

RENEWABLES COMMITTEE WORKSHOP
BEFORE THE
CALIFORNIA ENERGY RESOURCES CONSERVATION
AND DEVELOPMENT COMMISSION

In the Matter of:)
)
NEW SOLAR HOMES PARTNERSHIP)
_____)

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

THURSDAY, OCTOBER 5, 2006

9:07 A.M.

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PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

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Jackalyne Pfannenstiel, Associate Member

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Timothy Tutt, Advisor

Sanford Miller

Bill Pennington

Bill Blackburn

Bruce Wilcox, Contractor

ALSO PRESENT

Robert W. Hammon
ConSol

Aaron Nitzkin
Old Country Roofing

Tor Allen
The Rahus Institute

George Katsufraakis
Sempra Energy Utilities
San Diego Gas and Electric
Southern California Gas Company

Gwen Rose
Vote Solar

Ed Murray
Aztec Solar
Energy for the Future
California Solar Energy Industries Association

David Bruder
Southern California Edison Company

ALSO PRESENT

Bill Kelly
Samuel Truthseeker
PowerLight Corporation

Bruce R. Bowen
Pacific Gas and Electric Company

Mark Johnson
Golden Sierra Power

Joseph McCabe
EnergyIdeas, LLC

Liz Merry
Northern California Solar Energy Association

Darryl J. Conklin
Renewable Technologies, Incorporated

Willard MacDonald (via teleconference)
Solmetric Corporation

Sara Birmingham
Pacific Gas and Electric Company

Jennifer Porter
San Diego Regional Energy Office

Nathalie Osborn
San Diego Regional Energy Office

Cecilia Aguillon
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Cece Barros
Pacific Gas and Electric Company

Mike Bachand
California Consortium for Electric Reliability
Technology Solutions

Harlan Od
Sharpe Solar Energy, Inc.

Fred Sisson
Renewable Energy Concepts, Inc.

ALSO PRESENT

Sara Diaz
SunLight Power

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I N D E X

	Page
Proceedings	1
Introductions	1
Opening Remarks	1
Presiding Member Geesman	1
Overview	2
California Solar Initiative and New Homes Partnership Draft Guidebook	5
Part 1	5
Eligible Systems and Specifications; Field Verification; Expected Performance-Based Incentive Calculation	15
Part 2	15
Participant Comments	32
Rob Hammon, ConSol	32
Aaron Nitzkin, Old Country Roofing	38
George Katsufakis, SDG&E	41
Tor Allen, Rahus Institute	42
Gwen Rose, Vote Solar	49
Ed Murray, Energy for the Future; CalSEIA	51
David Bruder, Southern California Edison	54
Bill Kelly, PowerLight	54
Samuel Truthseeker, PowerLight	58
Mark Johnson, Golden Sierra Power	63

I N D E X

	Page
Participant Comments - continued	
Joseph McCabe, Energy Ideas, LLC	76
Bruce Bowen, PG&E	77
Liz Merry, NorCal Solar	77
Darryl Conklin, RTI	80
Afternoon Session	85
Participant Comments - continued	85
Willard MacDonald	85
Program Administration Issues	90
Participant Comments	94
Slide 1	94
Bruce Bowen, PG&E	94
Sarah Birmingham, PG&E	96
George Katsufrakis, SDG&E	97
Dave Bruder, SCE	98
Jennifer Porter, SDREO	105
Nathalie Osborn, SDREO	109
Slide 2	111
Bruce Bowen, PG&E	111,115
George Katsufrakis, SDG&E	113
David Bruder, SCE	114
Nathalie Osborn, SDREO	116

I N D E X

	Page
Slide 3	117
Bruce Bowen, PG&E	118
George Katsufrakis, SDG&E	120
David Bruder, SCE	121
Nathalie Osborn, SDREO	123
Questions/Comments	124
Participant Comments	128
Cecilia Aguillon, Kyocera Solar, Inc.	128
Cece Barros, PG&E	128
Mike Bachand, CalcERTS	135
Harlan Od,, Sharpe Solar Energy, Inc.	136
Fred Sisson, REC Solar	141
Tor Allen, Rahus Institute	143
Sara Diaz, SunLight Power	144
Schedule	147
Closing Remarks	148
Adjournment	148
Reporter's Certificate	149

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

2 9:07 a.m.

3 PRESIDING MEMBER GEESMAN: This is a
4 workshop of the California Energy Commission's
5 Renewables Committee to consider the staff-
6 proposed draft guidebook for the new solar homes
7 partnership. I think that we'll address later in
8 the workshop where we go from here. There are a
9 lot of issues raised in the guidebook; a lot of
10 things that we need to work through. We may
11 indeed need to have additional public workshops in
12 order to complete that task.

13 We're going to hear quite a bit from the
14 staff this morning, and then open it up for
15 comments by the public, affected stakeholders.
16 I'm going to use blue cards to determine who
17 addresses, or the sequence in which people address
18 us. So, is that some custodian of the blue cards?
19 I never know how they get distributed. They just
20 get brought up to me.

21 I will take people in the order that I'm
22 given their cards, but if you have some scheduling
23 constraint please write that on your card, and I
24 can take you out of order if necessary.

25 I'm John Geesman, the Presiding Member

1 of the Commission's Renewables Committee. To my
2 left, Jackalyne Pfannenstiel, the Commission's
3 Chair. To her left, Tim Tutt, her Staff Advisor.
4 To my right, Suzanne Korosec, my Staff Advisor.

5 Are we ready to start the staff
6 presentation? Sandy, why don't you go ahead.

7 MR. MILLER: Good morning; my name is
8 Sanford Miller. I work in the renewables energy
9 program. And I'm going to give a presentation
10 here this morning, basically a presentation
11 overview. We'll take a look at recent
12 developments as a result of Senate Bill 1, signed
13 by Governor Schwarzenegger in August. We'll look
14 at a little bit of the PUC program, and the new
15 solar homes partnership. And try to get an idea
16 how they interface as a result of Senate Bill 1.
17 There's a few additional things that happened as a
18 result of that legislation.

19 Then I'd like to go into the draft
20 guidebook and present some of the basics of the
21 guidebook. At the end I hope to cover some of the
22 issues that we have found that we would like to
23 get some more comments on.

24 Senate Bill 1 was passed, signed by the
25 Governor in August, as most of you know. It

1 pretty much establishes a 3000 megawatt goal for
2 solar. It's going to be now, in contrast to the
3 California Solar Initiative, in January it will
4 now include the publicly owned utilities, so it's
5 a POU/IOU effort.

6 The intention is to have solar industry
7 self sufficient in ten years. Also, solar on 50
8 percent of new homes within 13 years. Some of the
9 timelines that are in the legislation: January
10 2011 homebuilders must offer PV as an option on
11 developments of 50 or more homes. And the CEC
12 will be in the process of developing an offset
13 procedure to permit developers to install up to 20
14 percent of the otherwise equivalent solar on other
15 projects, not necessarily in the development.

16 Senate Bill 1 also had some definition
17 about solar systems. The minimum is 1 kilowatt up
18 to a maximum of 5 megawatts AC. It also raised
19 the net metering cap to 2.5 percent of the
20 utility's demand; and specified that the publicly
21 owned utilities and investor-owned utilities
22 programs use CEC-adopted guidelines and criteria
23 once established. Also required a ten-year
24 warranty on solar.

25 The PUC program, I'm really not going to

1 go into any detail on that. Suffice it that that
2 program will cover existing residential customers,
3 all nonresidential new and existing, and existing
4 affordable housing.

5 As for the new solar homes partnership
6 we have a 400 megawatt goal; this was in the
7 Integrated Energy Policy Report. And it also was
8 specified in Senate Bill 1. It's going to be for
9 new residential only, which would include new
10 homes, developments and new affordable housing.

11 We have a partnership with builders,
12 solar industry and affordable housing experts to
13 design the program. Advisory committees were
14 formed to recommend direction and provide
15 comments.

16 The program partnership basically would
17 emphasize energy efficiency. Incentives, the base
18 conclusion is we're going to provide upfront
19 rebates. They will be performance-based rebates.
20 We are proposing a longer reservation period to
21 accommodate the needs of builders. We're offering
22 higher incentives; for affordable housing we
23 offered higher incentives before, but we will have
24 input, additional input from the affordable
25 housing community and advisory committee as we go

1 along this process, to review the incentives for
2 affordable housing.

3 Part of the Senate Bill 1, going back to
4 this last bullet, incentives would decline over a
5 ten-year period.

6 Okay, as far as the guidebook, itself.
7 This is an initial proposal. The Committee and
8 the staff are interested in comments and
9 suggestions on the guidebook. And the guidebook,
10 the way it's developed and designed right now, is
11 quite similar to those of you who know the
12 emerging renewables guidebook, as it's very
13 similar in format to that, with some of the
14 exceptions that I mentioned earlier.

15 Eligibility, pretty much the same as the
16 existing guidebook. PG&E, Edison, San Diego and
17 Bear Valley Electric. It's going to be new homes,
18 production and custom homes. And it will include
19 affordable housing, new affordable housing.

20 An additional requirement is there will
21 be minimum efficiency requirements in order to be
22 eligible for rebates under the new solar homes
23 program. The minimum is tier one, which is 15
24 percent more efficient than Title 24. Tier two is
25 35 percent more efficient. Other criteria, as I

1 mentioned before, will be similar to the ERP
2 guidebook.

3 The draft guidebook also has a warranty,
4 a ten-year requirement, on solar systems, as
5 opposed to the existing one which is five years.
6 We also have in here system size -- solar size no
7 more than 100 percent of the expected load for the
8 unit.

9 And we're also presuming that any
10 systems coming in that are 5 kilowatts or smaller
11 per unit are presumed in compliance with the
12 onsite load limitation.

13 The incentive level, we're starting at
14 2.50 for the reference case. And we're looking at
15 the 2.50 as in conjunction with the longer
16 reservation period. Now, I'll get a slide a
17 little bit later, the reservation period we're
18 proposing is 36 months, and that's consistent with
19 the builders' recommendations on that. And we're
20 basically allowing a builder to tie up \$2.50 a
21 watt for as long as three years.

22 The incentive will depend upon the
23 geographic location, wherever it's built in the
24 state. Orientation, tilt, shading, the incentive
25 will be paid when the system is installed,

1 operational, interconnected, and verified.

2 Now, Bill Pennington, on the second part
3 of the guidebook presentation, will be covering
4 much of that, as far as the energy-based
5 performance incentive.

6 We're proposing a megawatt trigger
7 mechanism as opposed to a calendar year or a
8 calendar-based mechanism. And we're assuming,
9 we're expecting a decline of 25 cents a watt as
10 market volume is achieved.

11 One advantage of this volume trigger
12 mechanism is that it insures that the budget that
13 we have, \$400 million, is enough to provide our
14 goal of 400 megawatts. And it also provides an
15 automatic response for market growth. So, as the
16 market matures and becomes more invigorated as
17 time goes by, that the -- instead of having a more
18 disjointed decline in the rebate, the rebate will
19 go down as the market picks up for solar.

20 There's no cost for reservation. It's a
21 first-come/first-served process. Up to a 36-month
22 reservation period.

23 Now, the next bullet there, general
24 approval. We recognize that a 36-month
25 reservation, in the very beginning a developer may

1 not have all of their ducks in a row there, as far
2 as committing to the solar equipment, financially
3 committing to that; lining up a installation
4 contractor; or even knowing which homes are going
5 to have solar on at that point in time.

6 So, we're proposing a general
7 reservation process where they would come in with
8 some minimum information, a tentative subdivision
9 map required. They would also have to provide
10 some estimates from a solar equipment seller and
11 installer of what the solar would cost. They
12 don't have to commit to that, but we feel that's
13 part of the process of getting a reservation.

14 And they would also have to provide the
15 number of homes that are going to have solar in
16 the development.

17 Then after 18 months the builder, the
18 applicant, would be required to provide more
19 concrete information to show that they're
20 committed to solar in their development.

21 Some of the things that we feel would be
22 necessary would be that the equipment must be
23 financially committed to. A question mark there,
24 and we don't have an answer for it right now, is
25 what constitutes financial commitment. Is it --

1 previously we had in the guidebook a 25 percent
2 commitment, in the case of reservations being
3 extended, at one time.

4 We had also required expected
5 performance-based incentive calculations to be
6 done and provided at that time. And potentially
7 some sort of buildout schedule on their
8 development.

9 Once we get this information then we
10 would provide rebate forms for the homes that
11 would be having solar in the development.

12 Payment process. Pretty much the same
13 as we have right now. We presently require final
14 invoices. In this case we would require Title 24
15 at least 15 percent compliance. Proof of
16 interconnection with the utility; building permit
17 sign-off. Another new item would be field
18 verification prior to payment.

19 Okay, so here we get into a few slides
20 of comments and suggestions that we're interested
21 in. The handout that you all have should have
22 appended to that a couple pages. And those pages
23 are an elaboration of some of the comments and
24 bullets that we have here. So, these are --
25 hopefully, I'll go through each one of these here

1 briefly. And then you can take a look at those
2 and you can basically provide comments back by
3 next week on some of these areas that we're
4 interested in.

5 One is incentive level. We're proposing
6 2.50, we'd like to have some comments back on
7 that. The volumetric megawatt trigger. Do you
8 have feelings one way or another on that? Are
9 there good points and bad points you think that
10 are important for us to consider?

11 That third line there, over-reserving by
12 some percentage. In the past the emerging program
13 has had a number of reservations from on new
14 developments; and as many as 40 percent of those
15 reservations have canceled or expired before those
16 projects came to fruition.

17 So a lot of that money that we put out
18 there on the table for those reservations didn't
19 get used. Now, it did go back into the fund, and
20 it was used later on. But we're proposing that,
21 and this is in the guidebook, too, let's say for
22 that first megawatt amount that we're looking for,
23 and I believe it's 8 megawatts, that because we
24 would guess that not all of those reservations
25 would be built on, that we would over-reserve by

1 20 percent.

2 So, instead of putting a reservation out
3 for 8 megawatts, we would put it out for 10
4 megawatts. So, because we don't have a cost to
5 reserve or a fee to reserve, there's really no
6 financial risk on the part of a builder to come
7 into the Commission and reserve a lot of money and
8 maybe not act on it for one reason or another.

9 So, our initial proposal is to have an
10 over-reservation by 20 percent. It may be higher
11 or -- we're interested in your comments on that.

12 As I mentioned earlier, we have this
13 general reservation process where, because we have
14 a longer reservation period, presently it's 18
15 months, for a new developer in our current ERP
16 program, and the building communities has
17 indicated that a larger, a longer time is
18 necessary, and we're proposing 36 months.

19 We know that a lot of the things, like I
20 mentioned before, are not committed to at that
21 point in time. We would like to have some
22 comments back on that, what your views on that
23 are; if you have suggestions for improving on
24 that; or if you think that's a good idea.

25 Another area, that last bullet, we will

1 have builders coming in, and some of them may have
2 solar that they're going to offer as a standard
3 feature on their homes. There may be others who
4 will come in and they will offer it as an option.

5 Now, if it's a standard feature that's a
6 lot more of a commitment to the solar than a
7 builder coming in and saying that they are
8 planning to offer it as an option, and not all
9 homes may have solar in that development.

10 So, should we, if they're coming in
11 would it make sense for the Commission to allow
12 them to reserve for the entire development,
13 knowing that if it's an option they may not be
14 building for -- they may not have 100 percent of
15 their homes with solar on. That's an issue.

16 Now, we have this 18-month checkpoint.
17 An 18-month checkpoint would be a situation where
18 the builder would come in and we would expect them
19 to firm up the reservation at that point in time;
20 to provide us with much more concrete information
21 that they are planning to proceed with their
22 reservations, all or part of them.

23 What we would like -- what we're
24 proposing for the 18-month checkpoint is given the
25 necessary information we could lock in that

1 reservation. And as I mentioned before, provide
2 claim forms for each home that's going to be in
3 the development.

4 And so what we would propose is if there
5 isn't any progress within that 18-month period, if
6 for one reason or another they have not made any
7 additional progress, then that reservation would
8 be canceled.

9 We're interested in whether or not there
10 would be a 12- or 18-month checkpoint. There may
11 be a milestone procedure. This is maybe similar
12 to what the PUC had in the past on its qualifying
13 facilities, whether or not some type of a
14 procedure there would provide the Commission and
15 the program more assurance that these reservations
16 are going to be acted on. 12-24 is just another
17 potential variation on that theme.

18 This is a slide basically to give you an
19 idea of the volumetric trigger; probably should
20 have been a little bit further up in the
21 presentation, but I wanted to show it here to kind
22 of give you an idea of what we're looking at. And
23 this is based upon the 2.50 going down 25 cents a
24 watt.

25 Timeline. What we're looking at right

1 now is -- and this was in the workshop notice last
2 week -- we're hoping to get comments on this by
3 October 12th. We will be revising the guidebook
4 to reflect as much as possible our perspective,
5 and of course the comments that we get back on the
6 guidebook, and of course what we hear today.

7 There is another possible Committee
8 workshop on or around November 6th. We would be
9 discussing, among the various issues, affordable
10 housing. There's another technologies guidebook
11 that's potentially out there that we need to
12 develop. This would be potentially for small wind
13 and fuel cells. And, of course, last but not
14 least, the proposed final new solar homes
15 partnership guidebook.

16 We are looking to adopt the guidebook
17 November 29th at a business meeting with
18 intentions of implementing it at the start of next
19 year.

20 And that's all I have on that. Thank
21 you.

22 And, as I mentioned before, we have, as
23 a tag-team situation here, Bill Pennington will be
24 covering the second part of the guidebook.

25 (Pause.)

1 MR. PENNINGTON: So, thank you. I was
2 just asked to remind people that if any of you
3 want to have comments or have questions you should
4 fill out a blue card and give it to Bill
5 Blackburn, who's right here. So, if you can take
6 care of that, that would be helpful.

7 My name is Bill Pennington; I'm the
8 Manager of the Buildings and Appliances Office
9 here. Our office's primary responsibility is to
10 develop and implement building standards and
11 appliance standards.

