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COMMITTEE WORKSHOP
BEFORE THE
CALIFORNIA ENERGY RESOURCES CONSERVATION
AND DEVELOPMENT COMMISSION

In the Matter of:)
Senate Bill 1 Eligibility Criteria) Docket No.
and Conditions for Incentives) 07-SB-1
Staff Draft Report Guidelines for)
California's Solar Electric)
Incentive Programs)

CALIFORNIA ENERGY COMMISSION
HEARING ROOM A
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SACRAMENTO, CALIFORNIA

THURSDAY, OCTOBER 4, 2007

10:32 A.M.

ORIGINAL

Reported by:
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P R O C E E D I N G S

10:32 a.m.

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3 PRESIDING MEMBER GEESMAN: This is a
4 workshop of the California Energy Commission's
5 Renewables Committee on our staff draft report
6 guidelines for California solar electric incentive
7 programs pursuant to SB-1.

8 I'm John Geesman, the Presiding Member
9 of the Commission's Renewables Committee. To my
10 left Commissioner Jackalyne Pfannenstiel, the
11 Commission's Chair, the Associate Member of the
12 Renewables Committee.

13 To my right, Suzanne Korosec, my Staff
14 Advisor, and Jan McFarland, my other Staff
15 Advisor. Bill.

16 MR. BLACKBURN: Good morning. I'm Bill
17 Blackburn; I'm the Supervisor in the Renewable
18 Energy Office. And I'm involved with the New
19 Solar Homes Partnership, as well as some other
20 programs, and working with a number of other staff
21 on the SB-1 guidelines report.

22 I want to welcome you, and we're very
23 pleased to have you here; and the interest we've
24 seen, both in the previous workshop as well as
25 today.

1 The report has really been a
2 collaborative process for staff. And we look at
3 you and your input, both comments today, as well
4 as anything that may be submitted in writing, as
5 absolutely critical. That both industry and key
6 stakeholders participate and provide input where
7 you can.

8 A couple quick things to mention before
9 I go on is, as you've seen the agenda, we're
10 holding our questions and comments till later to
11 really officially manage our time. And we ask,
12 too, that if you provide comments or suggestions,
13 criticisms, that you also share with us your
14 rationale. And, where possible, please share
15 recommended solutions, as well.

16 So my presentation today is really going
17 to be fairly brief. I'm going to cover just some
18 basic background about the report and SB-1; some
19 key policy drivers. We're going to talk about the
20 schedule and also some changes. And I'm not going
21 to go into all the changes between the previous
22 report that was released in August and this
23 report. That'll be covered primarily in different
24 presentations later today. But I'll touch on a
25 couple of areas there.

1 So, SB-1 really has expectations to, and
2 this is in the report, too, to produce really
3 high-quality solar systems that maximize
4 performance and maximize the ratepayer dollars.

5 So, we're looking for optimal system
6 performance, especially during peak periods. And
7 where appropriate, energy efficient improvements
8 are really important for both the existing and new
9 construction, whether you're talking about
10 residential or commercial.

11 Now, to provide a little bit of
12 background. I did want to just touch very briefly
13 on some of the policy issues that help kind of
14 guide the work that we've done here. And the
15 previous report, if you looked at it, there was
16 quite a bit of material on policy background and
17 justification and some related legislation.

18 That is not so much the case in this
19 report, but we did want to just provide some brief
20 background here.

21 One of the key reports and key
22 activities that we have at the Commission, as many
23 of you know, is the Integrated Energy Policy
24 Report, which is a full-blown report every two
25 years, and updates on even-numbered years.

1 And so if you look at that, the last one
2 in 2005, you do see that there are clear
3 recommendations about leveraging energy efficiency
4 in a way to bring down the cost of PVs. Proper
5 sizing is really important. That's a component,
6 too, for efficiency. And rational targeting of PV
7 deployment to achieve the greatest cost benefit.

8 And then transition in a way, as many of
9 you know, away from the traditional capacity-based
10 incentives that we saw under the self-generation
11 program, and under the emerging renewables program
12 that we oversaw, to performance-based incentives
13 or expected performance incentives.

14 So, then the last one to mention here,
15 too, was a discussion on time-of-use and how the
16 time-dependent valuation is folded into the
17 incentive level in that calculation.

18 So, again, without going into too much
19 detail there's obviously a number of other
20 important policy drivers. One would be the Energy
21 Action Plan, which is really a joint report
22 between the two energy agencies, the Energy
23 Commission and the California Public Utilities
24 Commission. And one of the things that is
25 articulated there is the loading order, which you

1 hear reference to. So that's really a priority,
2 is how should the state prioritize its energy
3 programs.

4 So, the top one really is conservation
5 and energy efficiency, followed by renewable
6 energy, and goes down the list.

7 Many of you know, too, last year
8 Assembly Bill 32 was passed, a very pivotal piece
9 of climate change legislation in the country, and
10 for California. It essentially kind of rolls back
11 the clock in terms of shooting for a goal of going
12 back to the 1990 levels in terms of greenhouse gas
13 emissions by 2020.

14 There's other bills that, again, I'm not
15 going to go into detail, but Senate Bill 1037 and
16 Assembly Bill 2021, that specifically target
17 utilities. And basically say to first meet your
18 unmet resource needs through cost effective
19 efficiency measures.

20 And the last thing I want to point out
21 is an executive order from the current Governor on
22 the green buildings initiative. And so that's
23 putting very aggressive goals on state buildings
24 for efficiency; and also encourages commercial
25 buildings to seek energy improvements, as well.

1 So, how does it relate, how does SB-1,
2 Senate Bill 1, relate to this report and what
3 we're directed to do? So, I'll just read this
4 briefly here, because I think it's relevant. And
5 then talk about how the report is constructed.

6 So the Energy Commission, it says shall,
7 by January of next year, in consultation with both
8 the PUC and local publicly owned electric
9 utilities, as well as interested public members,
10 establish eligibility criteria for solar energy
11 systems that receive ratepayer funds.

12 The Energy Commission shall so establish
13 conditions on ratepayer-funded incentives, so that
14 gets into setting up, in some cases, efficiency
15 requirements that go with the solar incentives.

16 And then the Commission shall finally
17 set rating standards for equipments, components
18 and systems.

19 So, another way to look at that, distill
20 it down into just the key components would be
21 these three areas here: Eligibility criteria; the
22 terms of the overall programs; statewide ratings
23 and standards on the equipment systems; conditions
24 for incentives. So that's really how we kind of
25 constructed the report.

1 So, who is affected by these guidelines
2 that we are developing? It really can be looked
3 at as three kind of programs, or program
4 categories is maybe a better way to say it. So
5 one would be our own program, the New Solar Homes
6 Partnership, where we focus specifically on new
7 residential construction. And that is connected
8 to the investor-owned utilities' service
9 territories solely.

10 Then, of course, you have the California
11 Public Utilities Commission that oversees the
12 California Solar Initiative, CSI. And, again,
13 that is specifically targeted at investor-owned
14 utilities.

15 And then kind of the new category that
16 really gets thrown into the fold is the local
17 publicly owned electric utilities, or the POUs, as
18 we sometimes call them.

