  
13 in the event there is some. It is a Friday afternoon.

14          MS. KOROSSEC: Friday afternoon, and everybody is  
15 fried.

16          COMMISSIONER BYRON: I think we are all eager here,  
17 too, to bring this to a close.

18          MS. KOROSSEC: Do we have anything from anybody in  
19 the room?

20          COMMISSIONER BYRON: Anything from WebEx?

21          MS. KOROSSEC: We are going to go ahead, then, and  
22 unmute the WebEx lines in case there is somebody who wants  
23 to speak. All right, all the lines are open if you have  
24 any comments, go ahead and chime in. All right, hearing  
25 none, I think that we have taken all public comment.

1           COMMISSIONER BYRON: Dr. St. Marie, do you have  
2 any closing comments?

3           DR. ST. MARIE: I would like to thank everyone for  
4 their efforts today. This has been a gritty, very specific  
5 set of comments today, more specific in green than I  
6 usually attend here at the IEPR meetings. I am, as a  
7 representative of the California Public Utilities  
8 Commission, that will be the consumer of these forecasts  
9 when they are finally printed in the final IEPR, I am  
10 concerned that we do our best to get them right, and I  
11 appreciate the hard work that everyone is doing. Thank  
12 you.

13           COMMISSIONER BYRON: Commissioner Boyd?

14           COMMISSIONER BOYD: I would like to thank the  
15 staff. I know how tough this is, this is not my first year  
16 to sit through these processes and, as the years have gone  
17 by, the process has gotten better, people have learned a  
18 lot, there is more cooperation, and I was very impressed  
19 with the many speakers who talked about we need to get  
20 together more, we need to compare things, we might have  
21 some ideas on how to make the process better, and how to  
22 get ourselves closer together in our understandings of how  
23 we do this, and I would encourage that. And then I would  
24 just, for the first time in years, express my sympathy to  
25 the CPUC in having to deal with all this. Thank you.

1           COMMISSIONER BYRON: Thank you, Commissioner. A  
2 few remarks. I found this to be a very good workshop. I  
3 think my compliments to the staff on doing a thorough job  
4 of explaining some of the concepts and the results in a way  
5 that even I could understand them; I appreciate that very  
6 much. But I think it is also clear that we still have some  
7 significant differences that merit further work in order to  
8 understand why we are not quite on the same page. I hope  
9 my staff agrees with that. And, in fact, it may be  
10 worthwhile to consider, if not a staff workshop on the  
11 subject, but some sort of gathering of the expertise that  
12 we discussed that is here today and on the phone, as a way  
13 to try and get some closure with the differences that we  
14 are seeing. But I think the process is working. You know,  
15 there were some comments earlier about how we need to maybe  
16 include some -- what was the term -- the consensus group to  
17 come to terms with a consensus forecast. I am not really  
18 -- although I am a great fan of consensus building to get  
19 buy-in, when someone needs to be accountable, however, for  
20 the forecast, and we are that agency, consensus is not the  
21 appropriate approach. I like widespread input and a  
22 working group idea makes a lot of sense, given the  
23 successes that you had with the Energy Efficiency Working  
24 Group, but we need to also use the input from that group,  
25 but a single point of responsibility is where we need to

1 end up, and that is where this Commission is. And we are  
2 obliged to take our responsibility very seriously with  
3 regard to the IOU forecast, and for the other service  
4 territories in the state, as well. Do not get me wrong, I  
5 think you are doing a good job, but we still need to get  
6 closure on why we have got these substantial differences.  
7 So I will end with that. I think it was very good, a  
8 little more work needed, and it certainly was a lot better  
9 than Science Friday, which I normally like to listen to at  
10 1:00 in the afternoon. So my thanks to Mr. St. Marie for  
11 being here, staff, all the participants, and particularly  
12 Commissioner Boyd, whom I spent most of the week with.

13 COMMISSIONER BOYD: Yeah, this has gone too far.

14 COMMISSIONER BYRON: Thank you. I hope you all  
15 have a good weekend. We will be adjourned.

16 (Whereupon, at 3:39 p.m., the workshop was  
17 adjourned.)

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## CERTIFICATE OF REPORTER

I, Peter Petty, a certified Electronic Reporter, do hereby certify that I am a disinterested person herein; that I recorded the foregoing California Energy Commission Joint 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.

IN WITNESS WHEREOF, I have hereunto set my hand this 7<sup>th</sup> day of July, 2009.

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Peter Petty CER\*\*D-493