12 So what we're doing for the new solar
13 homes partnership program is providing technical
14 support for the project; and responding to
15 direction in the Commission's IEPR that directed,
16 and also the Energy Action Plan, that directed the
17 next round of building standards to integrate
18 photovoltaics into the building standards in a
19 logical way.

20 And so we've been very motivated to help
21 with this project so that what we would have
22 coming out of the new solar homes partnership
23 would be well integrated with what we propose to
24 do for the building standards in 2008. And trying
25 very hard to extend the tools that we've used in

1 the building standards in the past to help meet
2 the IEPR and the SB-1 goals related to new solar
3 homes partnerships to try to encourage high-
4 performing systems, well-installed systems and to
5 integrate photovoltaics with high levels of energy
6 efficiency.

7 So, quite a bit of that policy rationale
8 for what we were working on for the program was
9 presented at the July 12th workshop. And I'm not
10 planning to go over that sort of policy rational
11 material.

12 This is intended to be an update on
13 specific technical aspects of what's proposed that
14 we've contributed to, and is now reflected in the
15 guidebook in more detail. So that's what I'm
16 about to talk about.

17 So one of the things we've been working
18 on is developing a CEC photovoltaic calculator
19 that would be used for calculating the production
20 of solar systems for use in determining the
21 incentive level and for use in establishing a
22 criteria against which the quality of the
23 installation can be evaluated.

24 And we have been developing this PV
25 calculator based on algorithms that were developed

1 by Dr. Bill Beckman from the University of
2 Wisconsin. Bill Beckman is probably originally
3 famous for being the developer of F-Chart. But
4 also has been an active technical expert in the
5 solar field for 25 years or so.

6 One of the things that we do in the
7 building standards that we're very conscious of is
8 trying to use calculation techniques that are in
9 the public domain. And so one of the reasons why
10 we chose this particular model was it is in the
11 public domain. And there's a citation here for
12 people to go look at the paper that describes this
13 model. It was published in the journal "Solar
14 Energy" with this citation. It's available at the
15 website that's shown here.

16 The tool used is readily available.
17 Performance tests as inputs. As we're
18 implementing it, it will produce hourly
19 performance calculations which enables us to use
20 time-dependent valuation weightings that are done
21 by hour. So it facilitates using the time-
22 dependent valuation. It relies on the
23 Commission's weather data and climate zones that
24 we've developed for the building standards. And
25 it will use libraries of certified module and

1 inverter data that will come from the Energy
2 Commission database.

3 We've asked Dr. Beckman to implement his
4 algorithms into a piece of software; and so that's
5 what we've been working on. Shorthand CEC PV.
6 And we've gone a long distance in that already.
7 We've been in a debugging process for awhile.
8 We're getting real close to having that model
9 being available for people to try out. And our
10 goal is to have it available to people by the end
11 of October.

12 Our other plan, and this is consistent
13 with what we do for building standards, is that we
14 want this public domain tool to be implemented in
15 other pieces of software that are privately
16 developed. And so software developers could
17 easily put on a more user-friendly front-end or
18 could have it, you know, associated with other
19 aspects of their tool. They could implement it.

20 We're particularly interested in the
21 developers of compliance software that's used for
22 the building standards that the building industry
23 is very familiar with and uses regularly, would
24 implement the model as a subpart of those
25 programs. So we'll be working with developers who

1 are interested in doing that.

2 One of the things that we have worked on
3 is developing what we're calling California
4 flexible installation criteria. One of the things
5 that was posed to us early on is that it's hard at
6 the early planning stages in a subdivision to know
7 exactly what houses are going to get the PV
8 systems, and exactly what the orientations will be
9 of the roofs.

10 And so it's hard to know way back at the
11 reservation point in time important information
12 about the installation of these systems. And so
13 we've done some analysis that looks at what is the
14 variation, what is the impact on the production of
15 systems for a range of orientations and a range of
16 tilt.

17 And we found that within a range of 150
18 degrees azimuth, which is southeast, to 270, which
19 is west, within that range there's a fairly tight
20 estimation of production, within 7 to 10 percent,
21 varies by climate zone.

22 So what we're proposing is to have a,
23 what we determine the California flexible
24 installation criteria that says if builders are
25 willing to commit to getting their systems within

1 that range of orientation until they can use kind
2 of a default assumption on those parameters in the
3 calculation, and can do the calculation at that
4 point.

5 We also have developed what we call the
6 minimal shading criterion which says that shading
7 obstructions should be at least twice as far away
8 from the modules as the height they are above the
9 modules. So there's a two-to-one factor.

10 And if you are in that distance, if
11 you're beyond that distance with the shading
12 obstruction, then the impact on the system due to
13 shading will be minimal.

14 And so we set up this criterion that
15 says if you're beyond that, then the calculator
16 will assume that you have no shading basically and
17 will -- it will simplify matters. So that also
18 has an element of the California flexible
19 installation criteria.

20 So in setting up the interface we've
21 been working on for the calculator, we want to
22 have a front screen that is a very simple input;
23 that facilitates the use of the California
24 flexible installation; and basically you just have
25 to enter very limited information. You enter the

1 specific PV module and the software goes and grabs
2 all the data for that module.

3 Most of these systems are going to be
4 building integrated PVs. You know, there will be
5 some exceptions to that; most of them will be, and
6 so the stand-up height is not relevant to those.
7 So that would pass, you would pass forward.

8 You'd have to put in the number of
9 modules and series and the number of parallel
10 strings. You would enter the inverter and the
11 software would go and grab the data that's in the
12 database for the inverter.

13 You'd enter the city and the city would
14 assign the weather that comes out of the
15 California standards climate zone and weather
16 files. And then if you're committing to the
17 California flexible installation parameters,
18 you're within this range of tilt and orientation,
19 you're willing to live with the minimal shading
20 criteria, you push run and you get a calculation.

21 So that would be the first screen that
22 we would have. The tool would also be available
23 to calculate more complicated site-specific
24 details about your system where you deviated away
25 from the California flexible installation. Or if

1 you have shading obstructions that you know you
2 can't get around, you know, you're going to have
3 them and they should be accounted for.

4 So in that case you would click on the
5 specific additional parameters and that would take
6 you to a different screen.

7 So this is the more detailed input
8 string. Has some of the same information; you'd
9 need to put in either the roof pitch or the tilt,
10 if you're a BIPV system, or even a rack-mounted
11 system that's parallel with the roof. You could
12 enter either the pitch or the tilt and go.

13 You would have this checkbox near the
14 bottom here for minimal shading. You could still
15 choose to commit to minimal shading, and choose
16 that box and run the system. Or you could not
17 choose that, and in that case you would need to
18 put in more information about what are the shading
19 obstructions that exist in your situation.

20 There would be, I should say, a shading
21 screen where you would need to detail the shading
22 obstructions. And we've described how that would
23 be done in appendix 4, which details the fuel
24 verification. I didn't show that screen here just
25 for time here, but that screen would be there for

1 shading.

2 In addition, this would be what the
3 results output might look like, presenting by
4 month and annually, the kilowatt hour production
5 and the time-dependent valuation weighted
6 production. And then the incentive would be
7 calculated, the calculator would internally
8 compare the actual system to the reference system,
9 and calculate the incentive from that.

10 This is a slide that shows some of the
11 results by climate zone. California, for building
12 standards purposes, is divided into 16 climate
13 zone with different weather data that we've
14 developed for each climate zone.

15 And so this is what the TDV weighted
16 production looks like for south-oriented systems
17 in these climate zones. Climate zone 12 is
18 Sacramento. That's the zone we've chosen as the
19 reference, so it has a relative annual TDV value
20 of 1.0 there; it's the reference.

21 And then the highest one is San Diego
22 which is a little bit over, you know, 11 percent
23 or something higher. The lowest one -- I should
24 say San Diego's climate zone 7. Climate zone 1 is
25 Arcata, north coast area, and there it's looking

1 like .82, something like that.

2 So, otherwise the climates range between
3 those. And, you know, this is for one
4 orientation. This is for the south orientation,
5 which is -- the south orientation is what we have
6 proposed as the reference orientation for the
7 calculation.

8 This is information by orientation for
9 five of those climate zones. Climate zone 2 is
10 Santa Rosa; climate zone 7 is San Diego; climate
11 zone 10 is Riverside; climate zone 12 is
12 Sacramento; climate zone 14 is the high desert,
13 Palmdale.

14 So you can see here just how it varies
15 from east, south and west. TDV weighted
16 production really brings west more similar to
17 south than you would see in a straight kilowatt
18 hour comparison. And, in fact, the optimal moves
19 from what people had normally thought the optimal
20 was south, a TDV weighting moves that to west of
21 south, as the optimal level.

22 Another aspect of what we've proposed
23 for the guidebook is to have module performance
24 data that's coming from tests certified to the
25 Commission. And our original objective for doing

1 that is that we need the five parameters to drive
2 the model, and we need to have that certified, and
3 we need to have confidence in those values.

4 And so we looked at the standards that
5 exist that could provide that data. And have
6 concluded that the best standards are the
7 international standards 61 215 for Chrisman
8 (phonetic) silicon modules will cover the vast
9 majority of PV systems that we'll see being
10 installed on homes. And then 61 646 applies to
11 thin films.

12 One of the advantages of going to the
13 international standards is we essentially will be
14 saying we want just as good of PV products for
15 California as what are being used in Germany and
16 other parts of the world. And, you know, this may
17 be a little bit of a step-up compared to what we
18 have, but, you know, we really think this is the
19 right way to go.

20 One of the things that we're proposing
21 is that the testing be done by labs that are
22 accredited by the American Association for
23 Laboratory Accreditation, which is sort of a
24 generalized accreditation body for labs.

25 And another aspect is that the IC

1 standards for BIPVs are a little vague related to
2 how you configure the testing setup for BIPVs.
3 They were originally developed for rack-mounted
4 systems, and they kind of leave it up to the
5 manufacturer to say how to do the test setup for
6 BIPVs.

7 What we're proposing to do is have a
8 more standardized setup that has a underlayment
9 underneath the PVs that is similar to normal
10 practice and getting BIPVs installed on buildings.
11 And, you know, standardize those, the process for
12 doing those tests a little bit more than what's in
13 the IC standard. So that is proposed also. All
14 of this information is in appendix 3 of the
15 guidebook.

16 Lastly we're proposing, this has been
17 strongly recommended to us by Chuck Whittaker, who
18 is advising us, is that the testing that gets done
19 on the production line for modules to insure that,
20 you know, you've got quality control on each
21 module that comes off the production line,
22 should -- you should be getting the same
23 performance for those production line modules as
24 you are the information that's proposed to the
25 Commission or certified to the Commission for

1 performance.

2 And so the notion of this requirement is
3 that that production line testing would get
4 adjusted for the preconditioning or the light
5 soaking part of the IC standards so that you would
6 get an estimate of production for the modules that
7 account for those, the light degradation that's
8 caused at the beginning of the life of PVs, gets
9 accounted for at the time that you're doing that
10 production line testing. And that you should be
11 expecting that your modules will be at least as
12 good as performance as what you certified to the
13 Commission through the testing process. So that's
14 in appendix 3, also.

15 We're very much interested in comment
16 from the industry on this. We've been in contact
17 with Sandia, David King at Sandia; we've been in
18 contact with the testing people at the Arizona
19 State University. Chuck Whittaker is advising us.
20 We're very interested in comments on this, though.
21 We're at a stage where we think we're close; we'd
22 like to finish it. And so we're very open to your
23 comments.

24 This is what we're looking at for field
25 verification. And this is described in appendix

1 4. Appendix 4 is kind of designed the way that we
2 do things for the building standards. We describe
3 in detail the protocol for exactly what the
4 installer or the HERS rater should do.

5 And so it's step-by-step, here's what
6 you do, here's the test equipment you should use,
7 you know. Exactly what you should be looking for.
8 And so it's a little bit more detailed than what
9 you might normally see in a guidebook, but it's
10 kind of matching up with those protocols that
11 we're expecting HERS raters and installers to use.

12 In general, there's a visual inspection
13 to make sure that the equipment is the same as
14 what you said you were going to install. And in
15 looking at the tilt and orientation to see, first
16 off, if you're within the California flexible
17 installation criteria, to check to see if that's
18 the correct.

19 If you've chosen a more specific site
20 installation detail and decided not to do the
21 California flexible installation, then that would
22 be visually checked.

23 The shading evaluation where, you know,
24 shading is critically important, we need to avoid
25 shading, you know, as much as we can. So, you

1 know, if you signed onto the minimal shading
2 criteria and the fuel verifier will be looking to
3 make sure that there aren't any shading
4 obstructions within that criterion.

5 We're looking at trees, at their
6 expected mature height. So there's a provision in
7 the fuel verification process for figuring that
8 out and how to inspect for that.

9 In terms of performance verification
10 there will be an output from the PV calculator
11 that will specify what would be the PV -- the AC
12 output that the system would have at a range of
13 solar irradiation and ambient temperatures. And
14 so the job of the field verifier and the installer
15 actually would be to, at the time that they're
16 making the observation, to measure the solar
17 radiation and the ambient temperature, to look up
18 on the table what the output should be, and to
19 compare that output to what the inverter display
20 is showing. And so that's basically what that is.

21 The expectation is the same as we would
22 have for fuel verification with the building
23 standards. We expect 100 percent of the
24 installations would be checked by the installer.
25 They would go through this protocol. They would

1 go through a checklist, you know, they'd sign that
2 they had done it.

3 And then the HERS raters would be doing
4 the verification on a sampling basis, using the
5 same kind of sampling rules that are under the
6 building standards and the same kind of process
7 for what happens when you run into a problem in
8 your sampling and how do you address that, and so
9 forth. So all of those rules would be the same
10 approach as for the building standards.

11 The last aspect of this is energy
12 efficiency. What is proposed is that there be two
13 tiers of energy efficiency. The first tier would
14 be viewed as the sort of bare minimum condition of
15 participation at 15 percent savings beyond the
16 Title 24 total energy budget. And that's
17 approximately what the current utility new
18 construction programs are at, at this point.

19 The second tier is a very important tier
20 from our minds, and where we really would like to
21 get the building industry to be when they're
22 installing PVs. And, you know, one of the major
23 advantages of this tier is that we would -- the
24 consumer would be getting a home that has
25 basically immediate positive cash flow. The cost

1 effectiveness of the energy efficiency features
2 would drive down the energy use at a cost that, in
3 combination with the PV systems, would result in
4 immediate positive cash flow. And so we think
5 that's quite important.

6 The criteria that we have proposed here
7 is a two-pronged criteria. The first prong is
8 that it be 35 percent better than the Title 24
9 energy budget. The second prong being that it be
10 40 percent better than the space cooling budget.
11 And the reason for the 40 percent really is to try
12 to focus this on peak energy and to try to
13 accomplish as much as possible through peak energy
14 savings.

15 The 35 percent would get some other
16 kinds of measures, you know, would get some
17 natural gas savings measures, undoubtedly, that
18 would be part of it. So, you know, you get a
19 little bit of -- you get your cake and eat it,
20 too, with these two criteria a little bit. You
21 know, you get a nice energy budget bump; and you
22 also really make sure you don't miss out on the
23 cooling savings.

24 This kind of idea is moving in the
25 direction of zero energy new homes, and you know,

1 that's really where we need to be in the long
2 term. And so that's a goal.

3 The current U.S. Building America homes
4 program that's being administered in California,
5 you're finding the production builders that are
6 participating in that program right now to be
7 achieving these two criteria. So, it's happening
8 now with those builders.

9 The Commission is very interested in
10 getting the PUC and utilities to support
11 adjustments to their new construction programs to
12 provide incentives for the tier two level.

13 The proposal also includes high efficacy
14 lighting in permanently installed lighting. And
15 also EnergyStar appliances when the builder
16 installs the appliances. And those are factors
17 that are currently part of the Building America
18 program.

19 So, that's the content of what I wanted
20 to talk about. I think we're going to move right
21 along to the next phase here, so, thank you.

22 PRESIDING MEMBER GEESMAN: Thank you,
23 Bill. Okay, why don't we take public comment now.
24 First one I've got up is Rob Hammon from ConSol.

25 DR. HAMMON: Good morning, Commissioner

1 Geesman, Chair Pfannenstiel, Staff; thanks for
2 giving me the opportunity to comment.

3 I want to say I recognize there's a
4 tremendous amount of hard work that everybody's
5 put into this, and I think it's really exciting
6 and I'm looking forward to being part of this
7 program in the future.

8 I'm excited about the opportunity to
9 really move a market which is something that I
10 think we can do with this program. But there are
11 a couple things that I think I want to raise in
12 this forum, and then I'll bring detailed comments
13 later. Three things, basically.

14 One is I recommend that we move the
15 incentive or the buydown, or whatever we want to
16 call it, from 2.50 up to 2.60. I think it's
17 really critical that the program get off to a very
18 fast start, and I believe that that ten cents a
19 watt is important to doing that.

20 Also, I recognize that the Commission,
21 this Commission is working with the CPUC and
22 utilities to work out the details of the
23 incentives that would be provided for the energy
24 efficiency portion, and that's great.

25 One thing that I would recommend, I was

1 lucky to have a preview of the work that PG&E has
2 done to try and figure out what incentives could
3 be allowed. And right now they're a little lower
4 than we'd really like. And I've discussed this
5 with them.

6 And what I would recommend is that in
7 the calculation of the incentive for tier two that
8 they be allowed to take full recognition of the kW
9 savings that result from this program, efficiency
10 and solar. That's not something that's being
11 claimed by anyone. It's not a double-dipping
12 issue; it's a procedural issue. And it's a huge
13 impact that the tier two will have on distribution
14 networks. So I think it would be highly advisable
15 that we work on that.

16 ASSOCIATE MEMBER PFANNENSTIEL: Rob, is
17 that a PUC decision, though, in terms of them
18 taking credit for kilowatt hours and kilowatts?