19 So those obviously are a number of
20 different programs, many that have been going for
21 years, but those will be affected by these
22 guidelines, as well.

23 And in many cases you may have some that
24 don't have very active programs; so it's important
25 for all the players here.

1 So this is just an approximation. I
2 don't even have percentages here. But I wanted to
3 just kind of give an overview to folks, because
4 one of the key tenets that's really listed in SB-1
5 is this aggressive goal of setting or installing
6 3000 megawatts of solar capacity by the end of the
7 program, by the end of 2016 basically.

8 So the New Solar Homes Partnership in
9 that sort of bluish slice of the pie is 400
10 megawatts. The bulk of the megawatt of capacity
11 that we'll see installed will really be under the
12 CSI program. And then you see another slice there
13 that's kind of between our program size and the
14 CSI is the municipal utilities and publicly owned
15 utilities.

16 So, what does this have to do with
17 software inversions? I threw this in here because
18 I look at -- people are probably asking questions,
19 you know, how does this last report that was
20 released in August compare with this report, or
21 what you're going to be doing in the near future.

22 So, you might call, like they do in
23 software, the first report, those released, I
24 think, August 10th, which was the eligibility
25 criteria, the alpha version. So today we're

1 talking about what you could refer to as the beta
2 version. So this is a draft report. It's a draft
3 guidelines. It's quite a bit different than the
4 earlier reports.

5 And then what will ultimately be
6 developed in the coming months and adopted
7 hopefully in December will be our final, you could
8 call it 1.0, the final guidelines.

9 So, what are the two differences
10 between, again, generally the last report that was
11 released in August and the one that we're going to
12 be discussing today? Well, the eligibility
13 criteria and conditions report was really staff
14 recommendations. And it even posed some
15 questions.

16 It was a more general report in terms of
17 how it was constructed. And we, of course, had a
18 workshop following the release of that report.
19 And you can see some clear differences. But the
20 key difference is this is now, while it's a draft,
21 is now establishing guidelines. So we're on that
22 path. So this is the beta we're kind of talking
23 about today.

24 So, let's talk a moment about the
25 schedule. We've already released the first report

1 in early August. Had the staff workshop. The
2 guidelines report, we were shooting for September
3 20th. It was a nearly impossible task internally
4 for us to meet that. So we slipped a little bit.
5 But posted it online, I believe, last Thursday,
6 the 27th.

7 Today, of course, is the workshop.
8 Written comments, and I think there may be some
9 additional discussion about this later today, we
10 have set for October 8th, which is Monday coming
11 up.

12 And then the next key milestones really
13 are the proposed final guidelines that will need
14 to be posted and available no later than November
15 19th. So, could be earlier than that, but no
16 later than that.

17 And then 30 days later, which meets our
18 30-day requirement in the legislation, we will
19 take it to a business meeting in this room, and it
20 will be voted on by the full Commission.

21 So the start date, of course, will be
22 January 1, 2008.

23 So the implementation schedule of the
24 program, not so much the guidelines, but the
25 program, itself, would be January 1, 2008, as I

1 mentioned. And this is really discussed in
2 introduction of the reports; and the focus here is
3 chapter 2, where we're saying basically, and again
4 a key difference between the last report and this
5 one, we're saying that you have key things that
6 come straight out of SB-1 that you'll have to meet
7 in terms of the POUs will have to have at least
8 280 a watt for incentives; you have to have a ten-
9 year warranty; you have to provide electricity to
10 onsite load needs, things like that.

11 So I'm not going to discuss that. It's
12 all in chapter 2. And it specifically comes out
13 of SB-1.

14 And then the other part of the report,
15 which is really chapter 3 to 5, cover things in
16 greater detail and specificity. And those are
17 things that we kind of phase in, and will kick in
18 January 1, 2009.

19 And then the last section of the report
20 is the discussion of reporting requirements for
21 the POUs. And I'll mention that just a little
22 bit; it'll be discussed in more detail in later
23 presentations.

24 So, again, I'm not going to cover all
25 the changes here, all the differences between the

1 previous report and today's report. But one of
2 the key differences to mention is this split
3 between having 2008 sort of a transition year, and
4 meeting sort of the minimum goals under SB-1; and
5 then saying starting no later than January 1,
6 2009, you meet the full compliance of the
7 guidelines. So it's a phased-in approach.

8 And then what wasn't described in the
9 previous report, the August report, was this
10 requirement for the publicly owned utilities to
11 provide reporting. So that both comes out of
12 language from SB-1 specifically, as well as we've
13 added some things that are required to help
14 provide real information on the progress of the
15 programs and to collect information on our
16 reporting requirements in other sections of SB-1.

17 And then my last slide, actually, I just
18 wanted to throw this up here. Many of you, I'm
19 sure, know this. This is actually something that
20 about a year ago we put together and launched,
21 which is gosolarcalifornia.ca.gov. And it's
22 intended -- the reason why I didn't mention this
23 is it's intended to not just cover CSI program
24 overseen by the PUC, and our new New Solar Homes
25 Partnership program that we oversee, but also we

1 included, and will have to be built out quite a
2 bit more, a section sort of a pull-down tab on the
3 top for the municipal utilities.

4 So all along we were really looking at
5 SB-1, looking at sort of a seamless statewide
6 program.

7 So I want to thank you very much for
8 your attention, and that concludes my
9 presentation.

10 And I think Smita is up next here, so
11 I'll just queue this up for her.

12 MS. GUPTA: I'll be covering the
13 components and installation standards and the
14 guidelines related to that, which translates to
15 the chapters 3 and 4 of the guidelines.

16 So, first the component standards, which
17 is chapter 3. And just as a reminder, the
18 compliance to these guidelines need to be met no
19 later than January 1, 2009. So 2008 remains the
20 transition period. And discovers the various
21 components of the system, modules, inverters and
22 meters.

23 And there has been no change in the
24 proposal as it was mentioned in the staff report
25 earlier, basically requiring the safety

1 certification of modules according to UL. The
2 detail performance data using the subsection of
3 IEC 61215 and 61646. Using International
4 Laboratory Accreditation Corporation laboratories.
5 And the NOCT for building integrated -- roof
6 integrated BIPV products with the specification
7 that's described. And appendix 1 of the
8 guidelines for the details out all these
9 certification and reporting requirements.

10 One of data's been in addressing nonPV
11 technologies where manufacturers of such
12 technologies would be encouraged to work with
13 Energy Commission and define compatible -- and
14 appropriate component standards. So there's
15 definitely recognition of the nonPV technologies,
16 but the primary focus here is on the PV.

17 For inverters, again, there has been no
18 change. Details are in the appendix 1 of the
19 document. Basically the UL safety listing and the
20 performance data using the Energy Commission's
21 protocol. And the test data from nationally
22 recognizing testing laboratory.

23 Same thing with meters. The performance
24 meters there has been no change. And this has
25 been based on the requirements that are currently

1 in the CSI program. And, again, detailed further
2 in chapter 3 and appendix 1, where the accuracy of
3 the meters that would be used by the performance-
4 based incentive or the EPBI are listed, which is
5 the plus/minus 2 percent, which require ANSI
6 testing; and plus/minus 5 percent accuracy meters.
7 The best protocols for that are under development
8 through the CSI metering committee. And those
9 would be updated in future versions of these
10 guidelines.

11 Okay, moving on to chapter 4, which is
12 the installation standards. This covers the
13 performance-based incentive, the expected
14 performance calculations, field verification
15 installers and maintenance. And, again, a
16 reminder that these -- the compliance to these
17 guidelines need to be met no later than January 1,
18 2009. So, again, 2008 serves as a transition year
19 to come up to compliance in meeting these
20 guidelines.

21 The performance-based incentive, the
22 thresholds have been specified as 50 kilowatts
23 starting in 2008 and 30 kilowatts starting 2010.
24 This is to align with the CSI deployment schedule.
25 And, again, even though the requirements need to

1 be met no later than 2009, but any program
2 administrator opting for PBI sooner needs to
3 follow these thresholds.

4 And the payments need to be made over a
5 minimum term of five years. A program may choose
6 to pay out the PBI for a longer term, if so, if
7 they decide. And the incentive is based on
8 dollars per kWh actually produced.

9 And expected performance based incentive
10 is an option which is available to the systems
11 that are below the PBI size threshold and that do
12 not voluntarily use the PBI approach. So the
13 calculation methodology which provides upfront
14 incentives is an option.

15 And it's divided into two portions, the
16 calculation. One is of calculating the
17 performance of the system; and then as the
18 incentive calculation.

19 So I'll cover the requirements for the
20 performance calculation first, which is -- these
21 are about 15 points which specify the minimum
22 requirements of the performance calculation
23 methodology, call it engine or tool, which need to
24 be met.

25 So I'll run through these briefly.

1 Firstly, that the calculation methodology should
2 address fixed plate flat -- flat plate collector
3 technologies at a minimum. And include the
4 single- and dual-axis tracking and concentrators
5 if the program administrators decide to include
6 those technologies under expected performance base
7 approach.

8 And it should use the 16-climate-zone
9 weather data that's also used for the Title 24
10 energy efficiency calculations; that includes
11 hourly solar radiation, temperature and wind speed
12 factors.

13 It should account for the installation
14 of the system, the azimuth and the tilt, which is
15 used to determine the incident solar radiation on
16 the system. It should use the detailed
17 performance characteristics of the PV modules.
18 And this is using the eligible equipment list of
19 the modules and the detailed performance
20 characteristics that need to be used are listed in
21 appendix 1, table 1. I will not go through those
22 right now.

23 And determine the operating system
24 voltage, which is be able to account for modules
25 that are strung up in series and in parallel

1 strings, and matched up to the inverter operating
2 voltage.

3 It should account for the mounting type,
4 basically recognize the difference between a BIPV
5 and a rack-mounted in terms of the operating
6 temperatures that these kinds of modules see.
7 Account for the height above the ground so that to
8 factor in the wind speed adjustment accordingly.

9 Then continuing further, it should use
10 the detailed performance curve data for the
11 inverters, again from the data that's available at
12 the Energy Commission for the eligible inverters.

13 It should limit production of the
14 reported for the system based on the area size and
15 the inverter handling capacity. And very
16 importantly, produce hourly PV production results
17 for the entire year.

18 And then using these hourly results be
19 able to determine the impact of shading, as a side
20 calculation, be providing the solar altitude and
21 azimuth, which is used to determine at which hour
22 if there is a solar obstruction, how much of the
23 system is impacted.

24 And point number 12, it says determine
25 shading impact on each string. So be able to

1 identify the shading impact on a string level.

2 Then be able to apply the TDV, which is
3 the time-dependent valuation, to the hourly
4 results that are produced. And after calculating
5 the impact of shading, then be able to generate a
6 performance verification table.

7 The performance verification table is a
8 table that is used during field verification for a
9 specific system where the measurement of the
10 incident solar radiation on the system, combined
11 with the ambient temperature, provides a look up
12 of the minimum threshold level of performance that
13 is expected from the system.

14 And this does take into account some
15 tolerance which takes away any measurement errors.
16 So, this is very important for the field
17 verification of the performance.

18 And lastly, be able to generate
19 something called a certificate of compliance,
20 which essentially is the final resulting output
21 from this performance calculator which would be
22 used for application and field verification
23 purposes, which would essentially echo all the
24 input as in the system description, as well as the
25 field verification table. Which would then serve

1 as a record for conducting the field verification.

2 One of the important things in
3 estimating the performance of the system is
4 addressing the peak load, and this is done by
5 using the TDV factors that are developed for,
6 again, the 16 climate zones in California that are
7 used for the Title 24 calculations.

8 One, a revision or update. Two, that is
9 that the publicly owned utility program
10 administrators may either use these TDVs factors,
11 or they may use hourly time-of-use rating factors
12 applicable for their service territories. Since
13 the development of the TDV factors, it's the IOUs
14 which are the main consideration. So the POU
15 program administrators do have the flexibility to
16 adopt different, other than TDV.

17 And in order to meet the performance
18 calculated compliance, the NSHP Energy Commission
19 PV calculator can be used in its entirety or
20 partially, as a reference program, to match up
21 meeting all these requirements. Or if there is
22 another calculator that provides, that meets all
23 these rules of compliance, is also eligible.

24 Then I move on to the incentive
25 calculation portion, which is since most of --

1 since all the incentive level is described in
2 terms of capacity, which is essentially the
3 dollars per watt. And the idea here is to move
4 more towards the performance-based incentive, even
5 in the expected performance realm, so here is the
6 conversion methodology.

7 So essentially this equation, what we
8 are doing is using the capacity-based incentive
9 level and converting it into the expected
10 performance incentive level with the use of
11 something called a referent system. I'll just
12 describe that shortly.

13 But essentially in this equation you can
14 see that this is where the capacity-based
15 incentive number, which, as an example, for the
16 POU's, the minimum level has been set at 280. So,
17 for example, if a POU decides to move at a minimum
18 level, they would plug in the 280 dollar-per-watt
19 number here. And then after describing their
20 referent system, be able to come up with expected
21 performance incentive level.

22 But this calculation is a one-time
23 calculation that will need to be done for a given
24 incentive level, which after having established
25 the expected performance incentive level for the

1 corresponding capacity incentive level, would then
2 be able to be applied to any applicant's system
3 based on their annual kWh production.

4 So here is the specification of what the
5 referent system should include. So a referent
6 system, each program administrator would pick a
7 referent system that is applicable to their
8 service territory, which is the most
9 representative.

10 It should include, at a minimum, the
11 location of the system, the size of the system,
12 the modules, the type and the number of modules,
13 the inverter, again making sure that all these
14 meet the eligibility criteria set for each of
15 these components.

16 And installation characteristics, at a
17 minimum, which describe azimuth, the tilt, the
18 mounting offset, the height above ground, the
19 circuit design, which is number of modules and
20 series in parallel, the shading conditions and
21 other system losses.