19 DR. HAMMON: Let me answer that this
20 way: Right now there's a procedure for how they
21 convert kWh to kW, and how they claim kW for
22 programs.

23 ASSOCIATE MEMBER PFANNENSTIEL: Yes.

24 DR. HAMMON: And number one, it's
25 efficiency only. And number two, I think it's

1 based upon a conversion as opposed to data that
2 may be more optimistic.

3 And we have some real data that you're
4 aware of from subdivisions that show the size of
5 this impact. And it is substantial. And I
6 understand, from talking to them this morning,
7 that they feel that right now they're not allowed
8 to take that benefit. But they agree that it
9 would be a good idea to do that.

10 ASSOCIATE MEMBER PFANNENSTIEL: I see.

11 DR. HAMMON: The third thing is that I
12 really appreciate Bill's effort to make a
13 simplified process that he's calling the
14 California flexible installation.

15 One issue, though, and I've mentioned
16 this to Bill in the past, is that the way it's set
17 up now is if you push that button, which is to
18 simplify the process, then you get a conservative
19 estimate of what the output is going to be. And I
20 think by conservative he means basically taking
21 the worst case orientation and using that to
22 calculate the incentive.

23 And I think the result of that is
24 twofold. One is it's going to reduce the upfront
25 incentive and make it less attractive. The second

1 is that it's likely that in the long run that if
2 the process stays that way, that the builders are
3 going to want to come back and recalculate all
4 homes independently to increase the incentive.

5 And that's a lot of work. And this is
6 not a code issue, it's a move-the-market issue.
7 And it makes more sense to me that instead of
8 taking a conservative worst case approach you take
9 an average approach. Basically, if you have the
10 main orientations represented, and the main tilts
11 represented, what would be the incentive on the
12 average home. Which is the way it's going to come
13 out in the market anyway.

14 And then I think you get both of those
15 benefits back. One is the incentive's going to be
16 better upfront; and the other is you probably
17 avoid a lot of paperwork and a lot of extra work
18 at the backend.

19 PRESIDING MEMBER GEESMAN: You're using
20 the word average to be interchangeable with
21 median?

22 DR. HAMMON: Yes. Just trying to avoid
23 worst case.

24 PRESIDING MEMBER GEESMAN: Sure.

25 DR. HAMMON: I understand the importance

1 of worst case for code-type issues, and I think
2 this is a place where it's not the best approach.

3 I do have a minor fourth issue, since
4 I'm up here. And that is the option if you're
5 reserving it as an option instead of as a standard
6 feature, I think the 50 percent number is too
7 high. And I'll come back with a suggestion on
8 that, but we've found that that is not a good
9 approach to the market. And I think that's going
10 to be setting aside way too much of the funds for
11 something that probably will have minimum ultimate
12 use.

13 PRESIDING MEMBER GEESMAN: Yeah, I would
14 appreciate everybody trying to focus comments on
15 the reservation technique, because what we're
16 trying to do is distribute the risk that the money
17 won't be there when it's needed for an actual
18 installation. And the last thing we want to do is
19 encumber money that doesn't get utilized.

20 DR. HAMMON: Right, absolutely. And
21 we'll provide, I'll work with CBIA to have some
22 comments back on that, --

23 PRESIDING MEMBER GEESMAN: That's
24 terrific.

25 DR. HAMMON: -- the whole process.

1 Thank you very much.

2 PRESIDING MEMBER GEESMAN: Thank you,
3 Rob. Aaron Nitzkin, Old Country Roofing.

4 MR. NITZKIN: Yes, thank you for the
5 opportunity to present my comments. As
6 background, I work for Old Country Roofing, the
7 largest residential roofing contractor in the
8 State of -- in northern California.

9 In 2005 we did 12,000 residential roofs,
10 and we're trying to really take an approach where
11 we treat a solar panel as a roofing product and
12 standardize it so that every time we install a
13 roof we're installing a solar system.

14 With that as backdrop, the one main
15 topic that I think needs a lot more focus on is
16 the concept of offering solar as an option.
17 There's no reference in the current guideline, the
18 new draft, until you get to the actual form 1.
19 There was more in the actual existing guidelines
20 in the appendix.

21 And I think that while, as a system
22 integrator or a contractor out there, I would love
23 every builder to offer solar as a standard
24 feature. The fact of the matter is the majority
25 of them was most likely want to put their toe in

1 the water and offer it as an option.

2 And as anyone in this industry knows,
3 when you do that, to date we've had very limited
4 success. You have a lot of work, extremely high
5 cost and resources going into offering it as an
6 option and you might have no one taking up the
7 option.

8 So I think, you know, we don't want to
9 set ourselves up to fail from this perspective.
10 We don't want to be running around setting up
11 these programs, and I know we have a new public
12 awareness campaign which hopefully will help that
13 initiative.

14 But I think we need to really talk a
15 little bit more and dig a little bit deeper in the
16 guidelines for how to deal with this. For
17 example, you know, we need to figure out what that
18 magic number is. Is it 50 percent, is it 10
19 percent, is it somewhere in between?

20 But then what happens if that number's
21 achieved while the homes are still being sold?
22 How do we -- do we start a new application? Do we
23 -- I mean there are -- we need to try to
24 understand that now because otherwise we're all
25 going to be scrambling later on.

1 Then, the other point that I wanted to
2 throw out there for people to think about is
3 incentives. I'm a big fan in trying to
4 incentivize builders to offer this as a standard
5 feature rather than as an option.

6 And what I would love to do is actually
7 put -- develop some actual incentives. For
8 example, you know, what I would love to see is
9 have a different rebate level. You know, if a
10 builder, for example, were offered, as Rob
11 suggested, \$2.60 a watt, to offer solar as a
12 standard feature on every home in that
13 subdivision, or 50 percent of the homes in that
14 subdivision, that's fabulous.

15 But if they're going to offer, just as
16 an option, put it on one model, tie up a lot of
17 funds, and then potentially not get many sales, or
18 a limited number, I would say well, maybe for
19 those homes we should be talking about a lower
20 rebate level of \$2, \$2.20, \$2.30, I don't know
21 what that number is.

22 But, to me, that would really position
23 the whole industry in a way that would really
24 drive what we all want, is the adoption of solar
25 in mainstream new homes.

1 So I will be submitting additional
2 comments in writing.

3 PRESIDING MEMBER GEESMAN: Okay.

4 MR. NITZKIN: Thank you.

5 PRESIDING MEMBER GEESMAN: Thank you
6 very much. George Katsufракis, San Diego Gas and
7 Electric.

8 MR. KATSUFRAKIS: Thank you,
9 Commissioner Geesman, Chair Pfannenstiel. On
10 behalf of SDG&E I'd like to reiterate our interest
11 in being an administrator for this program. We're
12 very interested in being the administrator, and we
13 think that SDG&E is uniquely qualified for this
14 role.

15 The synergies between this program, as
16 well as our energy efficiency program, there's a
17 lot of them. And I think it would allow us to
18 leverage the existing account executives that are
19 out there promoting energy efficiency, to have
20 them promote both programs.

21 Also, we have existing relationships
22 with hundreds of builders in southern California.
23 Our energy efficiency track record, we've impacted
24 tens of thousands of dwelling units with
25 EnergyStar. We have work for seven account

1 executives that are out there contacting builders
2 throughout southern California, not just in San
3 Diego. Because a number of the builders that
4 build in San Diego aren't actually located in San
5 Diego. It allows us to leverage account
6 executives that are located in our SoCalGas
7 territory, also.

8 So, I just wanted to express our
9 interest in this program, as well as
10 administrating it.

11 PRESIDING MEMBER GEESMAN: Thank you
12 very much. Tor Allen, Rahus Institute.

13 MR. ALLEN: Good morning. Tor Allen
14 with the Rahus Institute, California Solar Center
15 and (inaudible) House.

16 A few comments to follow up earlier
17 comments. The initial pool -- I want to talk
18 about the incentive level, so I agree with the, it
19 seems low given that the rebate incentive levels
20 are going to be, that's the maximum, 2.50 a watt,
21 that's the optimum system. So all the deratings
22 will actually result in a lower rate.

23 And with the interest of, as Rob coined,
24 you know, hitting the market really quickly and
25 hard, to create a bigger volume of that first pool

1 before it starts dropping down. So just to take
2 another look at that.

3 I kind of think as we get down towards
4 the smaller rebate levels in years down the line
5 that it may be a balance of not being utilized.
6 So, just weighing the incentives more towards the
7 front, the first years, to give it a chance to
8 really catch on.

9 Let's see, the tier one terminology,
10 tier two terminology, I'm just wondering if
11 there's been talk of tier two in the title 24 2008
12 standards. And I wondered if that's the same
13 definition. Different? Okay, so maybe take that
14 into consideration as far as developing
15 terminology on --

16 MR. PENNINGTON: Can I respond?

17 PRESIDING MEMBER GEESMAN: Yeah, Bill,
18 if you'd turn on your microphone so we can pick it
19 up on the transcript.

20 MR. PENNINGTON: We had originally
21 called what we were intending to put into Title 24
22 as tier two. In fact, it's the new solar home
23 partnership. As, you know, the whole alignment
24 will be there. So tier two is a different tier
25 two than what we had talked about before. And, in

1 fact, you can disregard the original idea of a
2 tier two and just think of this as the second tier
3 in this program.

4 So there will be a -- you know, we are
5 proposing to have a building standards compliance
6 option that parallels what we're developing right
7 now.

8 MR. ALLEN: Here?

9 MR. PENNINGTON: Right.

10 MR. ALLEN: Okay. Also, as far as the
11 timeline, it struck me that perhaps going through
12 and doing -- the typical time it takes to get all
13 these things done from a builder's perspective,
14 and see if that's realistic, the 18 months. So a
15 little homework there to do.

16 With regard to munis, we facilitate the
17 California Photovoltaic Utilities Managers group
18 that involves a lot of munis. This structure here
19 looks really great. They are very interested. I
20 would have, or suggest looking into, is it third-
21 party administration of this program, at some
22 point. Or within your own infrastructure such
23 that munis can participate; allocate some budget
24 for their customers. The structure of this
25 program looks good. And for them to meet the

1 requirements of SB-1, this is a great way to do it
2 for a lot of them.

3 So, just keep that in mind --

4 PRESIDING MEMBER GEESMAN: I'm not
5 certain that I understand your point on that one,
6 Tor.

7 MR. ALLEN: Well, rather than have --
8 somehow allow the munis to participate in this
9 program down the line --

10 PRESIDING MEMBER GEESMAN: Right.

11 MR. ALLEN: -- as they gear up to meet
12 the requirements for SB-1. A lot of the major
13 potential is new construction, to put solar on
14 homes, given their lower rates and those kinds of
15 things. So, --

16 MR. TUTT: So, Tor, are you suggesting
17 that with a certain kind of third-party
18 administrator the munis could provide a contract
19 or some mechanism with that administrator so it
20 would be -- they would administer the muni
21 program, as well as our program? Is it --

22 MR. ALLEN: Right.

23 MR. TUTT: -- something like that?

24 MR. ALLEN: Yeah, unless you have the
25 means to do that, so.

1 PRESIDING MEMBER GEESMAN: Is that what
2 the munis are likely to want is my question.

3 MR. ALLEN: I would suggest so.

4 PRESIDING MEMBER GEESMAN: Because every
5 conversation I have with a muni on almost any
6 topic --

7 MR. ALLEN: They want full control.

8 PRESIDING MEMBER GEESMAN: -- is avoid
9 state, the heavy hand of state government.

10 MR. ALLEN: Well, then I would strongly
11 suggest a third party provides a more likeable
12 agreement for them.

13 PRESIDING MEMBER GEESMAN: You know, you
14 might take that back to the program manager's
15 group and suggest that they make a suggestion to
16 us about it. Because I think it would be an
17 interesting possibility to explore.

18 MR. ALLEN: Yeah, we will be meeting
19 just in a few weeks, so we can follow up soon.

20 PRESIDING MEMBER GEESMAN: Now, let me
21 emphasize, this is a living process. One of the
22 benefit that the Legislature has extended to us in
23 our guideline authority is we don't have the same
24 long-turning of the oceanliner effect that formal
25 regulations do. So, if we don't get everything

1 resolved for launch in January that doesn't mean
2 we're not going to be able to revisit any number
3 of these issues thereafter.

4 MR. ALLEN: Right. Another point was
5 use of the, back in the background, using the
6 solar pathfinder to create shading factors or
7 evaluate shading issues.

8 You might want to take a look at, since
9 this is new construction there's not, you know,
10 solar pathfinder tends to be more useful for
11 existing structures. And you have been working
12 with Beckman on the calculator. There are
13 computerized tools to be able to evaluate shading
14 factors. So you might want to look at that a
15 little more.

16 And let's see, you know, there's this
17 discussion about standard feature versus option.
18 And, you know, as Aaron mentioned and others, the
19 option process has not been very successful over
20 the years. So, you know, take that into
21 consideration to somehow provide a stronger
22 incentive towards, you know, standard as a
23 standard model --

24 PRESIDING MEMBER GEESMAN: Do you think
25 differentiated incentive levels is the best way to

1 do that?

2 MR. ALLEN: Well, I'm kind of extreme.
3 I'd say forget the option thing. But --

4 PRESIDING MEMBER GEESMAN: SB-1 thinks
5 differently, so --

6 MR. ALLEN: Yeah, so --

7 ASSOCIATE MEMBER PFANNENSTIEL: But you
8 would suggest that we only give the incentive if a
9 builder commits to 50 percent or 75 percent or 100
10 percent?

11 MR. ALLEN: That would get you closer to
12 your goal, you know. I mean, of course, there are
13 some exceptions where the -- but that sounds like
14 a good strategy.

15 Okay, I did have one last comment
16 somewhere here. Oh, just the general reservation
17 application. And I know we'll follow up with some
18 more detailed comments. But, there is that risk
19 of not having to -- of leaving money out there,
20 reserving money at a higher rate, and then it not
21 turning into a project, coming back and be valued
22 at a lower rate. So something obviously needs to
23 keep projects more honest on that way.

24 So, thank you.

25 PRESIDING MEMBER GEESMAN: Thank you

1 very much, Tor.

2 MR. TUTT: I just wanted to mention one
3 thing regarding related to your first point. The
4 optimized system. Looking in Bill's presentation
5 just at one factor, geography, you can that we're
6 not proposing the optimum system, that somebody
7 installing a system in San Diego would get a 10
8 percent higher incentive than the standard one in
9 the reference system.

10 And I believe there are other factors
11 related to orientation, module structure,
12 installation that would also not be necessarily
13 the optimum in the reference system.

14 So I would suggest that there are ample
15 opportunities to get a higher incentive than the
16 2.50 by structuring your system well and putting
17 it in the right place.

18 MR. ALLEN: Good to know, thanks.

19 PRESIDING MEMBER GEESMAN: Gwen Rose,
20 Vote Solar.

21 MS. ROSE: Hi; thanks for letting me
22 address you. I just want to, probably won't bring
23 up anything new here, I just wanted to add my
24 voice to the concern that I think Rob and Tor both
25 brought up, which is that in terms of the

1 incentive amounts and the volume buckets, I think
2 that hopefully we could revisit those.

3 I think they start, the buckets, the
4 volume buckets in the earlier start out a little
5 bit lower and I think the incentive level might be
6 a little bit lower, and I just wanted to bring up
7 that.

8 At the advisory committee meeting that
9 we had last month, our Chairs, Rob Hammon and
10 David Hocschild, presented their version of what
11 they thought the structure should look like, and
12 it was 15 megawatts buckets to start out; and 2.60
13 a watt.

14 And if we really want to entice builders
15 to come in, we want to get the program starting
16 strong, I would just request that we look at that
17 proposal again. Because it seemed like, as far as
18 the advisory committee goes, there was no
19 opposition to that original proposal. And there
20 was, I would say, widespread agreement that it was
21 a good one. So, that's it.

22 PRESIDING MEMBER GEESMAN: Thank you
23 very much.

24 MS. ROSE: Thank you.

25 PRESIDING MEMBER GEESMAN: Ed Murray,

1 CalSEIA.

2 MR. MURRAY: Good morning, Commissioner
3 Geesman, thank you for allowing me to speak. I am
4 Ed Murray from the California Solar Energy
5 Industry Association. Les Nelson couldn't make it
6 today; he's in Washington, D.C. So he asked me to
7 speak about the program.

8 The thing that we see lacking in this is
9 the lack of the residential solar thermal. And I
10 may be the fair-haired stepchild, but when I see a
11 new solar homes partnership I think solar hot
12 water and photovoltaic. And it seems like there
13 should be some provision for solar water heating.

14 In order of efficiencies there's energy
15 efficiency, solar hot water heating and
16 photovoltaic as far as the efficiencies go. And
17 so I think we're missing the mark if we don't
18 include solar thermal in the process.

19 PRESIDING MEMBER GEESMAN: You know, I
20 don't think I disagree with you at all. But I'm
21 not certain that that point carried the day in the
22 debate on SB-1.

23 MR. MURRAY: Well, they have included it
24 with the SDREO are putting together a program for
25 a rollout of a program for solar thermal next

1 year.

2 ASSOCIATE MEMBER PFANNENSTIEL: Pilot.

3 PRESIDING MEMBER GEESMAN: On a pilot
4 basis. And we were told at the Energy Action Plan
5 meeting that we held with the Public Utilities
6 Commission a couple weeks ago that that was likely
7 to be confined to a focus on solar electric, or
8 rather on displacing existing electric water
9 heating, whereas the type of program that both we
10 and the PUC had initially proposed would have been
11 focused on gas water heating displacement, as
12 well.

13 MR. MURRAY: And that's ongoing. That
14 hasn't been determined yet. We're going back and
15 forth with our comments and theirs.

16 We do displace natural gas in that
17 therefore the natural gas can be used to create
18 electricity, so there's still that discussion
19 going on.

20 PRESIDING MEMBER GEESMAN: Music to my
21 ears.

22 MR. MURRAY: And I think part of the big
23 problem is that the CEC and the industry, the VIA
24 says that solar thermal hasn't been efficient, or
25 hasn't been effective. And it all goes back to

1 the black-eye of the early '80s. And it has come
2 a long way since then.