22 So, in setting up this referent system
23 you get -- it feeds into this equation where using
24 the calculator and running that referent system
25 you come up with the annual kWh which is TDV

1 rated, and plug in that number here. And along
2 with the capacity of the referent system, would be
3 able to establish the expected performance
4 incentive level.

5 And, again, this would be a one-time
6 calculation that a program administrator would do
7 in order to convert the capacity-based incentive
8 level into an expected performance incentive
9 level.

10 And thereafter it would get applied to
11 every applicant where this expected performance
12 incentive number, when plugged into the equation
13 for calculating the incentive for -- applicant
14 would be used. And then combined with each
15 applicant running the performance calculator to
16 generate their annual TDV rated kWh, the product
17 of these two would be able to provide the total
18 incentive.

19 Again, the Energy Commission would be
20 able to provide assistance in any help that the
21 program administrators need in conducting these
22 calculations.

23 Now, this is a study that has been --
24 it's underway. And these are some preliminary
25 results of comparing the CSI and the NSHP

1 approach.

2 The NSHP approach serves as a proxy to
3 the guidelines and recommendations for the
4 performance and incentive calculations that have
5 been made here for the SB-1 guidelines.

6 And some of the key items here to note,
7 you know, bear with me here as I explain. These
8 are radar graphs. And the lines here, the
9 radially across represent the orientation of a
10 system. So these are the values of incentive for
11 a 2.5 kilowatt SDC system. And we happened to
12 pick Lancaster as one location just to show as an
13 example.

14 So this is a system, 2.5 kilowatt system
15 in Lancaster, oriented north, east, south and
16 west. So we have 30 degree increments run the
17 calculations. And so the red or the maroon lines
18 here are what the CSI incentive looks like. And
19 the blue is NSHP.

20 Realizing one fact here that this
21 quadrant here is the relatively northeast
22 orientation in which the incentive levels in CSI
23 are a little bit higher than NSHP. And here in
24 the southwest quadrant where the NSHP values are
25 higher.

1 So this is one of the demonstrations of
2 addressing the peak where the systems that are
3 oriented with production in the late afternoon
4 periods address the peak load criteria more. So
5 systems are incentivized to be oriented in these
6 orientations.

7 And the second graph there is again a
8 similar one for a different cell technology. It's
9 a hybrid -- but again, the trend is pretty much
10 similar in which -- and just to give you an idea
11 of the scale here, this is about \$700 difference
12 in the southwest orientations here. And about a
13 \$500 difference in the reverse here in the
14 northeast orientations.

15 And, again, these are preliminary
16 results. We are still in the process of doing the
17 more detailed study of the comparison.

18 Another comparison shown here is in this
19 graph here now it's three different locations, but
20 all the CSI incentives are in the same graph; and
21 all the NSHP ones are in the same graph here.

22 So, here the difference in the location
23 can be seen. So Eureka, which is one of the
24 colder climates in northern California, whether
25 it's the solar radiation or the solar resources is

1 seen as definitely the lower incentive level.

2 And orange being the reference for the
3 program. And so here in Lancaster, which is known
4 to have a higher solar resource, one thing that
5 can be seen is the cap on the design factor which
6 serves to not incentivize systems more towards the
7 southwest. And here you can see that gradation in
8 the solar resource availability and the incentive
9 accordingly matching up to that to show the higher
10 incentive for the higher solar radiation areas.

11 Moving on to the field verification
12 process. So the basic part of the protocol that's
13 being suggested is the same. The exception has
14 been made to updating that program.

15 Administrators may designate either the HERS rater
16 or take on the task, themselves; or designate some
17 qualified contractors to conduct this third-party
18 field verification.

19 However, the third-party field
20 verification having these set of minimum
21 requirements met is the important part to insure
22 that the performance from the systems is, indeed,
23 being met as in the application.

24 And the protocol, at a minimum, should
25 include the equipment verification, installation

1 characteristics, verification, the performance
2 verification, which is done using the performance
3 verification table that has been generated in the
4 calculator. And verifying the shading. And be
5 using a sampling approach, which is one in seven,
6 as a minimum sample size.

7 If, again, program administrators choose
8 to verify each and every system, they would
9 definitely have the flexibility to do that. But
10 at a minimum, this would be the sampling size.
11 And have tolerances and measurements.

12 Appendix 2 of the guideline document
13 details out the entire protocol that would be used
14 as a minimum. And, again, with the program
15 administrators having the flexibility to define
16 more rigorous and go beyond that protocol if
17 desired.

18 In the shading verification methodology,
19 again there is no change compared to the staff
20 report that was earlier proposed as a
21 recommendation. There's a minimal shading
22 criteria. The basic emphasis on is avoiding
23 shade. Then the simple methodology to determine
24 unavoidable shading through the measurement of the
25 height and the distance. And accounting for

1 existing and future potential shade both from
2 trees that are not mature at the time of the
3 inspection to be able to figure out their species,
4 and estimate the mature height for those. And
5 other known and planned structures on the roof or
6 in the neighboring lots.

7 And, again, tolerances to all the
8 various measurements that are made for this.
9 Again, details found in the appendix 2 of the
10 guidelines.

11 For the installer requirement and
12 responsibilities, no change since the last
13 recommendation. And this is the qualified
14 installers need to have a valid ABC-10 or C-46
15 contractor license. And they would, installers
16 are all required to certify each of their
17 installations components, installation
18 characteristics, performance and shading analysis,
19 which would be then verified by the field verifier
20 on either a sample of a hundred percent.

21 But the installer has the responsibility
22 to conduct that verification on each and every
23 system that they install. And using the appendix
24 2 protocols as the guideline. Because that's what
25 they're going to be verified against. And --

1 certification is encouraged again, though not
2 required.

3 Performance monitoring and reporting
4 service requirement states that there should be a
5 contract for a minimum of five years. And is
6 required for all performance-based incentive
7 applicants. And for expected performance base
8 applicants with a cost gap.

9 The recommendations here are aligned
10 with the CSI recommendations, which give a cost
11 gap of 1 percent for systems that are under 30
12 kilowatt; and for greater than 30 kilowatt, the
13 cost gap is .5. And all PBI systems are required
14 to meet this.

15 A maintenance plan, not contract, just
16 want to bring attention to this word plan, is
17 required by installer for all systems that are
18 larger than 20 kilowatt. This is again to insure
19 that the system owner or the facility manager and
20 operator is aware of the basic maintenance issues
21 related to the ownership of the system in terms of
22 a cleaning schedule for the array, and
23 periodically checking for the electrical
24 connections. Checking the inverter for
25 instantaneous power and long-term output. And

1 checking for any tree and plant growth and other
2 obstructions that would be causing shade. And
3 advise on how to eliminate that shading.

4 So this is a plan that would be provided
5 to each of the system owners and operators of more
6 than 10 kilowatt systems.

7 And that's all for me. Thank you.

8 MS. ORLANDO: Hi; my name is Claudia
9 Orlando and I'm with the Energy Commission
10 building and appliances office. And I'm going to
11 cover chapter 5 of the energy efficiency
12 recommendations.

13 In my presentation I've highlighted the
14 changes from the previous report. I've
15 highlighted those changes in red. So, for the new
16 construction, residential, recommendation, there
17 has been no change since our last report.

18 And we're recommending that we extend
19 New Solar Homes Partnership, NSHP tier 1 and tier
20 2 levels statewide. And encourage utilities to
21 provide incentives, energy efficiency incentives
22 for each level.

23 For those of you who aren't familiar
24 with the program the tier 1 and the minimum
25 participation level is exceeding Title 24 by 15

1 percent. And tier 2, which is the Energy
2 Commission's preferred level, is for those
3 projects to exceed Title 24 by 35 percent in total
4 energy. And 40 percent in the cooling energy.
5 And also to have any builder-installed appliances
6 be EnergyStar appliances.

7 And the tier 1 is consistent with the
8 IOU new construction programs. And tier 2 is
9 consistent with the building America programs.
10 And so the intent in developing those tier levels
11 was to try to co-brand with other energy
12 efficiency programs, so that there would be some
13 consistency.

14 So, for the new construction in the
15 commercial sector, we extended that philosophy of
16 co-branding and also the tier levels, so we are
17 recommending a similar tier level to New Solar
18 Homes Partnership program. And the minimum level
19 to participate in tier 1 is 15 percent better than
20 Title 24. And tier 2, which the Energy
21 Commission's preferred level, is 30 percent better
22 than Title 24.

23 And then also for equipment and
24 appliances that would be supplied by the builder
25 or developer, would be EnergyStar if a designation

1 is available for that particular equipment or
2 appliance.

3 And then we're encouraging the utilities
4 to provide energy efficiency incentives for each
5 level.

6 Also, I've highlighted this in red
7 because we recognize that there are quite a few
8 projects in the new commercial sector that are
9 what you might call a shell building or a building
10 that's an envelope-type building. And then the
11 tenant comes in and requests tenant improvement or
12 tenant fit-out of particular floors or whatever
13 floor they're going to lease.

14 And we might find this common with
15 medical facilities or retail and bottom floors;
16 and then the top floors are more office-type
17 buildings.

18 And so for those types of projects we're
19 recommending that there is a commitment agreement
20 between the tenant and the building owner or
21 developer to follow through with the energy
22 efficiency requirements for each tier level.

23 So the lighting and maybe other
24 mechanical systems would be consistent with those
25 tier levels to insure that those buildings are

1 able to maintain that commitment for each tier.

2 This is new since our last report, so
3 I've highlighted the whole entire slide in red.
4 And we're recommending the use of an information
5 and disclosure process for existing buildings. So
6 I've just completed the new construction
7 recommendations that I'm moving into the existing
8 building sector.

9 So there would be information that the
10 utility provides to the applicant, and then the
11 applicant, in return, discloses information back
12 to the utility.

13 And the information that the utility
14 would provide to the applicant is the most recent
15 12 months of energy consumption for that building.
16 And then also the results of the online or
17 telephone or site visit audit. Also a list and
18 description of audit and assessment tools that are
19 available for future use. So assessment options
20 such as energy audits, building performance
21 contractors, HERS raters and other interested type
22 tools that an applicant could use in the future if
23 they want to get a better handle on the energy
24 use.

25 Also, a list of energy efficiency

1 measures that might be applicable to that
2 particular building. And then incentives that the
3 utility would provide for those efficiency
4 measures.

5 Information that the building owner
6 would disclose back to the utility is
7 certification that they received the information.
8 And then which assessment tools are chosen. And
9 then measures that would be installed in
10 conjunction with the installation of the PV
11 system. And then which measures are planned to be
12 installed at a future date; and the date in which
13 the installation would be complete. And then the
14 results of the audit report.

15 The staff believes that it's really
16 important for all participants to receive accurate
17 information on building energy use and the options
18 available for further investigation on building
19 energy use. And so that can assist the building
20 owner in reducing energy use at a future time.

21 And we also believe it's really
22 important for the applicants to receive
23 information on what measures are applicable to
24 their building and what incentives are available.

25 And the information and disclosure

1 process would be part of the applicant. And it
2 can be provided to the applicant either on a web-
3 based type portal, or it can be in just a paper
4 format. And so the second portion -- this slide
5 here would be what would be turned back in to the
6 utility.

7 So, for existing buildings in the
8 commercial sector, we're recommending benchmarking
9 for all buildings using EnergyStar portfolio
10 manager or a CEC energy use intensity table that
11 we are developing.

12 We're also recommending that retro-
13 commissioning be completed for all buildings that
14 are greater than 50,000 square feet; and for
15 buildings that have a benchmarking score of less
16 than 75.

17 And this benchmarking rating of 75 is
18 consistent with what EnergyStar requires if a
19 building is seeking an EnergyStar label. And also
20 that when you look at a range from zero to 100
21 percent, that 75 is in the top range. And 75 is
22 just over that top last quarter. And so some may
23 think, oh, well, that's really hard to reach. But
24 it's just one below moving your building out of
25 that top quartile. So, we're encouraging

1 buildings to move to that top quartile.

2 I've listed the California Commissioning
3 Collaborative; a link to their website. Because
4 they provide a list of providers that do
5 commissioning. And also the California
6 Commissioning Collaborative also has just released
7 a retrocommissioning tool kit. And at that link
8 there is scope of work; there's all kinds of
9 support services for people who are looking into
10 using retrocommissioning.

11 For the small commercial buildings that
12 are less than 50,000 square feet, we're
13 recommending to continue the CSI required online
14 audit.

15 And then once the retrocommissioning or
16 audit has been done, we're recommending that the
17 projects implement cost effective recommendations
18 to move that building towards the 75.

19 And then again all existing building
20 projects need to participate in the information
21 and disclosure process.

22 And then we're requiring that a
23 commitment agreement be completed with the
24 applicants to insure that the retrocommissioning
25 and energy efficiency improvements happen. So, we

1 don't want this recommendation to hold up the PV
2 installation at all. And that if the
3 retrocommissioning identifies projects, that those
4 projects can be implemented at a later time. But
5 we do want to know at what date they will be
6 implemented and the completion time period.

7 And we're encouraging utilities to
8 provide incentives for retrocommissioning and
9 energy efficiency improvements. And this
10 benchmarking recommendation is consistent with AB-
11 1103 which is on the Governor's desk. And if the
12 Governor signs this bill, it would require
13 utilities to upload information into a database
14 that's compatible with portfolio manager. And
15 that would happen at the request of the building
16 owner.

17 But that would happen during the year
18 2009; and by 2010 this benchmarking rating needs
19 to be declared at time of lease or sale, or if a
20 lender is interested in the benchmarking for
21 whatever lending purposes.

22 For existing buildings in the
23 residential sector, we're recommending to continue
24 the CSI required online audit. And the
25 residential sector will participate in the

1 information and disclosure process.

2 And we're encouraging the utilities to
3 provide cost effective -- incentives for cost
4 effective energy efficiency improvements that are
5 identified in the audit process.