3 And so we're much more efficient, and
4 we're becoming also more effective, as far as
5 reliability goes.

6 So I'd like you to consider it, and
7 especially if we're talking about zero-energy
8 homes in the Building America program, which will,
9 the Building America program will include solar
10 hot water. You can't get to zero energy without a
11 solar water heating system.

12 Thank you.

13 PRESIDING MEMBER GEESMAN: Thank you
14 very much. Tim.

15 MR. TUTT: Yeah, Ed, excuse me. I share
16 your desire to see solar hot water, or solar
17 thermal systems included, as well. And I think
18 that one unfortunate thing is that SB-1 defines a
19 solar energy system without consideration of the
20 solar thermal option.

21 So, we are somewhat constrained, but if
22 you have any ideas as to how we can include solar
23 water heater in the program overall, perhaps as an
24 efficiency option or something else, feel free to
25 put it in your written comments.

1 MR. MURRAY: Thank you.

2 PRESIDING MEMBER GEESMAN: David Bruder,
3 Southern California Edison.

4 MR. BRUDER: My comments pertain to the
5 administrative --

6 PRESIDING MEMBER GEESMAN: You're going
7 to have to make them in the microphone to pick it
8 up on the transcript.

9 MR. BRUDER: Okay. My comments pertain
10 to the administration portion. Should I wait
11 after Mr. Blackburn's presentation, or go ahead
12 now?

13 PRESIDING MEMBER GEESMAN: Commissioner
14 Pfannenstiel is saying yes, so wait.

15 MR. BRUDER: Good. Wait?

16 PRESIDING MEMBER GEESMAN: Wait.

17 MR. BRUDER: All right, thank you.

18 PRESIDING MEMBER GEESMAN: Bill Kelly,
19 PowerLight.

20 MR. KELLY: Commissioners, thank you for
21 the opportunity to speak today. Just wanted to
22 make a few comments.

23 One on the program. First of all, our
24 company is very supportive of the direction of the
25 program in terms of really heightening the quality

1 and performance of systems that are installed in
2 new homes. I think the goals of the program in
3 that regard are in line with what we think is
4 important in the industry.

5 And I want to highlight that in the
6 creation of the program there's a lot of things
7 that are added to the program that are not in
8 current program. For example, ten-year warranties
9 included now. We've got this estimated
10 performance-based incentive which is going to add
11 cost, documentation, from the industry's
12 perspective.

13 There's also now a requirement for
14 efficiency that's not in the current program. And
15 all of those things -- and inspection requirement
16 that's to be paid for by the builder that's not in
17 the current program.

18 At the same time the incentives are
19 dropping in the current program. And right now in
20 the industry, from our perspective, the pricing
21 for materials in the near term is not dropping.
22 We don't see the pricing for solar going down next
23 year.

24 So, I think my suggestions are, number
25 one, in line with what others have said today, is

1 keep the incentive level at what it is now, 2.60
2 per watt.

3 The second suggestion is that for the
4 tier one incentive that builders are not required
5 to exceed Title 24 to qualify for this program,
6 which they're not now. I think that we've had,
7 just in the past month a couple builders that have
8 signed up to do solar home programs whose
9 communities were not designed to exceed Title 24.
10 And under this new program they wouldn't. Those
11 communities wouldn't have qualified for solar. I
12 think that that will be a disadvantage to builders
13 bringing them in the program by making that a
14 requirement.

15 At the same time, once builders come in
16 and start installing solar, as I think most in the
17 industry believe, they're going to start doing
18 more on the efficiency side, so it gives the
19 industry an opportunity to ultimately have those
20 builders committing to higher levels of
21 efficiency.

22 But this is something we feel very
23 strongly, that the CEC should not require
24 exceeding Title 24 to qualify for this program.
25 That will be a disadvantage, a significant

1 disadvantage in the early years.

2 The second tier with a heightened
3 incentive, I think that is a good idea, to
4 encourage builders to do, to go the extra mile,
5 but not to make it a requirement. So a carrot
6 rather than just sticks for the participation in
7 efficiency and solar.

8 And then the final suggestion is that we
9 would like to see the utilities, the IOUs
10 administering the program. We are already working
11 with each of the IOUs in interconnecting the
12 systems. A lot of the same paperwork that we need
13 to submit in the administration phase is
14 consistent with the paperwork that we need to do
15 in the interconnection.

16 And the utilities actually have been
17 very supportive and are asking for earlier
18 notification of these communities, to help them in
19 their planning phases. So I think it would
20 provide the system, as a whole, the opportunity to
21 plan for these solar communities as they get
22 designed and built in the state.

23 Thank you.

24 PRESIDING MEMBER GEESMAN: Thank you.

25 Samuel Truthseeker also from PowerLight.

1 MR. TRUTHSEEKER: Thank you again for
2 the opportunity for myself and for PowerLight to
3 make comments to the guidebook.

4 Specifically I'd like to make comments,
5 technical issues on appendix 3. PowerLight,
6 again, like Bill says, appreciates the guidebook
7 and trying to pinpoint performance and give rebate
8 to the performance of solar systems. And
9 hopefully the following points will help make sure
10 that we are onpoint with that, and moving in the
11 correct direction.

12 First is the NOCT calculation for BIPV
13 that is called for in this appendix. Basically
14 we're specifying a new mounting configuration for
15 the BIPV now. The NOCT was developed originally
16 for rack-mounted systems and the guidelines for
17 the windspeed are based on a rack-mounted system.

18 And once that has been changed to the
19 BIPV where it's integrated with the roof, those
20 wind speeds no longer fit that criteria of the
21 rack-mounted system, so it actually has much
22 greater influence.

23 So what we're suggesting is that we
24 specify lowering the windspeed criteria, because
25 then it'll tighten up the results of NOCT and

1 actually make them meaningful to BIPV. Where as
2 it stands now, the range would be so high if I
3 show up on Tuesday and come back next week,
4 there's going to be a large difference in what the
5 reported NOCT is. Which, again, is input to the
6 model; it would change the rating system.

7 Second point is we're concerned about
8 the deadline that's set for the implementation of
9 the new NOCT for the BIPV products. So, if we
10 look at timeline, best case, maybe the guidebook
11 is done in a month. Takes maybe a month to review
12 that by the people who conduct the NOCT test. And
13 then we're looking at, you know, already being in
14 mid December. And manufacturers scrambling to
15 conduct the test under the new guidelines.

16 So, not only -- so the NOCT test is also
17 conducted; it's based on weather conditions. So
18 it's not only okay, we have two weeks just to go
19 out there and do it; we actually have to have the
20 proper weather conditions of low windspeed, proper
21 irradiance. And wintertime is not very ideal for
22 those conditions. And in some instances,
23 impossible.

24 So, we suggest that we make sure we're
25 sensitive to the timeline of when that gets

1 implemented.

2 PRESIDING MEMBER GEESMAN: Do you have a
3 recommendation?

4 MR. TRUTHSEEKER: Off the cuff I would
5 say a year; that would guarantee that there's
6 summer months to do the testing. So, and the --

7 PRESIDING MEMBER GEESMAN: What would we
8 do with respect to that requirement in the
9 interim?

10 MR. TRUTHSEEKER: Right. In the
11 meantime I would say we do it very similar to the
12 way the rack-mounted systems are being handled by
13 the modeling software. Basically by rack-mount
14 the software degrades the NOCT, the listed NOCT
15 rating.

16 All of the module manufacturers already
17 have NOCT rating; it's with a configuration that's
18 more typical for the standard NOCT, and it's not
19 the new configuration that's reported. You could
20 add a correction factor to that BIPV system, as
21 well, just like you do the rack-mounts. And
22 that'll get us through the next year.

23 PRESIDING MEMBER GEESMAN: Bill, you
24 look like you wanted to say something.

25 MR. PENNINGTON: Yeah, I'd like to

1 respond to this. I think this is a legitimate
2 concern. We certainly want to get to a better
3 testing protocol. But that takes some time.

4 We have been thinking about using
5 exactly what he has proposed as a possible interim
6 solution. Sandia has an adjustment procedure
7 for -- these are cell temperatures, operating cell
8 temperatures that are important to the production
9 of the module.

10 So, we could see an interim thing here
11 that we could work out that would allow previously
12 tested results to be adjusted using the Sandia
13 technique. And we'd be happy to work with the
14 industry to try to detail that some in the next
15 version of the guidebook.

16 MR. TRUTHSEEKER: The next comment I
17 have is actually about the HERS testing.
18 PowerLight supports the whole concept of having
19 HERS come in and do testing, just like they do for
20 the Title 24.

21 The one thing we have is just we think
22 that there should be a flesh-out period for the
23 HERS inspectors on how the process is done, and
24 what exactly is -- what is more practical and
25 efficient to be done on the building.

1 So what is set out in the guidebook
2 might not actually be as feasible as it seems in
3 writing when you get out to the field. So I just
4 want to make sure we, if possible, allow some time
5 for that.

6 And then the last comment is I was
7 looking at the new version of the appendix that
8 was just out on the table, so I just had a chance
9 to look at this today. But there's a point in
10 here about the nameplate rating of the module.
11 And specifically the comment where it says that
12 the performance can be no less than the module
13 nameplate rating.

14 I support what we're trying to achieve
15 with that comment and that specification. But
16 what I'm concerned about is how it might limit the
17 -- there's limits to the manufacturing
18 capabilities. And I'm not well versed in all of
19 this, and I don't know all the specifics, but I
20 want to make sure that we're not forcing the
21 bottom level of efficiency of the module; so now
22 we're pushing the nameplate level to the very
23 outliers of the bottom to make sure they all
24 comply, instead of giving a mean and having a
25 standard deviation around the mean with which is

1 typical.

2 So we appreciate what we're trying to
3 achieve; just want to make sure we're sensitive to
4 what is practical with the manufacturing
5 capabilities.

6 That's it. And I'll follow up with
7 written comments.

8 PRESIDING MEMBER GEESMAN: We appreciate
9 that.

10 MR. TRUTHSEEKER: Thank you.

11 PRESIDING MEMBER GEESMAN: Mark Johnson,
12 Golden Sierra Power.

13 MR. JOHNSON: Good morning,
14 Commissioners. It seems there's one key component
15 missing from here today, and I don't see anybody
16 representing this industry, and that's the
17 financing industry.

18 One of the questions that I had looking
19 through the guidebook was simply who owns these
20 systems and how they're transferred. I know,
21 Commissioner Pfannenstiel, you were quoted in an
22 interview recently saying that we were going to be
23 able to amortize these systems into loans over a
24 period of time.

25 But I'm wondering how we're going to

1 value those systems, and how appraisers are going
2 to look at them and incorporate these. How
3 financial institutions are going to adjust for
4 ratios qualifying.

5 Because essentially what's happening
6 today with the financing that's available, there's
7 actually three forms of financing that we're
8 seeing used, or four if you take people using
9 their own personal cash.

10 But you have people taking equity lines
11 out on their property; essentially increasing or
12 reducing their equity in their property to get
13 these systems in. But, yet, not getting any kind
14 of recognition on the qualification or the ratios,
15 we'll say, for paying that electric bill.

16 So they're still being counted as paying
17 the electric bill, plus paying the loan on the
18 system. So the banks aren't recognizing the
19 adjustment for the energy efficiency when it comes
20 to qualifying. And why is that important?
21 Because that's how banks make their money, is
22 because if we could show a way to increase the
23 qualifications of a borrower, then that allows
24 them to increase their loan amount, which is how
25 banks make their money, obviously. And I think

1 that's the one key factor we're missing here.

2 One of the things we're working at the
3 PUC workshop in putting together its guidebook is
4 the question of permanency. One, because the BOE,
5 the questions of how we tax the systems and how
6 it's installed. But not only that, but if we
7 can't provide permanency to these systems, then
8 the banks won't recognize it; and there's a huge
9 risk there with somebody just pulling the systems
10 off.

11 And that's what I see today, is that
12 there's no ownership to the final user of the
13 system in a sense that he's just getting power.
14 It's built into the purchase price of his home.
15 Or if it's not, it's owned by a third party and he
16 ends up buying power directly in a power purchase
17 agreement.

18 And that's where I think you've left
19 yourself open here; in some cases where you could
20 have power purchase agreements where developers
21 could come in, buy the system, take the funds
22 back, and then turn around and get into selling
23 the power back to the actual host customer. And I
24 don't think that's the direction that you're
25 looking at going in here.

1 But I do think you need to get the
2 financial institutions involved at this point
3 because I think that's the big hindrance here.
4 You can do everything to get the builders
5 involved, but if there's no benefit for the actual
6 homeowner, or he needs more money to qualify to
7 get into a solar home compared to getting into a
8 home without solar, you know, that could be a
9 financial decision, not a decision based on what's
10 right and what's wrong in getting the efficiency.

11 PRESIDING MEMBER GEESMAN: Do you see
12 anything in the guidebook, as the staff has
13 proposed it, that would prohibit or inhibit that
14 third-party ownership structure?

15 MR. JOHNSON: Not by the ownership
16 comments in there. The only thing that shows in
17 the ownership is that you can't be a muni or a
18 utility, an IOU.

19 I think one of the things that I talked
20 to the Office of Real Estate just yesterday
21 regarding the appraisal issue, because one of the
22 things that we're trying to work with over on the
23 workshop side is how do you place value on these
24 systems. Is the value placed on the cost of the
25 system; or is the value placed on the production

1 of the system?

2 And then, of course, you have the life
3 long, and so you add up the kilowatt hours. If
4 the house is sold how is that transferred? The
5 appraisal department, or the Office of Real Estate
6 said because these systems can be actually --
7 although they're bolted on permanent or whatever,
8 they can be taken off.

9 So essentially somebody could go in; buy
10 the new home; and sell it in a year and pull his
11 solar system off and take it with him to his next
12 home. And there's nothing that you or anybody can
13 do at this point.

14 So I think there's some real permanency
15 issues that we need to address; not only just here
16 at the CEC, but also tomorrow in our workshop at
17 the PUC. And I know we'll be discussing some of
18 those things.

19 PRESIDING MEMBER GEESMAN: So you don't
20 think that the system, itself, would be legally
21 classified as a fixture on the property?

22 MR. JOHNSON: Well, I have a BOE report,
23 there's a hearing coming out in December, or a
24 ruling supposedly in December coming out regarding
25 that. Right now the question that's being

1 proposed is it really comes down to how it's
2 installed.

3 Because if you have an installer
4 contractor who's doing everything the same, is it
5 a material or a fixture, and that's what's in
6 question today.

7 PRESIDING MEMBER GEESMAN: Okay.

8 MR. JOHNSON: And so they haven't made
9 that decision at this point.

10 ASSOCIATE MEMBER PFANNENSTIEL: Mark,
11 would it be different between the building
12 integrated PV as opposed to the panels?

13 MR. JOHNSON: The only thing that's
14 getting the -- or that meets that criteria at this
15 point are tiles and carports. But everything else
16 that would, at this point, could fall under that,
17 the fixture deal.

18 But part of -- the importance to me is
19 to get this program off, you've got to get the
20 finance -- I'm not talking about special financing
21 that's available. Like right now the CalSEIA has
22 a program that's available. But basically it's an
23 unsecured credit card at 14 percent that Wells
24 Fargo is banking, you know, backing through the --
25 is it the electric gas --

1 UNIDENTIFIED SPEAKER: EGIA.

2 MR. JOHNSON: -- EGIA, right. So I
3 think it's very important at this point in time
4 that we somehow or another communicate to the
5 banks how these systems are incorporated into the
6 structures; or how we can, within the rules that
7 we establish, make sure that they stay within the
8 structure.

9 Because if we can't do that, then we
10 can't eliminate the risk to the financial
11 institutions to come in and start incorporating it
12 into it. Because we'll then need to set the
13 standards for the appraisals, the appraisal people
14 to come in. Because they're the ones who'll make
15 the final decisions. The banks will be the ones
16 who'll make the final decisions whether they'll
17 accept the value of a solar system compared to
18 whether they wouldn't accept them.

19 So if we can accept within the standards
20 that we're setting, then we can go to the
21 financial institutions and say, this is what we've
22 established; does this meet the risk criteria that
23 we need to get the financing.

24 I'd like to change gears a little bit
25 and go to the PV calculator. One of the things

1 that was brought up is that it uses the Commission
2 weather data and climate zones.

3 I have some concerns with these models
4 that are being used. One of the things that we've
5 been watching over the last two years, and I know
6 I've brought this to your attention, is the
7 California irrigation management information
8 system, which tracks real-time data, and has been
9 for over 20-some years.

10 And I think it's really important that
11 we start using real-time data. Golden Sierra
12 Power, with its filing comments with the CSI, had
13 done a research of 30 different weather stations
14 around the State of California, out of the 160
15 that are available.

16 And what we found is that over the last
17 five years, across the board, there has been a
18 decline in solar radiance. Some as much as 5
19 percent, some as much as 20 percent, depending on
20 where the weather stations are.

21 I can't equate it to anything except for
22 that we're possibly going through a climate
23 change. I think the models that we're using are
24 based on data that is not real; and I think we
25 have the real data available that, with some

1 integrating with what we're doing, and production
2 models, that we could be using that data today to
3 help determine what systems are.

4 The problem I have with, you know, two
5 years down the road, if somebody comes out to look
6 at a systems production and all of a sudden it's
7 10 percent, and somebody starts getting upset with
8 their installer going through the rigmarole to
9 find out what's wrong with the system, when in
10 reality it's just a loss of solar radiation that
11 we're experiencing through.

12 And I've found that this last year
13 because my system that's producing that top
14 kilowatt hour lost about 5 percent. And the
15 first thing I did was look at the solar radiance,
16 and I'd lost 5 percent just the last year in solar
17 radiance.

18 So, I have to equate that loss to my
19 system production. There's nothing wrong with my
20 system at all. But in your model I would have had
21 a problem with my system being 5 percent off.

22 PRESIDING MEMBER GEESMAN: Yeah, I have
23 to say, and I'm not on our building standards
24 Committee, so I don't have firsthand knowledge,
25 but I am on our electricity Committee, and I have

1 gone through our forecasting cycle before.

2 And our forecasters and also those of
3 the utilities, as well, have insisted on extremely
4 long time series data. And are very strongly of
5 the belief that that's the appropriate way for the
6 electricity system to plan for its future needs.

7 So you got a tall hill to climb arguing
8 for using shorter data --

9 MR. JOHNSON: The data value with the
10 CMOS is 20 years old. I don't know how much older
11 they want to get. I mean we can go back to 1981
12 when it was first installed --

13 PRESIDING MEMBER GEESMAN: And I've had
14 arguments about weather stations in San Diego,
15 that because they lack 50 years of data they're
16 not considered usable by our forecasters. And I
17 don't know if the similar situation presents
18 itself in the building standards process or not.
19 I simply haven't had firsthand experience with it.

20 MR. PENNINGTON: If we could you just
21 for a couple of minutes --

22 PRESIDING MEMBER GEESMAN: Yeah.

23 MR. PENNINGTON: -- we've just done a
24 thorough review of our weather data, and done some
25 reconciling of weather data for this purpose. And

1 Bruce Wilcox, who's under contract to the
2 Commission, has done that work. So maybe he can
3 describe it.

4 MR. WILCOX: In fact I've looked at the
5 CMAS data, and particular there were four of the
6 16 California weather zones for which there is
7 actually -- well, 12 of the weather stations are
8 based on a typical meteorological year weather
9 data which was produced by the Department of
10 Energy, and has pretty good model solar on it for
11 long-term basis.

12 Four of those weather stations were
13 still based on weather that was put together for
14 the Commission in the early '80s by a consultant
15 who assembled, it was a kind of a new thing in
16 those days, and he put together weather data
17 that's been in use since.

18 The solar on those weather files is
19 pretty suspect. And so we ended up looking at the
20 CMOS data and looking at the latest data from
21 NREL, from the national solar radiation database.
22 And adjusted the solar radiation data for those
23 four climate zones to make it much more reasonable
24 with the long-term averages.

25 I'm also very solid that we need to use

1 long-term averages; and everyone needs to
2 understand that the year-to-year variation in
3 weather is a big deal in heating and cooling
4 loads; it's also a big deal in solar system stuff,
5 too. And you can't expect the system to always
6 work the same every year.

7 So, I think we're trying to do the best.
8 I think that in the future the Commission ought to
9 maybe invest some resources in improving the
10 weather that's being used for these calculations.
11 But I think that where we are right now it's okay
12 for the initial start of the program.

13 MR. JOHNSON: Did you find -- can I ask
14 a question?

15 PRESIDING MEMBER GEESMAN: Yeah, go
16 ahead.

17 MR. JOHNSON: Did you find the CMOS data
18 to be a viable source of weather data with what's
19 being provided on the system?

20 MR. WILCOX: Well, the CMOS data, you
21 know, the data is like 161 stations or something
22 like that, in California; and they're remote
23 automatic weather stations.

24 The problem with the CMOS data is it's
25 operated for people who are forecasting water

1 needs. And it's not a solar radiation data
2 network. And if you look at the data it's very
3 obvious that no one has ever done any quality
4 control on the solar part of the data.

5 And so the stuff I looked at at one of
6 the stations near Palm Springs, there's 20 years
7 of data. And some of the data was clearly
8 completely bogus and I had to throw it out. And I
9 think that's probably -- that's what happens in
10 data networks where people aren't using the data
11 and they're not being particular about it.

12 So, I think it's a great resource. It's
13 not directly usable in an easy way, I think.

14 MR. JOHNSON: But it could be conformed
15 in some form? I guess I'm looking for something
16 more on the industry to protect us, in a sense
17 that we have a backup that shows -- I found that
18 that weather data really it tracks production
19 pretty well. And I'm looking for something that I
20 can show a customer, instead of not so much on
21 sizing, you know, that type of situation.

22 MR. WILCOX: Well, the Commission's
23 proposed procedure here, we're not telling people
24 how many kilowatt hours they're going to get. I
25 mean that's, you know, the bottomline on the CEC

1 PV calculator is the rebate. And so I don't think
2 that, you know, we're not exposing people to
3 liability because of these calculations.

4 I think the future of weather data for
5 solar stuff is people are moving toward using
6 satellite photography data to generate solar
7 radiation estimates. And that offers an infinite
8 sort of detail capability. And I think that's
9 something we could maybe look forward to, to
10 having a finer data grid available in the future.

11 PRESIDING MEMBER GEESMAN: Well, I think
12 this is a good topic. There is a commitment to
13 use the best data that is available to us. And I
14 ought to invite all you guys back to our
15 discussions on humidity data --

16 (Laughter.)

17 MR. WILCOX: Another good topic.

18 MR. JOHNSON: Thanks, I think I'll be
19 skiing on that day.

20 (Laughter.)

21 MR. JOHNSON: Thank you very much.

22 PRESIDING MEMBER GEESMAN: Thank you,
23 Mark. Joe McCabe, Energy Ideas, LLC.

24 MR. McCABE: Thank you for everyone
25 involved with the evolution of the guidebook thus

1 far. Ed Murray of CalSEIA has already addressed
2 the comments I had to make, so I won't need to
3 talk at this time. Thank you.

4 PRESIDING MEMBER GEESMAN: Okay, thank
5 you. Bruce Bowen, PG&E. Bruce, did you want to
6 talk on anything other than administration?

7 MR. BOWEN: Yes.

8 PRESIDING MEMBER GEESMAN: Okay, great.

9 MR. BOWEN: Yes, just briefly. Good
10 morning, Commissioner and Chair and Staff. I'm
11 Bruce Bowen from PG&E, and I will be talking later
12 about administration. But just a couple of quick
13 comments on one other issue.

14 First, I think primarily I'd like to
15 echo Rob's comments about how important this
16 program is for the state and how excited we are to
17 be here. And also our commitment to work on
18 supporting the new construction program incentives
19 for tier two, and changes that we have to work
20 with at the CPUC in order to find the right level
21 of incentives that would properly reflect demand
22 values -- demand savings.

23 PRESIDING MEMBER GEESMAN: Terrific.
24 Liz Merry, Northern California Solar Energy
25 Association.

1 MS. MERRY: Hello; thank you for your
2 time this morning in taking all these comments
3 from the public and all of your work on this.
4 This is a very very impressive program going very
5 quickly.

6 I'm going to make three basic points.
7 One, I do agree very much, and it's been said a
8 few times, that we need to front-load the budget
9 and resources in order to jump-start the
10 standardized inclusion of PV in new home
11 developments.

12 One of the big reasons for that is there
13 could be big delays in supply and demand. The
14 technology requirements that are being made in
15 this guidebook could possibly delay it. So you
16 really need a big carrot out there as quickly as
17 possible.

18 I also suggest including an appeals
19 process for the reservation extensions. I know
20 that's been a big deal in the past, and the
21 appeals are mostly not used, however you don't
22 want to encourage, especially in this first year,
23 a major nugget, a huge developer to go through the
24 whole process, commit to a lot of power and then
25 have an unavoidable delay and have no way to

1 actually go through with the commitment. So big
2 carrot, delay, nowhere to go. Not a good idea
3 three years from now.

4 I also strongly support the inclusion of
5 solar thermal. Yes, we can't formally define it;
6 we can't formally incentivize it at this point.
7 What we can do is EG it. We can, for instance,
8 energy efficiency tier two solar thermal in
9 parentheses. We can start using the term solar
10 hot water in the publications just like we do
11 compact fluorescent bulbs. That simple
12 acknowledgement, as an example, gives credibility
13 to the technology that just the general public
14 needs.

15 And finally, for the post-installation
16 field verifications, I would suggest that the HERS
17 raters be able to, or are encouraged to, or
18 contracted to do more than just visual and
19 technical. Because they're out there anyway, so
20 any kind of market data or customer use data or
21 actually talking to the people how are they using
22 the systems, any kind of other data they can
23 collect is going to be, you know, efficient money
24 spent on their time.

25 Thank you very much.

1 PRESIDING MEMBER GEESMAN: Thank you.

2 Darryl Conklin, Renewable Technologies, Inc.

3 MR. CONKLIN: Thank you for the
4 opportunity to see you and talk to you again on
5 this important issue. Since I last saw you, John,
6 I went through CABEC, the California Association of
7 Building Energy Consultants, certified energy
8 plans examiner. And it's a pretty grueling
9 process, but now that I am a certified energy
10 analyst I've had the chance to look at how this
11 being implemented under Title 24 will benefit the
12 greater community.

13 I see that we need the -- my vision and
14 hope is that we have solar once placed under Title
15 24, we have the third-party verification and an
16 arm's length from both the seller/integrator and
17 the housing developer. In this way, caveat
18 emptor, let the buyer beware and the consumer be
19 protected.

20 I know that earlier there were some
21 questions that may have come up between -- I was
22 traveling here listening to the broadcast -- of
23 whether or not there's an issue for connecting the
24 modules and whether roofers would be allowed.

25 Many of these things need to be ferreted

1 out at the Contractors State License Board level,
2 and fall under that unique area of who's going to
3 own and accept the liability and responsibility.

4 We had a very good discussion with the
5 CPAs as to the cost of the system, as renewable
6 technologies just went through the first Board of
7 Equalization assault on whether or not this is
8 taxable equipment. It appeared in a copy in
9 September. It's available if you Google search
10 it.

11 It occurred in Amador County. The Board
12 of Equalization tried to tax the solar support
13 structure saying that, yes, the solar modules,
14 themselves, and the inverter would be tax exempt
15 equipment, but they wanted to assess the value of
16 any of the peripherals that they could.

17 I understand their motivation. I have
18 met with the assessors before on other issues that
19 they wanted to tax. But we need to clearly define
20 these areas so that it's not so gray, and it
21 doesn't leave an opening for them to come in.

22 On the last item I'd like to briefly
23 discuss, we're under a shortage in the
24 marketplace. Understanding that the global
25 community is now pushing for the same product that

1 we're all trying to compete for, wouldn't it be
2 appropriate at this time to look at the CEC rating
3 recognition of just using UL-qualified and saying
4 that there is equivalency in the marketplace if
5 TUV, CE or factory-mutual has been given a rating
6 to a product. That would give us greater latitude
7 in being able to bring the products in in a
8 shorter timeframe, and allow us to have greater
9 access to equipment.

10 And that's all I have.

11 PRESIDING MEMBER GEESMAN: Thank you,
12 Darryl.

13 MR. CONKLIN: Thank you.

14 PRESIDING MEMBER GEESMAN: Let me say,
15 Commissioner Pfannenstiel and I have gotten
16 ourselves into a scheduling obligation where
17 several months ago we committed to an 11:00
18 meeting.

19 What I'd like to do is initiate our
20 lunch break fairly early. Break now, come back at
21 12:30 and take up the administration issue.

22 I recognize that many of you may not
23 have enough of an interest in the administration
24 issues to come back after lunch. And to those of
25 you, let me say, I'm extremely inclined to think

1 that we ought to have another workshop. The
2 November 6th date works.

3 I think we ought to put out another
4 version of the draft guidebook before that
5 workshop, and that draft version will reflect the
6 Committee's review, both the comments made here
7 today, and the written comments that we hope to
8 receive by the October 12th deadline.

9 We're going to try and stay on the
10 timeframe that has the full Commission adopting
11 the guidebook on November 29th, so at least as
12 things currently appear to me, the November 6th
13 workshop is going to be the best opportunity to
14 revisit issues that people feel still need to be
15 addressed.

16 As I think most of you know, typically
17 we don't spend a lot of time in our business
18 meeting adoption reevaluating basic issues. So,
19 let me invite you both to make written comments to
20 us by October 12th, and to plan for another
21 session on November 6th.

22 We will take up the administration
23 issues at 1:00 this afternoon -- excuse me, 12:30
24 this afternoon. I don't envision that going much
25 longer than about an hour. So, we don't have a

1 lot in front of us.

2 Thank you. We'll be adjourned for
3 lunch.

4 (Whereupon, at 10:56 a.m., the
5 Renewables Committee Workshop was
6 adjourned, to reconvene at 12:30 p.m.,
7 this same day.)

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1 appendix 4, section 2, regarding shading when
2 there's more shading than the minimum required
3 shading, the minimum shading criteria.

4 Specifically there's a couple of things.
5 One, there's some complications with measuring
6 shading that I think aren't being addressed. One
7 is specifically where shading is being measured
8 within the footprint of the array.

9 So the general discussion in this
10 section two is assuming a single-point measurement
11 for example, using a solar pathfinder, you're
12 basically measuring the shading at that location
13 where the pathfinder is located.

14 And one of the problems with that is
15 that to get a conservative measurement of the
16 shading you need to find the worst case shading
17 location within the footprint and take the reading
18 there. But in reality you'd like to take it at
19 multiple points, for example, every corner of the
20 array.

21 Because if you measure the shading on,
22 say, the north corner it's completely different
23 than the shading on the southern corner. And
24 that's true of any point on the array.

25 So my first point is that I think there

1 needs to be a discussion about the location the
2 shading measurements are made. And perhaps
3 discussion about taking multiple readings.

4 Secondly, the techniques, the
5 methodology described results in a very
6 conservative measurement of shading. In other
7 words, it over-measures, it overstates the
8 shading, which is fine. We're trying to keep this
9 application process simple.

10 But let me just describe in what way it
11 tends to be conservative, is that there are 22.5
12 degree azimuth angles that are used for measuring
13 the elevation of the highest obstruction. So
14 that's a fairly large resolution, 22.5 degrees can
15 be an hour and a half at around 2:00 p.m. in the
16 summer.

17 So, one thing is the resolution. The
18 other thing is that we're taking the worst case
19 height of obstructions within that range.

20 So my second point regarding this is
21 that for installers that are willing to accept
22 that very conservative measurement of shading,
23 that's fine; it will result in a lower rebate.
24 But there ought to be the opportunity for
25 installers that want to take the time to do a more

1 accurate shade analysis and thereby improve their
2 production and rebate. There ought to be the
3 opportunity for them to do a higher resolution
4 than 22 degrees.

5 And this comment also relates to the
6 location. Back to my first point, where if we
7 define the location where shading should be
8 measured as the worst case location on the array,
9 which is a reasonable assumption if there's just
10 going to be a single-point measurement, then
11 again, it ends up being a conservative measurement
12 overstating the shading.

13 And so, again, there ought to be the
14 opportunity for an installer to make multiple
15 measurements around the array, thus getting a more
16 accurate measurement of the shading and not so
17 much of an over-statement.

18 My third point, and I'm going to put all
19 these in a written comment, as well, which I will
20 send to the Committee. My third point is that
21 there's no discussion of the ability to upload an
22 electronic file that represents the shading for
23 the particular installation.

24 It appears to me that it's a manual
25 entry where I have to enter multiple points into a

1 table. And I realize with the current methodology
2 it's not too many, it's eight or nine points, but
3 if you believe the first couple points I made,
4 that we need to allow people to enter more data if
5 they want, then it becomes much more burdensome.
6 And there really ought to be the ability to upload
7 an electronic file into the application system.

8 My third point -- I mean, sorry, my
9 fourth point is regarding specifically section 3D,
10 which has a brief paragraph titled, using a
11 digital camera with fish-eye lens. And the
12 previous section to that, C, outlines in quite
13 some detail that use of a product called solar
14 pathfinder, which has been the industry standard
15 product for measuring shading for many years.

16 There's a new product called the
17 solmetric suneye, which is a fish-eye lens
18 integrated with a handheld computer and software
19 that takes the fish-eye lens, identifies the
20 shading, overlays the sun path and generates data
21 onsite and in a very simple way. And I think it
22 should be listed, as well, as long as we're
23 listing specific products in the industry.

24 And that's the end of my comments. And
25 as I said, I'll put these in writing.

1 PRESIDING MEMBER GEESMAN: Thank you
2 very much. Anyone else on the phone who cares to
3 address us?

4 Why don't we move then to the discussion
5 of program administration issues. I think we're
6 going to start that with a presentation from Bill
7 Blackburn.

8 MR. BLACKBURN: Thank you, Commissioner
9 Geesman. I'm Bill Blackburn with the Renewable
10 Energy Office; I'm the Supervisor of the current
11 emerging renewables program, and the consumer
12 education program. And have been pretty involved
13 with the development of the new solar homes
14 partnership, as well.

15 We have asked the utilities, along with
16 whatever role potentially the San Diego Regional
17 Energy Office may play, to come prepared today to
18 discuss a little bit about the administration.
19 We're going to also offer public comments,
20 stakeholder comments, after the utility folks have
21 a chance to speak, as well.

22 And as all of you know, we're going to
23 be launching this new program in less than three
24 months. A little bit scary to us, but working
25 hard to make that happen. And so therefore we're

1 really prepared to continue the current
2 administration of the new solar homes partnership,
3 if that's what we need to do, which, I think, is
4 very likely.

5 But we're interested really at looking
6 at what would be the appropriate time, and who
7 would be the right people to administer it, if we
8 choose an alternative administrator.

9 So, right now what I'd like to do is to
10 ask the representatives from the investor-owned
11 utilities and the San Diego Regional Energy Office
12 to just come up here to the table to the left of
13 the dais there. and I would like to just go
14 through, I think you've seen at the table near the
15 door, some questions that I want to pose.

16 We don't expect these to be complete
17 today, but we want to really have this as sort of
18 the beginning of the discussion. So, if I could
19 just ask the utility representatives to come
20 forward and have a seat here near a microphone,
21 that would be great.

22 So my first slide is just a little bit
23 of a background. The Energy Commission, as a lot
24 of you know, has provided both oversight and
25 program administration for the emerging renewables

1 program since its inception.

2 Do we need another chair?

3 PRESIDING MEMBER GEESMAN: Excuse me,
4 Bill. Seats on the other side of the dais will
5 work, too.

6 MR. BLACKBURN: So the Commission has
7 provided program administration for the emerging
8 program since its beginning in 1998. We have been
9 interested for some time in really exploring
10 alternative administrative options. We think now
11 is an excellent time with significant changes
12 coming up in the launch of the new program to do
13 that.