6 For exceptions for the energy efficiency
7 requirements, there is no exception for the
8 information and disclosure process for existing
9 buildings. We're providing an exception from the
10 energy efficiency requirements for buildings that
11 are built within the last three years.

12 We're providing an exception from
13 benchmarking for agricultural and industrial
14 facilities that aren't covered in the portfolio
15 manager or the CEC EUI table.

16 And then also there's an exemption
17 from -- or exception from energy efficiency
18 requirements for those systems that don't serve
19 electricity to a building.

20 This slide is a change from our original
21 proposal, and we're providing an alternative
22 portfolio option. This option provides some
23 flexibility to utilities who may want to target
24 certain sectors. Or who may have certain energy
25 efficiency requirements they want to implement.

1 So, this would be different from any of
2 the previous slides that I have shown. If a
3 utility wants to participate in this type of
4 approach they would develop a plan, a three-year
5 plan, and submit it to the Energy Commission for
6 approval.

7 This alternate option can apply to
8 either one or all of the building sectors. And
9 then the program administrators would provide the
10 Energy Commission with an annual report, and
11 report on the progress in reaching that 20 percent
12 goal.

13 This 20 percent is consistent with the
14 green buildings initiative, which requires state
15 buildings to reduce energy use by 20 percent by
16 2015. And encourages the commercial sector to
17 follow suit, also.

18 It's also consistent with
19 recommendations that CEC Staff made in their
20 August 2007 report that was the result of AB-2021.
21 The report is called Statewide Energy Efficiency
22 Potential Estimates and Targets for California
23 Utilities. So, this option would help to
24 contribute to those goals that are set in that
25 recommendations from the CEC.

1 And that's all, thank you.

2 You're next, Sandy.

3 MR. MILLER: My name is Sandy Miller.

4 I'm working in the renewable energy office. And
5 I'm going to -- I have about four slides; we can
6 go through them fairly quickly. It's basically
7 the reporting requirements for the publicly owned
8 utilities.

9 The reporting requirements basically
10 specified in Senate Bill 1 basically would require
11 the publicly owned utilities to provide, June 1st
12 of every year, certain information to the Energy
13 Commission, to the Legislature and to their
14 ratepayers.

15 What we have here on this slide here
16 basically the goals for this, I want to kind of
17 step back one step here. A lot of the reporting
18 requirements are from the PUC section 387.5, which
19 basically require the publicly owned utilities to
20 provide certain minimum requirements to the Energy
21 Commission, the Legislature and the ratepayers.

22 There's also information that's in
23 Public Resources Code 25783 which requires the
24 Energy Commission to provide certain information
25 to the Legislature on the status of the programs.

1 And so this slide here basically references a lot
2 of the stuff that we would require from the
3 utilities, the publicly owned utilities, in order
4 to meet our reporting requirements on the solar
5 programs.

6 The goals would be the POUs would be
7 providing us with information on their outreach
8 and marketing activities; any builder training
9 assistance that they have; information on whether
10 or not they're auditing any of their customers, as
11 far as the systems going in. And installed
12 systems per period.

13 The information here on this slide
14 basically is pretty much right out of Senate Bill
15 1, and it basically -- and this is in the PUC Code
16 387.5, basically information on their program
17 experience. Number of applications, incentives
18 awarded, number of systems installed, installed
19 capacity and expected performance, solar system
20 energy efficiency impacts, and contribution
21 towards the program goals.

22 And this information, we propose, would
23 be provided annually every June 1st. And that's
24 also required in Senate Bill 1.

25 So that's the conclusion of my

1 presentation. Thank you.

2 PRESIDING MEMBER GEESMAN: Okay, we're
3 going to take public comment. My plan is to go
4 until noon; determine how many additional comments
5 we have and come back at 1:00 if we need to.

6 Are there public comments? We do have
7 blue cards. If people want to fill those out, it
8 will make it easier. And I will call you by name.

9 The first one is Michael Kyes, KGA
10 Associates. Oh, he's on the phone? Okay, why
11 don't we wait then for after we've taken people in
12 the audience.

13 Aaron Nitzkin, Old Country Roofing.

14 MR. SPEAKER: He was on the phone, I
15 believe.

16 PRESIDING MEMBER GEESMAN: Okay. Julie
17 Blunden, representing SunPower.

18 MS. BLUNDEN: Good morning. I
19 appreciate the opportunity to be here. We had an
20 opportunity to speak in August and see that
21 there's been a tremendous amount of response and
22 listening, I think, from staff on a lot of the
23 things that we talked about at that point. I
24 appreciate all of the adjustments, as well,
25 reflected by all of the notes.

1 The point I probably really want to
2 spend time on this morning is on the commercial
3 energy efficiency piece. And I'm wondering if it
4 would be possible to actually put the slides back
5 up on that, because I had some questions on it and
6 I thought that might be the easiest way to go
7 through it. It was very helpful to have the
8 slides because those provided me more insight than
9 what I had found in the report.

10 MS. ORLANDO: To existing buildings.

11 MS. BLUNDEN: On actually exiting
12 buildings, right.

13 So when it comes to actually going back
14 up, sorry, one minute, for the -- can you reverse
15 one or two? Yes. One more.

16 MS. ORLANDO: One more?

17 MS. BLUNDEN: So, I understand that --

18 ASSOCIATE MEMBER PFANNENSTIEL: Excuse
19 me, Claudia, can you dim the lights on that.
20 They're hard to see from here.

21 MS. ORLANDO: Yeah.

22 ASSOCIATE MEMBER PFANNENSTIEL: Thank
23 you. Sorry, Julie.

24 MS. BLUNDEN: No problem. I know,
25 having had some conversations with folks in the

1 lobby on the way in that there was some confusion
2 about kind of where responsibilities lie in this
3 proposal. And I thought it would be useful to
4 make sure we've kind of concretely identified.

5 I know that one of the things that's
6 confusing with this program is that we have
7 utilities and program administrators and they're
8 not completely overlapped. And then we've got
9 customers, applicants, system integrators from the
10 perspective of the solar side. So I wanted to
11 make sure that we've got clarity on really who's
12 responsible for different things.

13 This was extremely helpful to delineate
14 it like this, but it would be helpful to work on
15 the who's.

16 So, on the existing building information
17 disclosure it looks as though in order to provide
18 this information it would need to come from the
19 utility, not the program administrator. Because
20 CCSE wouldn't necessarily have all of these
21 things, I don't think. But maybe they do? But I
22 wanted to confirm if there's another step required
23 associated with going from a program administrator
24 to a utility. That we were clear on how that
25 process would work.

1 Would the utility, in the case of SDG&E,
2 actually go directly to the customer to provide
3 them with this information? Or would it go back
4 through CCSE?

5 MS. ORLANDO: Well, I would envision
6 that it would be the program administrators that
7 would be providing the information. However, for
8 the 12-month utility consumption, it seems like
9 that would come directly from the utility.

10 MS. BLUNDEN: And that would be flowed
11 back through the program administrator? I'm
12 checking to see how many lines of communication we
13 have back to the customer.