14 We have heard that many of the
15 utilities, I think all of the utilities, have
16 expressed some interest in administering our
17 program. And as I think a couple did discuss
18 already this morning, we see some potential
19 synergies with existing or future customers, the
20 utilities' existing energy efficiency programs.
21 So that's really a little bit of background here.

22 What I want to do is just have three
23 slides now that will cover some kind of broad
24 topics. So what I'll do is list the two, three,
25 four bullets on the slide; and then allow, one-by-

1 one the representatives here to respond to these
2 questions. And then we'll go to the next slide.

3 So, number one really focuses, for
4 discussion purposes, on sort of interest and
5 commitment, as well as sort of general structure.
6 So can we get a commitment today from the
7 representatives here that the utilities do, in
8 fact, your company wants to play the role as
9 program administrator for the new solar homes
10 partnership.

11 Next bullet is what kind of structure or
12 model do you envision, for instance, similar to
13 the self-generation incentive program with its
14 working group, working on a lot of developing a
15 lot of the recommendations for change in the
16 program, things like that.

17 The next bullet is what mechanism do you
18 think is most viable or is needed in terms of
19 actual contract that we would have between us and
20 your company; or a memorandum of understanding or
21 something like that.

22 And then another point here, sub-bullet
23 here would be we do need to explore and discuss
24 how payments will be made. There may be some
25 legal issues that we've seen internally that would

1 affect you potentially, as the utility company,
2 actually making payments to customers. So we have
3 to explore that.

4 And so let's go ahead and start, Sarah,
5 with PG&E. Why don't we start with you.

6 MR. BOWEN: I'll start for PG&E.

7 MR. BLACKBURN: Okay, good, Bruce.

8 MR. BOWEN: Bruce Bowen, PG&E. Yes, we
9 are committed to support this program through a
10 role as administrator. We've been preparing, if
11 that were granted to us, we've been preparing for
12 this role for some time. We're ready to pick up
13 the program and launch it 1/1/07, if the rules are
14 worked out sufficiently so that we can actually
15 pick up the program and administer it at that
16 date.

17 And I think we've been, as demonstrated,
18 commitment to solar energy. We have the scale and
19 processes and infrastructure ability to, with the
20 ability to run the program, administer the
21 program. We have commitment to the customer to
22 make the process -- and the industry to make the
23 processes as smoothly operating as possible.

24 And we also believe that we can provide
25 the best integration benefits when it comes to

1 integrating this program with other programs such
2 as energy efficiency.

3 So, yes, we are committed.

4 Should I address the other questions, as
5 well?

6 MR. BLACKBURN: Sure.

7 MR. BOWEN: Okay. As far as structure
8 goes, maybe Sarah can help with this point. But I
9 think we've seen the working group as working well
10 with respect to sharing information at an
11 administrator level, and working out details.
12 It's been a constructive process and has been one
13 that we believe has served the self-generation
14 incentive program well.

15 That would also, though, I think that
16 working group structure isn't complete without an
17 open process to make sure that the industry and
18 other representatives are heard on matters, as
19 well, on important matters.

20 ASSOCIATE MEMBER PFANNENSTIEL: Bruce, I
21 want to make sure I understand this. The self-gen
22 working group that you now have, how would you see
23 restructuring that, revising that for this
24 program?

25 MR. BOWEN: I think we would anticipate

1 a separate working group for this program. It
2 would be good to make sure that the groups work
3 together so that the CEC's program and the CPUC's
4 program don't have conflicts. But I don't know if
5 there's a need for a common program, or a common -
6 - a single working group, because they are two
7 different programs.

8 MS. BIRMINGHAM: And if I could just
9 elaborate. Sarah Birmingham.

10 PRESIDING MEMBER GEESMAN: Make certain
11 your microphone is turned on.

12 MS. BIRMINGHAM: If I could just
13 elaborate on Bruce's point. This is Sarah
14 Birmingham from PG&E.

15 We definitely need to have a lot of
16 consistency with multiple administrators; and so
17 there would be a need for the administrators to
18 meet just to make sure that the program is being
19 administered consistently across the state.

20 But what we envision is beyond just
21 meeting to talk about various administrative
22 details, is having an open process, perhaps on a
23 quarterly basis, with public input. So that
24 issues can be addressed in a public forum.

25 MR. TUTT: Sarah, in the self-gen

1 working group, the oversight is provided by the
2 PUC generally through a PUC decision. What
3 process would you see for that kind of role for
4 the Energy Commission in the new solar homes
5 partnership structure?

6 MS. BIRMINGHAM: My initial thought is
7 that the oversight would come from the CEC, and
8 they would be overseen by that process. Although
9 we would be open to any kind of discussion you'd
10 like to have on that topic.

11 MR. BOWEN: As far as the mechanism
12 contractual MOU, and so on, I don't know that we
13 have a point of view right now. I do know that we
14 haven't identified any legal restrictions that
15 would prevent us from issuing checks. We
16 certainly do for other programs. But we'd be
17 happy to hear if people have identified that there
18 are some other barriers that we're not aware of.
19 We'd certainly be eager to hear about those so we
20 can determine whether or not we can overcome them.

21 MR. BLACKBURN: Great. Thank you, Bruce
22 and Sarah. How about let's hear from San Diego
23 Gas and Electric now.

24 MR. KATSUFRAKIS: Hi, this is George
25 Katsufракis with San Diego Gas and Electric. And

1 I think a lot of these questions I asked earlier
2 in my comments, but the commitment, yes, we're
3 definitely committed to it.

4 And the working group, I think, would be
5 a good model. A different group that coordinates
6 with the original one. Additionally, I think
7 internally the structure we would have would be
8 very similar to what we're doing on our EE
9 program. We have staff support and account
10 executives in the field promoting the program.

11 And I think we would leverage those people to
12 make sure that we're contacting builders.

13 As far as the mechanism, yes, I don't
14 think we have an opinion; that's something we can
15 look into. And also with the checks; we're doing
16 that with other programs, so.

17 MR. BLACKBURN: Okay, great, thank you.
18 And from Southern California Edison.

19 MR. BRUDER: I'm Dave Bruder with
20 Southern California Edison. Thanks for allowing
21 us to make these comments.

22 As far as our commitment to program
23 administration, I have the commitment of our
24 senior executives from the president on down, that
25 we will, if given the opportunity, gladly take on

1 the role of administering this program on behalf
2 of the CEC.

3 We are doing things right now in
4 connection with the anticipated growth of solar PV
5 installations in our customer base to prepare for
6 that. We're hiring additional staff to be able to
7 accommodate increased volume; complexity of these
8 programs is increasing.

9 We're revamping our processing
10 procedures that we've started in the self-gen
11 incentive program. We've been doing that for five
12 years. And we're looking at making some of those
13 more effective, more efficient.

14 We've launched a business improvement
15 initiative, business process improvement
16 initiative to look at interconnection, net
17 metering and payment of incentives for PV systems
18 as a combined process from a customers'
19 perspective.

20 We recognize that there are some
21 disconnects with that whole process and we're
22 really working to improve and streamline that from
23 the applicant-customer perspective.

24 The structure that we envision, well, as
25 far as program administration we've been doing

1 energy efficiency. We have about 100 people
2 working on administering energy efficiency
3 programs. We have, from the very beginning of the
4 self-gen incentive program, integrated that into
5 our energy efficiency processing. And we're going
6 to continue to do that. We're realigning some of
7 our internal structures to better integrate demand
8 response and energy efficiency with solar PV, both
9 on the new-home site and the existing buildings.

10 The mechanisms. I looked back to one
11 successful business relationship that we have with
12 the California Energy Commission. That was the
13 SB-X-15 implementation of certain energy
14 efficiency programs.

15 We had a basically commercial
16 contractual arrangement. It was done in an
17 expedited way. It seems like it would be a model
18 for working with the CEC. Essentially we would
19 act as a contractor, paying the incentives,
20 incurring the costs, and then billing for
21 reimbursement to the CEC. That's one model.
22 There are probably others.

23 As far as an oversight structure, Tim,
24 you asked about that. Some sort of an advisory
25 group process could perhaps be more effective than

1 just the group of program administrators, or the
2 industry was involved. They are a key partner in
3 the success of the program, and it seems like they
4 should somehow be involved in an advisory
5 capacity.

6 As far as our relationship with the CEC
7 I see that as being also partnership, but a
8 business arrangement and, of course, we would
9 expect oversight and some level of supervision
10 from the CEC Staff to make sure that we're all in
11 agreement as to the issues and how the program is
12 run.

13 Thank you.

14 PRESIDING MEMBER GEESMAN: I'm curious.
15 None of you -- you've each mentioned linkage with
16 your efficiency programs. None of you mentioned
17 your line extension activities.

18 And it would occur to me that that's
19 probably your primary point of contact with the
20 building industry. How would your administration
21 of the solar program plug into your line activity,
22 or your line extension activities?

23 MR. BOWEN: I was going to mention that
24 in the next category here, with respect with the
25 cost. Because I think, as everyone knows, each

1 interconnected solar customer deals with a
2 utility, at least on the interconnection process,
3 the line extension process.

4 So one way, that's a source for both
5 process improvement because that's the customer
6 and the builder should see one integrated process
7 when it comes to getting new service and getting
8 new service -- as a solar customer or solar
9 development, it should be an integrated process
10 from the customer or developer's perspective.
11 That's the process we intend to deliver.

12 That should help also manage costs, as
13 well, so that there are little or no incremental
14 costs. I mean everybody is dealing with the
15 utility in part of the process. So the
16 incremental activity should be minimal if the
17 process is well designed in an integrated fashion.

18 MR. BRUDER: That's a great question,
19 and we've been thinking about that. I mentioned
20 the business process improvement initiative which
21 I didn't mention service planning, is what we call
22 it at Edison, service planning as a part of that
23 for new construction. And that's really just kind
24 of the process perspective that, you know, a
25 builder planning solar homes has special issues

1 and needs in the service planning process.

2 We are creating processes to accommodate
3 that. For instance, you know, 500 homes on net
4 energy metering at one time before there is a
5 customer of record. So, we recognize and are
6 actually dealing with developers right now that
7 are putting in solar. And we're just starting to
8 kind of create the processes by which we would do
9 that on a larger scale.

10 From a technical engineering standpoint,
11 the one thing that we're doing right now, we are a
12 partner in the zero energy new homes program. We
13 will work with a builder to put in some solar
14 homes with instrumentation on the circuits, on the
15 distribution system, to, you know, for our
16 engineers and actually the entire industry, to
17 become familiar with its effects on system
18 planning. Can you use smaller wire; can you use
19 smaller transformers; that's a big question in the
20 planning engineers' minds that, you know, I think
21 the common wisdom is that, you know, you just do
22 it as you always have.

23 And we want to answer that question
24 definitively. Are there benefits to the upstream
25 utility system, and what, you know, how will we

1 recognize sizing requirements and things like
2 that.

3 MR. BLACKBURN: Great. And let's hear
4 from San Diego Regional Energy Office.

5 PRESIDING MEMBER GEESMAN: Before we do
6 that, let's let SDG&E and answer the line
7 extension issue.

8 MR. KATSUFRAKIS: We have dedicated
9 people for the line extension on solar projects.
10 And we've begun working very closely with them.
11 We've worked very closely with them in the past,
12 and we've begun working on this together. They
13 have attended a number of the workshops in the
14 past, and we're going to continue to work with
15 them. So, I think we're very well integrated
16 there.

17 PRESIDING MEMBER GEESMAN: Good.

18 ASSOCIATE MEMBER PFANNENSTIEL: I have
19 to ask, when the utilities submit comments on the
20 12th or before the 12th, I'd really like to see
21 written out how you're going to integrate these
22 programs.

23 And I think that you have all mentioned
24 how you're integrating it with your energy
25 efficiency program, which becomes critically

1 important when we're thinking about the tier one,
2 tier two energy efficiency levels. And then this
3 other further question about integrating with new
4 developments or line extension programs.

5 I think there's a great opportunity
6 there. And I'm not sure it is business as usual.
7 I think there may be some process changes that
8 need to be made. So I'd like to understand that
9 better.

10 PRESIDING MEMBER GEESMAN: I guess if
11 Rob Hammon is still around, if I could ask you in
12 your written comments, you might pass along to
13 CBIA, as well, to address what you anticipate the
14 builders' preferences would be from a program
15 administration standpoint, that would be valuable
16 to us.

17 MR. HAMMON: I will do that.

18 PRESIDING MEMBER GEESMAN: Thank you.

19 MR. BLACKBURN: Okay, and San Diego
20 Regional Energy Office.

21 MS. PORTER: Hi; my name's Jennifer
22 Porter, and I am a Policy Analyst with the San
23 Diego Regional Energy Office. And I'm joined by
24 Nathalie Osborn, who's a Program Manager for our
25 self-generation incentive program.

1 San Diego Regional Energy Office would
2 also like to express their willingness and
3 eagerness to administer the new solar homes
4 partnership for the San Diego region.

5 We're a nonprofit 501(c)(3) corporation.
6 Our mission is to implement energy efficiency
7 programs, provide information and foster public
8 policies to facilitate the adoption of clean,
9 renewable, sustainable and efficient energy
10 technologies and practices.

11 We are, like I said, the current
12 administrator for the self-generation incentive
13 program in the San Diego region. And our mission
14 matches that pretty well of the California Solar
15 Initiative, which is to bring online clean,
16 renewable energy resources for the State of
17 California.

18 We've been promoting clean solar
19 technologies through our events like solar homes
20 tour that we have been conducting for seven years
21 now. This event showcases new and existing homes
22 powered by solar energy. The 2006 tour, which we
23 just had last week, was sponsored by Party Homes,
24 which is a local San Diego local builder. And we
25 drew over 2500 participants interested in

1 education and technology and benefits of solar in
2 new and existing homes.

3 The Tour was part of our solar energy
4 week, which drew approximately 4000 participants
5 in events like solar family day, where whole
6 families came to learn about solar. And one of
7 you was present.

8 We also had a commercial solar tour,
9 solar homes tour, and a day-long solar energy
10 conference, which was attended by a great many
11 people. Actually ran out of food we had so many
12 people.

13 We have implemented the SGIP program in
14 San Diego since its inception. And we've been
15 involved through incentives or project development
16 in most of the commercial solar projects in the
17 San Diego region.

18 We've also been designated as the
19 regional implementer of the California Solar
20 Initiative for existing residential and all
21 commercial participants.

22 In addition to the SGIP and solar energy
23 week, SDREO has solar residential implementation
24 and marketing experience through the rebuild a
25 greener San Diego program, where people were

1 provided with special rebates. Those people who
2 lost their homes in the fires of 2003, for solar.

3 We also recently submitted a request for
4 a proposal to the CEC for the statewide MSHP
5 public awareness campaign. And we propose to use
6 the public awareness campaign as an implementer/
7 marketer combination to maximize program results.
8 And we would collaborate with several of the same
9 partners that we used in our RFP for the marketing
10 proposal.

11 We have won five contracts to implement
12 energy efficiency programs in 2001. And then we
13 won another six contracts in 2002. We have also
14 implemented projects for the CEC, including the
15 cool roofs program, which provided rebates to
16 customers who installed roofing materials with
17 high reflectivity ratings. We managed this
18 program for much of southern and central
19 California, and we won a Flex-Your-Power award for
20 that.

21 We currently manage over \$40 million in
22 energy efficiency and self-generation program with
23 nearly all of this funding flowing to customers in
24 the form of rebates and incentives. We also work
25 together with the utilities, especially SDG&E, in

1 an advisory capacity, as well as in a partnership
2 role.

3 We currently are an active participant
4 in SDG&E's public advisory group, or the PAG,
5 which provides expert opinion to the utility on
6 the energy efficiency programs for the 2006
7 through 2008 cycle.

8 So, not in short, but in long I'd like
9 to say that we are definitely willing and able to
10 take on this role, as well. Thanks.

11 PRESIDING MEMBER GEESMAN: Thank you.

12 MS. OSBORN: Nathalie Osborn with the
13 San Diego Regional Energy Office. And to add to
14 Jennifer's points I wanted to not only express our
15 willingness, but that we're also prepared.

16 We currently administer programs; we've
17 got a fairly extensive website that's used
18 throughout the state that provides solar resources
19 in terms of incentive programs, tax credits.

20 We're also fully engaged with the
21 development of the California Solar Initiative.
22 And so we are actively involved in the
23 administrative structure for that program, as
24 well.

25 With regards to what kind of structure

1 or model, we would envision something similar to
2 what's in place today with the Public Utilities
3 Commission, with the California Energy Commission.
4 Thank you.

5 PRESIDING MEMBER GEESMAN: Not certain
6 which one of you to direct the question to, but
7 could one of the two representatives of the San
8 Diego Regional Energy Office describe your current
9 level of activity, if any, with production
10 builders in the San Diego region, meaning builders
11 of a certain scale.

12 MS. OSBORN: We currently have a staff
13 member on board who's very active with the green
14 building association; participates with a lot of
15 the developers in terms of lead certification,
16 green building; and so we're involved in that
17 aspect.

18 PRESIDING MEMBER GEESMAN: Thank you.

19 MR. TUTT: I would like to ask the
20 people sitting at the table with respect to
21 potential administrative duties if they would take
22 a look at the guidebook and in their comments
23 address whether they would do administrative
24 functions differently.

25 In particular, looking at some of the

1 payment processes, the reservation processes, the
2 field verification processes, perhaps. You know,
3 we have a policy matter of doing those things, but
4 would, as administrators, you propose different
5 ways of doing them than in the guidebook?

6 MR. BLACKBURN: Okay, let me move on to
7 the next slide. And I'll just run through this
8 quickly here. The second one focuses on potential
9 administrative costs, timing rolls. So what
10 administrative costs do you expect? This is kind
11 of a loaded question, but interested in your
12 answers. What role is needed, if any, with the
13 California Public Utilities Commission. And then
14 last bullet is what timeframe. We've heard, I
15 think, from PG&E on this already, but what
16 timeframe should we expect to make the transition
17 from administration that we're providing to a
18 utility taking that role over?

19 Let's start again with PG&E.

20 MR. BOWEN: Well, as I said already,
21 administrative costs, I think we expect the -- we
22 haven't prepared a budget yet, but the incremental
23 cost we expect to be fairly modest. We already
24 have extensive programs for managing energy
25 efficiency rebates, for the handling of self-

1 generation incentive payments, for performing all
2 the internal functions which can be realigned to
3 work this program, including the people involved
4 with interconnection.

5 We've got -- I think at this point we're
6 connecting something like 400 or so, 400 customers
7 a month, we're almost at 13,000 solar
8 interconnected customers. So those processes will
9 already have a certain -- have a scale, which we
10 can take advantage of.

11 One area that we've been having some
12 dialogue with some industry representatives on is
13 the cost of training new installers. There could
14 be, and I'd have to refer to others on this, but
15 there's a fear that there's a shortage of trained
16 installers to meet the new demands of the
17 California Solar Initiative.

18 And I know there's a question about
19 whether or not the training expense associated
20 with developing and delivering programs for
21 installers would be part of the administrative
22 costs that would be part of the program.

23 So, I think probably the bigger
24 questions are in administration, from our point of
25 view, are not so much our internal costs. But

1 rather the external costs of that category of
2 training and outreach.

3 Timeframe, I think as I said, we're
4 already prepared and have been preparing.
5 Although I think with respect to affordable
6 housing and that element of the program, we're
7 waiting. The PUC has deferred some of those
8 design questions into phase two. That development
9 of the special programs, and probably innovative
10 programs needed to deliver the benefits of this
11 program to low-income housing residents may take
12 some more time to develop.

13 And I'm not sure what exactly to say
14 about the role of the PUC, other than close
15 coordination is needed at the policy level, and at
16 the program design level, as I said before, to
17 avoid conflicts that would be confusing for
18 different elements of the industry and for
19 customers.

20 MR. KATSUFRAKIS: Just to echo what
21 Bruce said, I think that my answers are pretty
22 much the same. I think on the cost it would be
23 relatively modest because of the synergies with
24 our energy efficiency programs.

25 And, again, that we would want to do

1 some training for the industry.

2 The role of the CPUC, one thing I think
3 I'd want to add to that is if we are making
4 changes to our programs, add a second tier, that
5 would obviously need to be something that would
6 flow through the CPUC.

7 And we're ready to, I think, you know,
8 on January 1st we'd be ready to roll out.

9 MR. BRUDER: So, for Southern California
10 Edison administrative costs, you know, I guess
11 modest is a relative term. I know that we would
12 be a cost effective administrator, given all of
13 the other programs that are similar in process
14 that we currently administer.

15 I was just calculating out, looks like
16 the Southern California Edison portion of this,
17 assuming, you know, splits that we've seen before
18 in other kinds of programs, maybe around \$150
19 million over the life of the program. You know,
20 somewhere between 5 and 10 percent would be
21 reasonable. Of course, it has to be based on the
22 scope that we would agree to.

23 Things like training of the industry,
24 you know, I mean there's probably a need for it.
25 If we were to do it, and we certainly could do it,

1 just a cost.

2 Definitely training, and going back to
3 the interconnection process and the service
4 planning process, there's some training that needs
5 to be done there. And that would be, I think,
6 very valuable to have the industry understand what
7 the requirements are for interconnection when
8 building new developments.

9 The PUC role in this, you know, I think
10 the PUC and the CEC are partners on this. I would
11 be willing to work together with both agencies to
12 figure out the right role for all of us as
13 partners. I'm a little fuzzy on the CEC/PUC
14 relationship as it pertains to this program. But
15 we'd look forward to working with you to figure
16 that out.

17 You know, timeframe; we're going to gear
18 up, we're going to be ready January 1st for the
19 rest of CSI. We would like to be ready on the 1st
20 with the new homes program, and I think we would
21 shoot for that. I know that's a requirement, and
22 if we can work together and get it done by then,
23 that would be great.

24 MR. BOWEN: I'd like to add two more
25 things if I may just quickly. As far as

1 administrative cost goes, I think we can look to
2 our administration of the SGIP and the way that
3 we've been managing the SGIP it's been, I think,
4 very effective. And it's been something we've
5 learned from and we've been managing that both
6 cost effectively and effectively with respect to
7 the program results.

8 And as far as training goes, we already
9 do a lot of training; and I should put in a plug
10 for PG&E.com/solarclasses as an example of the
11 breadth and depth of the programs training for
12 public and professionals that we provide.

13 MS. OSBORN: For SDREO in terms of
14 administrative costs, in terms of our experience
15 with the self-generation incentive program we've
16 been shown to be competitive with our utility
17 counterparts in terms of administering that
18 program. As well as feedback we've gotten from
19 stakeholders that we provide a value-added service
20 being an independent voice at the table.

21 In terms of the role with the CPUC I
22 think our relationship, in terms of the self-
23 generation incentive program, and our
24 participation with the California Solar
25 Initiative, working in that capacity to maintain

1 consistency between the CPUC and CEC programs,
2 that would be a need for that.

3 Timeframe. We'd be prepared to take on
4 the administrative role in January of 2007. We
5 have taken a very active leadership role in terms
6 of the California solar partnership and managing
7 the RFP for the online database tools. So we
8 envision taking some of the lessons learned from
9 that and looking at that as a value added for this
10 type of program going to online reservations,
11 things like that.

12 Education and outreach. We do a number
13 of education/outreach workshops and trainings
14 through our Energy Resource Center, as well as
15 have partnerships with our local IBEW that
16 provides training for installers and electricians
17 in the San Diego area.

18 MR. BLACKBURN: Anything else on this
19 page? Okay. Let's go to the last page.

20 Coordination. How can oversight, marketing and
21 program evaluation be coordinated. And then the
22 last bullet is how can we make the program such as
23 specifics like database differences that may exist
24 in how utilities administer their programs, et
25 cetera, make it as seamless and transparent as

1 possible throughout the state

2 So, we'll begin again with PG&E.

3 MR. BOWEN: These are kind of broad
4 questions, but --

5 (Laughter.)

6 MR. BOWEN: -- but I think maybe I
7 should start with the second one first. The
8 program, making it seamless throughout the state.
9 I think it's clear that there are some processes
10 we've already been starting on that that will be
11 statewide. I think the idea that there's a
12 statewide application or a statewide database are
13 things that can be provided for throughout. Just
14 to ease everybody's administration and make the
15 program more easy to bear for customers and
16 developers and builders.

17 The front end, having kind of multiple
18 portals, as far as the internet goes or website
19 goes, those I think there can be both a statewide
20 portal and each utility or each administrator can
21 provide a portal that can be -- those portals can
22 be interconnected so that a customer or someone
23 choosing to find out about solar programs could
24 either go to their utility's website, or to a
25 statewide website. That's an easy administrative

1 fix.

2 So that we can provide the efficiencies
3 of a common back end, but tailored front ends if
4 the questions that a customer or someone from the
5 industry is trying to look for is utility- or
6 region-specific. So I think as a matter of
7 organizing the processing of information, the web
8 and a common database can support a seamless and
9 transparent process.

10 And the oversight process and the kind
11 of program administration coordination that others
12 have described so far today, I think, will help
13 minimize any differences that can occur. So that
14 a developer who has statewide operations can deal
15 with the different utilities that they'll have to
16 deal with anyway, but have a common forum, have a
17 public forum and have an open process for
18 identifying those problems that are barriers to
19 their operations, or for the program's
20 effectiveness.

21 Marketing and outreach, as I've said,
22 even though we've done relatively little marketing
23 in the past because of the demand for SGIP funds,
24 and the fact that demand has outstripped supply of
25 funding. Now we know that just as was mentioned

1 in San Diego, there's a lot of -- that our
2 representatives in the field can do to sell solar
3 and to sell, as they sell energy efficiency, is a
4 function that the utility can do in its field
5 operations.

6 And we already provide significant
7 funding for marketing outreach for energy
8 efficiency, so developing that kind of
9 communication for solar by us or by third parties,
10 whom we could contract to, or outsource to, or
11 partner with, would be a key element in this
12 program, and part of the administrative function
13 that we see us taking on.

14 MR. KATSUFRAKIS: And I guess on the
15 first question, is that a statewide question, or
16 is that more of a local just within the utility
17 territory?

18 MR. BLACKBURN: Well, it's really, I
19 think, both. I think there has to be focus that
20 it's statewide, and kind of as Bruce was saying,
21 so that the customer sees sort of, you know, it's
22 transparent and it's one system. But it's
23 something we'd have to coordinate internally among
24 this utility group and partnership.

25 MR. KATSUFRAKIS: And I think the model

1 that was established for the self-generation
2 working group is what would help with that, as far
3 as the statewide coordination, to provide kind of
4 a seamless approach across the state, as well as
5 on a local basis, looking at account executives,
6 as well as training opportunities for marketing
7 and outreach.

8 For the database we can definitely have
9 a common database. And I think, you know, when we
10 start looking at HERS raters, we've already got
11 one that we'll be using.

12 And then administrating differences,
13 again this would be done, I think, with the
14 working groups just to make sure that from policy
15 decisions we're making them as a state group.

16 MR. BRUDER: So, for oversight,
17 marketing, outreach and evaluation, there's some
18 great examples and experience that we've had.
19 When I think of marketing and outreach, Flex-Your-
20 Power is an example of something that's been
21 coordinated statewide as a massive outreach
22 campaign to consumers.

23 The key to statewide consistency in the
24 administration of these programs is there has to
25 be first a mandate that they be statewide

1 consistent. Second, there has to be a structure,
2 an organization where we can, you know, share our
3 experiences, our issues that come up. And a
4 formal process of making program changes in a
5 statewide coordinated group.

6 We have done a lot of that through the
7 energy efficiency programs starting back in '97
8 when statewide consistency was a major element of
9 those programs. And it makes total sense that
10 from the participants' perspective, whether
11 they're in San Diego, San Francisco or Los
12 Angeles, they should see the same offer, the same
13 program processes. And it would be important to
14 Southern California Edison to make this look like
15 a statewide program.

16 We're taking some steps with the website
17 development. I think technology is a big enabler
18 here of statewide coordination. And we have, as
19 Nathalie said, an RFP out on the street in the
20 non-new-homes CSI to create that statewide portal
21 for application and checking on status of
22 applications. That could be, you know, extended
23 to the new solar homes program.

24 So, it's important; we know how to do
25 it; and there are some steps being taken already

1 to do that.

2 MS. OSBORN: In terms of marketing and
3 outreach I think that having a consistent
4 administration would provide a number of
5 opportunities for branding an overall California
6 Solar Initiative from an over-arching standpoint.
7 And provide the opportunity to share tools,
8 resources, education, outreach materials. And not
9 duplicate efforts between the two programs.

10 So, having a main portal that would
11 access multiple portals for the different
12 administrators, similar to what PG&E mentioned, I
13 think would be a great means of coordination
14 between the programs.

15 In terms of maintaining seamlessness and
16 transparency throughout the state, mirroring the
17 comments that you've heard on maintaining an
18 administrative working group to meet on a regular
19 basis; in addition to look at the issues in terms
20 of maintaining consistency among administrators
21 throughout the state so that that can be insured
22 for the participants of the program, whether
23 they're participating in the CPUC program or CEC
24 program would provide a good opportunity for that.

25 And that's it.

1 MR. BLACKBURN: Okay, thank you. Any
2 questions or comments from the Committee or
3 Advisors before we wrap this part up?

4 MR. TUTT: I have one. I want to go
5 back to Dave's hypothetical 150 million and danger
6 of getting lost in the math here, of 5 to 10
7 percent. That's maybe a \$15 million ten-year
8 contract or something of the sort, perhaps.

9 But I wanted to raise the current
10 practice where here at the Energy Commission
11 we've made a practice of not using program funds
12 for administration. How would you envision that
13 working, as administrators?

14 MR. BRUDER: I'm not getting a vision of
15 that.

16 (Laughter.)

17 MR. BRUDER: But I'm struggling to think
18 about it here. I'm assuming that, and based on
19 the language in the PUC's recent decisions, that
20 they were anticipating that program administration
21 costs would be covered in the overall
22 authorization.

23 So, for Southern California Edison, we
24 have, you know, basically general rate case that
25 sets our operating budgets; and then we have

1 energy efficiency, well, basically energy
2 efficiency funds coming from PGC and our
3 procurement funding.

4 So, we don't have a mechanism to not
5 have program administrative costs covered by the
6 program authorization at this time. And I would
7 have to, you know, think about how that could
8 work.

9 MR. BOWEN: Are you asking whether or
10 not the program administration costs could be
11 absorbed somewhere else? Either in overall
12 operating budgets or in the CSI operating budget,
13 or the administration budget, I mean?

14 MR. TUTT: Well, is that a possibility?
15 Yeah, I mean there are certain synergies there so
16 that some of the administration function will be
17 for the same programs.

18 MR. BOWEN: I think the main risk for
19 making that -- taking that step would be to short-
20 circuit some of the elements that would be unique
21 to the CEC's program, which I think are mostly
22 external related. So there would be some risk of
23 hampering the launch of the program, especially in
24 these early years.

25 I think, as I said, the incremental

1 costs for the CEC's programs are likely to be
2 pretty small. But I think they're not going to be
3 zero.

4 MR. KATSUFRAKIS: For SDG&E where we
5 don't have a CSI program, that wouldn't be an
6 option. And when we look at what we've done in
7 SoCalGas, it is a separate funding for the CSI
8 than it is for energy efficiency. So, they are --
9 if that sets any precedent, that is the standard
10 for our programs over there, also.

11 MS. OSBORN: In terms of SDREO I think
12 it's hard to say right now, as we're changing from
13 a capacity-based incentive to a PBI structure.
14 But there would be, I think, synergies with having
15 the administration of the new solar homes
16 partnership with the CPUC CSI a way to -- there
17 may be ways to use those same administrative costs
18 in terms of the dollars. But I'm sure that would
19 need to be checked with our PUC counterparts.

20 MR. BRUDER: Can I add one more thing to
21 that?

22 MR. TUTT: Sure, David.

23 MR. BRUDER: Definitely there are, you
24 know, synergies that would make the incremental
25 cost of doing this additional piece of CSI lower

1 than if this was the only program we ran. I mean
2 there are definitely economies of scale.

3 But, you know, I also just want to say,
4 and this has been drilled into me, you know, after
5 numerous CPUC audits and internal audits, about
6 how we allocate our costs to our different funding
7 sources. That, you know, this is something that
8 the corporation is very very careful and mindful
9 of, that costs are correctly allocated to the
10 various activities.

11 So, I just wanted to add that.

12 MR. BLACKBURN: Great, well, I wanted to
13 just personally thank everybody for the shared
14 vision, and a little bit put on the hot seat here.
15 So, thank you very much.

16 Now, we did put, I think, in the agenda
17 that there could be a time for public comment or
18 other stakeholders. So, if the -- we may have
19 some more comments. Commissioner Geesman.

20 PRESIDING MEMBER GEESMAN: I've got a
21 blue card from Cecilia Aguillon from Kyocera.

22 MR. PENNINGTON: One thing I'd like to
23 make you aware of is that PG&E has developed a
24 very interesting proposal for the energy
25 efficiency program. Cece Barros is here from PG&E

1 who can describe that for you.

2 PRESIDING MEMBER GEESMAN: Okay, well,
3 let's have Cecilia go first and then hear again
4 from PG&E.

5 MS. AGUILLON: Good afternoon; Cecilia
6 Aguillon with Kyocera Solar. And I'm actually
7 also in the Americans for Solar Power, ASPV; and
8 I'm on the board of California Solar Energy
9 Industry Association, CalSEIA.

10 ASPV has in filings advocated and
11 supported, and continues to support, third-party
12 administration. At the very least, if we're going
13 into 2007 we suggest that SDREO should keep the
14 administration of the entire CSI program,
15 including new homes.

16 The CalSEIA Board voted at their last
17 meeting a few weeks ago that CalSEIA Association
18 also supports third-party administration.

19 Thank you.

20 PRESIDING MEMBER GEESMAN: Thank you,
21 Cecilia. Why don't we hear then from PG&E.

22 MS. BARROS: Hi; I'm Cece Barros. I
23 work for PG&E, and I've been, in the past, I've
24 been the program manager for the residential new
25 construction program. And I'm currently working

1 on the solar integration of the CSI into our
2 energy efficiency program. So I've been working
3 with our statewide counterparts of the other
4 utilities, as well as our internal program team.

5 And in an effort to address the
6 Commission's request that we provide the needed
7 funding for incentives for energy efficiency for
8 tier one and tier two, what we have got some
9 numbers from Rob Hammon -- thank you, Rob, for
10 providing that to us. And we did some analysis,
11 and again, the target customers that we would be
12 looking at to align our energy efficiency programs
13 with the new solar homes partnership is, of
14 course, the single family homes, the custom home
15 builders, small and large production builders,
16 multifamily, the builders of condominiums and
17 apartment projects. No mixed use, but we know
18 that there's some issues with affordable housing.

19 So we want to align our res new
20 construction programs with the new solar homes
21 partnerships for tier one and tier two. So what
22 we've come up with is for the tier one, we would
23 be offering the \$500 per unit incentive for the 15
24 percent above Title 24. And that's consistent
25 with our current program offering.

1 We currently also offer additional
2 incentives for EnergyStar appliances and lighting.
3 So we could also offer those rebates in addition
4 to the \$500. And we'd also like to consider
5 adding a rebate for cool roofs.

6 So, if you take the \$500 incentive for
7 single family and approximately \$375 for those
8 additional appliances and lighting and cool roofs,
9 there's a potential for \$875 per unit on the 15
10 percent level.