14 MS. ORLANDO: Yeah, and I'm, you know, I
15 can't speak for the utilities, but I don't know if
16 there's a confidentiality or how that works
17 between the utilities and the program. But the
18 intent is for the applicant to understand what
19 their energy use is prior to committing to install
20 the --

21 MS. BLUNDEN: That makes complete sense.
22 I get it; it makes sense. The issue is just
23 making sure that as we work through the
24 operational details of all of these new rules,
25 that we're clear about what the consequences will

1 be in terms of communication flows.

2 So if you flip forward one, the building
3 owner has to disclose information. One of the
4 things that we have to deal with is the fact that
5 the building owner may or may not be the
6 applicant. So, you could have situations where I
7 think definitionally we need to be conscious of
8 talking about the applicant, not necessarily the
9 building owner.

10 MS. ORLANDO: So, if it's not the
11 building applicant who is applying for the solar
12 incentive, it would be --

13 MS. BLUNDEN: It might be the solar
14 system owner in the case of a financial entity
15 that's doing a PPA model, for example.

16 MS. ORLANDO: Um-hum.

17 MS. BLUNDEN: So there's situations
18 where I think we need to be careful definitionally
19 of who's really responsible for providing
20 information.

21 And in this case I believe what we're
22 saying is that measures planned to be installed in
23 a future date, and date installation will be
24 completed, we have situations where you might have
25 a building owner and a solar system owner that are

1 different. And you wouldn't have the solar system
2 owner able to guarantee or get permission from the
3 building owner to do certain things.

4 So, in the -- you provided examples of
5 exceptions. And I am aware of the fact that we
6 may have another set of exceptions associated
7 with, you know, complicated situations, not unlike
8 the energy efficiency world where you have, you
9 know, tenant/owner issues.

10 So I can't give you the specific result
11 because I didn't think it through until I was
12 watching your slides this morning. But it occurs
13 to me that there's definitional issues and
14 potentially other exception issues.

15 MS. ORLANDO: Well, the intent of this
16 process is for the, you know, again the utility to
17 provide information to the building owner.

18 MS. BLUNDEN: Yes.

19 MS. ORLANDO: So really this is the
20 building owner we're talking about.

21 MS. BLUNDEN: I understand that.

22 MS. ORLANDO: So, we would want to make
23 sure that the building owner received the
24 information.

25 MS. BLUNDEN: Right.

1 MS. ORLANDO: And it can be in the form
2 of, you know, a piece of paper with some check
3 boxes. But as long as they get that information
4 that this is how much energy they're using, and
5 that these are options for me to reduce energy use
6 in the future if they want to investigate that
7 further.

8 MS. BLUNDEN: Right. I think the notion
9 of providing information and options, tools and
10 resources is outstanding. We certainly want
11 everybody to have as much information as possible
12 about their full energy procurement opportunities.

13 So, flipping one forward, now we have
14 benchmarking and retro-commissioning. So, as I go
15 down to the red parts, so we've got information
16 disclosure and then this commitment agreement?

17 MS. ORLANDO: Um-hum.

18 MS. BLUNDEN: What is unclear to me is
19 what the -- if we've parallel tracked the
20 efficiency, or if you're intending them to be in
21 series. I think you're parallel-pathing them, but
22 I'm not sure.

23 MS. ORLANDO: Yes. And, you know, the
24 previous, I mean the previous two slides were
25 really intended like for all existing buildings.

1 So really when we're looking at this slide we're
2 talking about existing commercial.

3 MS. BLUNDEN: Um-hum.

4 MS. ORLANDO: So our concern with
5 existing commercial again is we don't want to hold
6 up the installation of a PV system, but we want to
7 insure that at a future date and time that the
8 energy efficiency requirements will be met.

9 MS. BLUNDEN: Okay. All right. I'm
10 looking at my notes about the other questions we
11 had.

12 You know, I think that the direction
13 you're headed in is consistent with what we've
14 been asking for, which was to try to insure that
15 we not use energy efficiency as an unintended
16 consequence holding up additional penetration of
17 solar. And we appreciate the directions that
18 you're going in.

19 The couple of things that I think we
20 would generally reinforce, which may be somewhat
21 different than what you've proposed here, would be
22 to insure that data that the solar provider has to
23 offer to the utility with regard to customer
24 information be something that we work on together.
25 And be able to insure that there's good data going

1 from whatever is collected in the solar
2 procurement process over to the energy efficiency
3 programs.

4 But make sure that the responsibility
5 for pushing energy efficiency forward ultimately
6 resides with the utility who has the requirement
7 to procure energy efficiency. Rather than on the
8 solar provider who is probably not the right
9 person to convince a customer that that's what
10 they're trying to do.

11 MS. ORLANDO: Right.

12 MS. BLUNDEN: The other thing that we'd
13 want to do, I appreciate the parallel path. Just
14 to reinforce that, I think our perspective on this
15 one is to insure that we not end up in a situation
16 where, for example, if you've a capital budget
17 cycle that ends and is what you're using for
18 solar, that may be a completely different process
19 budget-wise than an expense budget that you may be
20 using for efficiency, depending on what your items
21 are.

22 And so it would reinforce, I think, the
23 notion of parallel pathing and insuring that we
24 kind of take the data from the solar procurement
25 process and hand it off, and put the

1 responsibility on kind of closing the customer and
2 moving the customer forward with whoever's running
3 the efficiency programs.

4 MS. ORLANDO: Um-hum.

5 MS. BLUNDEN: On the retro-commissioning
6 front, we are aware, I think we'll have some other
7 folks here speak to this today, that today retro-
8 commissioning is actually not being done in most
9 cases under 100,000 square feet.

10 And we also understand that there -- and
11 appreciate the fact that you guys have provided
12 resources that I've been taking a look at before
13 in terms of list of providers and the tool kit.

14 But in the processes that we've talked
15 to with customers when we've looked at retro-
16 commissioning, we know that it's a relatively
17 nascent industry, and that there's a very very
18 high hurdle to convince our customers that they
19 would be interested in retro-commissioning because
20 it affects their central plant.

21 MS. ORLANDO: Um-hum.

22 MS. BLUNDEN: And therefore, I guess the
23 question is, from a solar provider's perspective,
24 we're happy to tell them about retro-
25 commissioning. We don't want to have to be the

1 ones that are convincing them to do it.

2 MS. ORLANDO: Um-hum.

3 MS. BLUNDEN: We think that that's not
4 our strength to explain to them why they shouldn't
5 be worried about their central plant potentially
6 getting screwed up in the middle of a business
7 day.

8 So, I know other people will have more
9 to say about that than I can offer. But wanted to
10 identify that as a concern, kind of categorically
11 similar to other efficiency issues.

12 MS. ORLANDO: Um-hum.

13 MS. BLUNDEN: But definitely appreciate
14 the amount of effort that you've taken to
15 acknowledge our previously identified issues. And
16 appreciate the time to communicate with you today.

17 MS. ORLANDO: Yeah, just to clarify the
18 100,000, where we came up with the 50,000 square
19 feet, that's consistent with the green buildings
20 initiative that directs state buildings to retro-
21 commission for buildings greater than 50,000
22 square feet.