11 For the tier two, this would mean us
12 building a new incentive level, because we
13 currently don't offer one there. And we did the
14 analysis based on the information Rob gave us.
15 And I know what was proposed was \$2000 incentive,
16 and the incremental cost is somewhere between
17 \$2000 and \$3500.

18 We can't meet the \$2000 level at this
19 point in time because of the cost effectiveness.
20 It drives our cost effectiveness down. And that
21 has to do with the CPUC and what's filed. And if
22 we could get additional savings on the kW for the
23 combined energy efficiency and solar, then we may
24 be able to offer an increased incentive.

25 So that's where we would need your

1 support. But what we're proposing is for the 35
2 percent over Title 24, \$1200 per unit, with the
3 options of adding additional incentives for the
4 energy efficiency appliance, the EnergyStar
5 appliances, high efficiency lighting, cool roofs.
6 So there could be a potential there for \$1575 per
7 unit. So that's an additional 375 on top of the
8 1200.

9 So, we would really propose that that
10 tier two be for builders that go solar only, to
11 give them the \$1200. We would not want to have
12 builders, necessarily, that just came in at 35
13 percent above to get \$1200. We really want to
14 push them to go solar there.

15 So we want to really align our program
16 with the CEC's program, so that both of these can
17 go hand-in-hand, and we can market both of these
18 to the builders and get them ultimately to go
19 solar. That's what we want them to do.

20 So, do you have any questions?

21 ASSOCIATE MEMBER PFANNENSTIEL: Process-
22 wise, how do you go about getting approval for
23 using these dollars for the new solar home
24 partnership from the PUC? Do you need prior
25 approval to channel these dollars as you were just

1 discussing, into tier one and tier two? Or can
2 you use your existing authority for your new homes
3 program?

4 MS. BARROS: We can use our existing
5 authority for the new homes, because we do have
6 the three-year, the 2006 to 2008 program approval.
7 And we have flexibility in that, that we can make
8 changes to the program where the market warrants
9 it to be that way.

10 And if we could get more savings, and we
11 can produce more savings by doing this, there are
12 some other programs that may not be producing the
13 energy savings that they need. And if those
14 programs go away, we'll be able to take some of
15 their funding to even fund this program.

16 So, --

17 ASSOCIATE MEMBER PFANNENSTIEL: But in
18 terms of the combined credit, then, the one change
19 that you were talking about is a combined solar
20 energy efficiency additional savings credit.
21 Would you have to go back to the PUC to
22 demonstrate that in advance?

23 MS. BARROS: Exactly, we would. We have
24 to get that in order to get approval for us to
25 claim additional or higher savings for that tier

1 two.

2 ASSOCIATE MEMBER PFANNENSTIEL: And
3 would that just be a separate filing with the PUC?
4 Or is that a proceeding that's ongoing or is it
5 just a --

6 MS. BARROS: I think it would be a
7 separate filing that we'd have to do with the work
8 papers and documents to show that there is
9 additional potential savings, but they would have
10 to change the mechanism that they're currently
11 using. And we'd have to demonstrate why we would
12 want to do that.

13 MR. BOWEN: We could describe to you
14 next week in the comments the procedural steps we
15 would recommend. But I think it would be a
16 separate, we'd have to work with the CPUC to
17 actually get those savings approved. But we can
18 lay out what we think the right procedural avenue
19 is.

20 ASSOCIATE MEMBER PFANNENSTIEL: It seems
21 like that might be very important to the builders
22 who are considering a tier two, to understand what
23 the level might be that PG&E could fund that
24 effort.

25 PRESIDING MEMBER GEESMAN: With respect

1 to the utility administration avenue, each of you
2 have indicated a willingness and desire to get
3 started the 1st of January. What do you envision
4 as the budget approval or budget agreement process
5 between the Energy Commission and each of your
6 companies in order to accomplish that?

7 MR. BRUDER: I described kind of a
8 contractual --

9 PRESIDING MEMBER GEESMAN: Yeah.

10 MR. BRUDER: --mechanism that I thought
11 would work and would be relatively expedient. I
12 think that in the three months we have left in the
13 year we could hammer out such an agreement with
14 the, you know, willingness of both parties --

15 PRESIDING MEMBER GEESMAN: Right.

16 MR. BRUDER: -- to do so.

17 PRESIDING MEMBER GEESMAN: But it would
18 be easier to spend three months on that than to
19 spend two months on that, if I understand timing
20 and holidays and everything else, correct?

21 MR. BRUDER: Yeah. I think we did it in
22 a timeframe that was like four to six weeks when
23 we did the SB-X-15 contract. And that would be a
24 good, I think, you know, as a contracting vehicle,
25 already serves as a good model.

1 PRESIDING MEMBER GEESMAN: Okay. I've
2 got a blue card from Mike Bachand; I hope I
3 pronounced that right, Mike. From CalcERTS.

4 MR. BACHAND: I actually pronounce it
5 Bachand, but you were pretty good. Thank you for
6 giving me an opportunity to make a few comments.
7 I'll be very brief.

8 Mention of an advisory group came up
9 during conversations here, and I'm not sure really
10 where all the funding and things go for who has to
11 ultimately administer this program statewide,
12 whether it be the Energy Commission or utilities,
13 or it could be either/or.

14 But I think it's very important that an
15 advisory group, comprised of all of the various
16 stakeholders statewide be included somehow in that
17 process. And I would hope that there would be not
18 only representation from all of the stakeholders
19 on that advisory group, but that there would be
20 fair representation within those communities so
21 that maybe the goal of the advisory group would be
22 partially to have active dialogues to identify and
23 discuss and analyze problems, issues, concerns,
24 seamless implementation throughout the state and
25 so forth.

1 And also to provide feedback to those
2 very same stakeholders so that those issues that
3 get resolved or identified can be spread
4 throughout the state, again in seamless resolution
5 to those things.

6 And I think, not trying to affect your
7 budget here, but one of the best organizations on
8 the face of the earth to do that would be the
9 Energy Commission. They are very statewide, very
10 neutrally oriented; they're not regional; they
11 have no other focus points other than broad
12 perspective.

13 So, I would like to see that. I would
14 recommend some kind of an advisory group or some
15 kind of oversight of a general nature.

16 Thank you for your time.

17 PRESIDING MEMBER GEESMAN: Thank you.

18 Got a blue card from Harlan Od,. Have I got that
19 pronounced correctly, Harlan?

20 MR. OD : No, it's pronounced Od,.

21 PRESIDING MEMBER GEESMAN: Od,. I'm
22 sorry.

23 MR. OD : Yeah. I'm with Sharpe Solar
24 Energy. We're a regional contractor installer for
25 solar in the San Joaquin Valley. I'm also a Board

1 Member of CalSEIA.

2 And I think this has been coming up
3 frequently with us, and I know it's going to
4 happen with new homes just like it's happening
5 with the existing homes. And that is we do
6 installations in many parts of the state. And
7 depending on the utility, they look at it
8 differently.

9 But we do systems larger than 5
10 kilowatts many times. And there's a thing, when
11 you do that there's a limited capacity of the
12 circuit breaker panels. I don't want to get
13 technical, but you can really basically only put a
14 5 kilowatt system on it, or you need a bigger
15 circuit breaker.

16 And the only way to get around this is a
17 thing called a tap method where you have to tap in
18 between the utility meter and the breaker.
19 Problem is all new breaker panels have a big thing
20 that makes it very difficult to do that; the 200
21 amp circuit breaker. Most of them are 200 amp
22 now, and you cannot get in there.

23 So, we have to -- the only way that I
24 know of is to go in through the utility side of
25 the panel to do it, which they don't allow. And

1 if we're going to be doing any kind of system
2 that's larger than that, which we do commonly 10
3 kilowatts on an existing home, or even on a new
4 home if it's a tract and they're large homes, 2500
5 square foot homes, in the San Joaquin Valley where
6 it gets hot. We often put systems that are large.

7 And so, we've got all the utility
8 companies here, we need to address this issue
9 because we're running smack into it to where we
10 can't install a solar system on it. We can't tie
11 in because of the capacity of the panel. And
12 there's no place to tie in between the meter. NEC
13 says tie in between the meter and the circuit
14 breaker, but you can't access it because it's all
15 bolted into one package and you can't get into it.

16 Unless you come in through the utility
17 side, which is generally empty. But that's their
18 domain, and so I think we need to address this
19 somehow both in this program and the rest of the
20 CSI.

21 So I don't know if anybody wants to -- I
22 don't know if anybody's familiar with that.

23 MR. BRUDER: I'm not really familiar
24 with it, but -- and I'm a mechanical engineer, not
25 an electrical, but 10 kW, 120 volts is --

1 MR. OD : 240.

2 MR. BRUDER: -- like a -- 240, that's 50
3 amps.

4 MR. OD : Yeah, well, if you have a 200
5 amp breaker panel the rule is the 20 percent rule.
6 You can't go more than 20 percent larger, so you
7 can put a 40 amp breaker in. That's generally
8 around a 5 kW system. If you go bigger than that,
9 you technically have to do the tap method.

10 In the old days, many old breaker panels
11 were set up to where you could easily go in and
12 tap onto the wires. But now it's all just a big
13 packaged thing there, and you can't touch it.

14 MR. BRUDER: So then I guess my second
15 question just in understanding that is we're
16 requiring in the program that the system be sized
17 for the load --

18 MR. OD : Right.

19 MR. BRUDER: -- of the house.

20 MR. OD : Sure, well, in the San Joaquin
21 Valley --

22 MR. BRUDER: So how would you be --

23 MR. OD : -- you know the utility bills.
24 I have lots of customers, \$1000 utility bills this
25 last summer easily, with that heat wave. And, you

1 know, they need big systems when you have utility
2 bills like that.

3 Three kW is okay on new construction to
4 kind of service the program and say, yeah, there's
5 solar on it. If the house is 35 percent above
6 Title 24 you're going to have a much lower utility
7 bill. But for the average house out there, and I
8 mean the average house being a brand new home.

9 You know, my utility bill before I put
10 on solar was \$600 a month, so, on my 2500 square
11 foot home, in the San Joaquin Valley. And so it's
12 becoming a big issue with us; we're running into
13 it constantly.

14 MR. BOWEN: Well, we'd have to follow
15 through and see what the issues are and understand
16 in greater detail. But we certainly have systems
17 larger than 5 kW or 10 kW, so, --

18 MR. OD : Right, well, --

19 MR. BOWEN: -- I don't know what the --

20 MR. OD : -- I would say that --

21 MR. BOWEN: -- solutions we've provided
22 so far have been.

23 MR. OD : We're told by building
24 departments that, hey, this is the method and this
25 is what you do. And we do it. And then it

1 depends on some utilities have no problem with it.
2 I've talked to a number of utilities, they didn't
3 have a problem with it, the people that are
4 (inaudible) connection.

5 But PG&E, specifically, has a big
6 problem with it from what I'm told. And so I
7 think it's something we need to address. And this
8 would be a good time to start addressing it before
9 this is implemented. Because we hit it every, I
10 mean every week it comes up.

11 PRESIDING MEMBER GEESMAN: Well, thank
12 you for bringing that to our attention.

13 MR. OD : Thanks. Sure.

14 PRESIDING MEMBER GEESMAN: Fred Sisson,
15 REC Solar.

16 MR. SISSON: Hello. My name is Fred
17 Sisson; I'd like to say thank you very much for
18 letting me address the Committee.

19 One of the things that we -- REC Solar
20 is a statewide integrator. We participate in both
21 the retrofit market, as well as the new home
22 construction market, and both fairly heavily.

23 One of the things that we have a concern
24 about with the administration role is that
25 currently the administration for new home

1 construction is handled by a single agency, which
2 is great. We have home builders that participate
3 over boundaries of several utilities. We don't
4 have to go through and re-explain the process of
5 applying for a rebate to the home builder as we
6 cross over a boundary that may only be several
7 miles long, depending on what the site is.

8 Under the new administration what we're
9 concerned about is that the utilities will have
10 variations between utility, and how the program is
11 administered.

12 So what we'd like to do is we'd like to
13 echo CalSEIA -- we're also a CalSEIA member, but
14 would also like to echo CalSEIA support of a
15 single administrator participating statewide for
16 the entire program. We think it's really
17 important to promoting the new home construction
18 market.

19 Right now I feel like there's several
20 barriers that already exist. This is just another
21 barrier that's going to be added on top of it.

22 So, thank you very much for hearing
23 that.

24 PRESIDING MEMBER GEESMAN: Thank you.
25 Tor Allen.

1 MR. ALLEN: One of the things that's key
2 to making this go smoothly is the adoption of a
3 common database administration tool. And I
4 believe on the CSI side of things there's an RFP
5 out that's already looking for such a tool.

6 So, regardless of who administrates the
7 program, if we work with the PUC, or look to that
8 process to use that tool we can get a lot of
9 benefit from that.

10 That also opens up the door for other
11 munis, as they start to develop their programs, to
12 join the program a lot easier.

13 So I would say, there was a description
14 about different portals on the web and that's a
15 little bit different; that's more of a marketing
16 thing. But using a common database, common
17 infrastructure is key to making it work smoothly.

18 As far as the utilities administrating
19 the programs, what we just heard from PG&E is very
20 promising steps for integrating the efficiency
21 programs, because that's a bit of a gray area, as
22 far as right now, what we heard this morning,
23 understanding what sort of incentives were
24 available for the efficiency side of things.

25 So, as utilities, and there's also

1 obviously a lot of opportunity for integrating
2 with the line extension, new services through the
3 utility administration, I would just suggest that
4 for utilities administrating this, to ask for some
5 detailed plans on how they plan to incorporate the
6 efficiency portions with this program.

7 Also, how -- you've already asked for
8 that -- for the line extension integration.
9 Because that's not always clear. The
10 opportunity's there, but it's a big corporation
11 and they don't always work together.

12 We've heard single administration.
13 Obviously that's a nice model that will again
14 facilitate other utilities and other organizations
15 to easily join in the program in the future. But
16 I see there's potential for hybrids of that, so.

17 Okay, that's my comments. Thanks.

18 PRESIDING MEMBER GEESMAN: Thank you,
19 Tor. Sara Diaz, SunLight Power.

20 MS. DIAZ: Hi; thank you for letting me
21 comment. We're a local installer in the Bay Area.
22 And I just wanted to bring up a technical
23 administrative issue as far as actual application
24 process.

25 As we move to the megawatt trigger, as

1 opposed to a calendar date drop, the way the
2 current CEC emerging renewables program rebate
3 process goes it's only a two-step process. And at
4 the first step you're submitting a signed contract
5 for a solar system. But you already know, based
6 on the date that you submit your application, what
7 rate your rebate is going to be at. So it allows
8 customers to make that decision and sign the
9 contract.

10 The problem with a megawatt trigger,
11 according to the way the new solar homes
12 partnership process is for if it's just a single
13 house, or it looks like developments under six
14 homes, it still looks like a two-part process
15 where you submit a signed contract up front, or
16 else proof of having paid for maybe 10 percent of
17 the parts.

18 But you're still having to sign a
19 contract before you know what your rebate is
20 really at. And I think that's a really big
21 problem for our customers.

22 And we found that happened even when
23 trying to sell to customers when the SGIP program
24 kicked in their megawatt trigger. As I think the
25 megawatt trigger got within about 12 megawatts of

1 the 50 kW cross-over, sales virtually stopped at
2 that point because people were unwilling to sign
3 contracts or to enter into commitments to buy and
4 apply for these rebates with huge question marks
5 as to what the rebate they were actually going to
6 receive was going to be.

7 And I just would like to leave the
8 suggestion that Gary Gerber, our President,
9 presented to the CPUC regarding this when talking
10 about the California Solar Initiative, which is
11 having a similar issue. Which is, when
12 reservations approach 20 percent of a trigger
13 point, to provide an alert statewide that
14 establishes a date at that time.

15 So you're still being responsive to the
16 market. You haven't reached the megawatt trigger
17 yet. And then maybe set that date at two months
18 away, and that the rebate level will drop to the
19 next level on that date, even if you're within a
20 few megawatts up or down.

21 Because giving customers the certainty
22 of a date allows them to sign a contract knowing
23 what their rebate is going to be. And this will
24 allow any ongoing negotiations to be completed and
25 provide the customer the certainty they require to

1 make their buying decision.

2 All completed applications postmarked
3 prior to the date would be guaranteed the higher
4 rebate, regardless of whether the megawatt trigger
5 had been exceeded. And any over-enrollment at
6 that higher rebate level would then be deducted
7 from the allotment at the next lower level.

8 And Gary had the added comment that
9 requiring a contract upfront really is a better
10 thing for the industry because you're not tying up
11 funds with an application that may not come to
12 fruition. It shows a commitment on the part of
13 the buyer. And we want to reserve funds only for
14 people who really are committed to buying solar.
15 Instead of holding those funds from people who
16 might be -- that are allotted those funds.

17 Thank you.

18 PRESIDING MEMBER GEESMAN: Thank you for
19 your comment. That exhausts my stack of blue
20 cards. Is there anyone else that cares to address
21 us? Anybody on the phone?

22 Okay. Before lunch I'd indicated that I
23 saw a need to have another workshop on November
24 6th. I still do. But I'd also suggested that we
25 would take this up at the Commission's full

1 business meeting on November 29th.

2 I'm reminded that we have a 30-day
3 notice requirement when we adopt a new guidebook.
4 And this would be a new guidebook for us. So, we
5 won't take it up at the full Commission business
6 meeting until our December 13th business meeting.

7 But we will go forward with a November
8 6th workshop. And I think you should expect that
9 the proposed guidebook that is the focus of that
10 workshop will reflect the input of the Renewables
11 Committee, as well. It will no longer simply be a
12 staff proposal.

13 With that, I think we'll be adjourned.
14 It's been a very productive day. Thank you very
15 much.

16 (Whereupon, at 1:57 p.m., the Renewables
17 Committee Workshop was adjourned.)

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CERTIFICATE OF REPORTER

I, PETER PETTY, an Electronic Reporter, do hereby certify that I am a disinterested person herein; that I recorded the foregoing California Energy Commission 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 15th day of October, 2006.

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