23 And encourages the commercial sector to
24 follow suit. And I'm aware that the utility, the
25 major IOUs, they have retro-commission programs

1 for 100,000 square feet and greater. And they
2 also have some other categories for like retail
3 that some are 50,000, some are 30,000.

4 So, but we appreciate your comment on
5 that.

6 MS. BLUNDEN: Any questions or reply?
7 Thank you.

8 PRESIDING MEMBER GEESMAN: Joe Venne,
9 SunPower.

10 MR. VENNE: Good morning. And, I, too
11 am very glad to be here. I've been involved in
12 the retail industry for 36 years in areas of
13 maintenance and engineering. And I really haven't
14 been involved in hearings like this since direct
15 access.

16 And it's very encouraging, and I say
17 that very honestly, very encouraging to see the
18 efforts that go into setting rules and setting
19 guidelines to make sure that the right criteria is
20 followed, and that things roll out the way they
21 should.

22 I wanted to talk a little bit today
23 about energy efficiency. And as Julie said, we
24 have to be careful not to let energy efficiency
25 become the rock in the stream to prevent solar

1 programs.

2 About ten months ago at Macy's we
3 started a very in-depth analysis of solar. And it
4 was quite a unique experience, being kind of a new
5 technology. And in going through that process, we
6 really tried very hard to get the EE piece away
7 from the solar presentation, which would then
8 allow us to really look at it very clearly.

9 The alarming thing that I think will
10 happen in most cases very dramatically is that
11 once a business, a company, an entity decides that
12 there are opportunities with solar, it almost
13 becomes foolish, very foolish not to do the EE.

14 The example being that, you know, we
15 said to SunPower, you got to go out and you've got
16 to put solar panels on every inch of our roofs,
17 everyplace you can. Allow for shading, allow for
18 structures on the roof, everything you can.

19 I kind of thought they'd come back and
20 say, oh, boy, we're going to take 50 percent of
21 your load, we're going to take 60 percent of your
22 load. Well, they came back and said, hey, how
23 about 20. And we thought, gosh, that's good;
24 taking 20 percent off the grid is terrific. But
25 what else can we do.

1 And the realization, the very clear
2 realization that if you reduce the load in the
3 building through energy efficiency, guess what?
4 That system now represents 40 percent of the load.

5 Energy efficiency has been around for as
6 long as I can remember. And it's gone through any
7 number of stages. The programs now that look like
8 they're being set up are talking about PAs and
9 talking about utilities. I really think in a
10 large organization that the utilities are not
11 equipped to become the experts with the customer
12 on how to address energy efficiency. They simply
13 do not have the manpower, and they do not have the
14 understanding that is needed to work with a lot of
15 the big commercial users.

16 Example: You could go into a Macy's and
17 you could look at the lighting and it would be
18 completely different from Mervyn's. And this
19 would be a very difficult thing for outsiders to
20 do. So it's usually up to an individual within
21 the company to put the programs together.

22 Energy efficiency is not new. Energy
23 efficiency competes with every other dollar that
24 the company is spending. So if you're using
25 expense, usually if a project will pay for itself

1 in a year, it makes sense to expense it. You'll
2 get that money back within a year.

3 If it doesn't then you have to
4 capitalize it. Now, you're competing with all the
5 other capital in the company, most of which has
6 paybacks of two years. And a lot of the energy
7 efficiency projects now have paybacks longer than
8 that. So you run into a stone wall when you're
9 trying to do it.

10 But, if you're looking at solar, under
11 the best of conditions, under the best of
12 conditions you're going to look at a five-year
13 payback. Now, down the road that may change. But
14 with a five-year payback now you throw energy
15 efficiency into the mix with his horrible two- or
16 three-year payback, and it actually really
17 improves the overall project.

18 I think that solar is new. You can't
19 open a paper, you can't read a book, you can't
20 turn the television on nowadays without seeing
21 something about renewable energy. People are
22 excited about it.

23 When we got our program approved, which
24 was 27 stores; and at one point I think it was the
25 largest solar initiative in the State of

1 California, for one small moment of time, but when
2 we got it approved I started a program of going
3 around to all the stores. And before I left
4 Macy's I got to 24 of the 27 stores.

5 And the response from the associates in
6 the stores, from the management, from people who
7 were there was just absolutely overwhelming. And
8 over the years I've worked on a lot of projects.
9 I've never worked on one where more people wanted
10 to do it.

11 And along the way, along the approval
12 process there were many times that it should not
13 have gone, it should have died. But it didn't
14 die. And because it didn't die, it brought a
15 significant amount of energy efficiency money
16 along with it.

17 So, I think that whatever is set up, and
18 there has to be something set up because to put
19 solar panels on a building and not do energy
20 efficiency does not make sense. And I think
21 having a basic guideline, a basic restriction that
22 says, you know, you can do it up to some degree,
23 but try and keep the process as simple as
24 possible.

25 Because as a building owner, as a

1 corporate person dealing with millions and
2 millions and millions of dollars of energy and
3 other things, when too many pieces of paper get in
4 the way, and too many things have to be filled out
5 and double-checked, sometimes the reaction is
6 there's too many other things going on.

7 So, I think if you can keep the gateway
8 open, continue to consider, as I've seen today,
9 consider letting PV move forward. Have some
10 restrictions with EE; have the program set up with
11 EE. But remember, building retro-commissioning is
12 only popular because of all the EE projects that
13 need to be fixed.

14 There's no guarantee that once the EE
15 gets done, that it's not going to need some
16 fixing, too. So, keep the posture of keeping the
17 programs rolling. And I think PV is the gateway
18 to gaining a tremendous amount of leverage, to
19 getting a lot of power off the grid. In some
20 cases by just not using it with EE, and in other
21 cases by just simply eliminating it.

22 Thank you.

23 PRESIDING MEMBER GEESMAN: Thanks for
24 your comments. I wonder if I could ask you, what
25 do you think the primary motivator for Macy's

1 making the investment in all of those stores was?
2 Could you isolate it down to a single --

3 MR. VENNE: The investment for PV? Or
4 EE?

5 PRESIDING MEMBER GEESMAN: Yeah, PV.

6 MR. VENNE: Some savings. Certainly not
7 the, you know, there's plenty of other ways to
8 save money. Macy's, I still have a great deal of
9 loyalty to Macy's. They have a great community
10 sense. And I think that this thing just really
11 caught fire with being the right thing to do.

12 It's the right thing to do for the
13 environment; it's the right thing to do for the
14 community; it's the right thing to do for
15 associates; it's the right thing to do for
16 customers and shareholders.

17 And that became almost overwhelming.
18 There was a real tendency to kind of step back a
19 little bit. But we had our first dedication
20 Friday at a store in Westminster. And it was like
21 a circus. I mean it was just -- we had our COO
22 there, we had the Mayor, we had a senator.

23 And I think it really -- solar is the
24 right thing to do, and people feel good about it.
25 And I think that was the overwhelming reason why.

1 Because there's plenty of other things the money
2 could have been spent on that would have provided
3 a better return.

4 PRESIDING MEMBER GEESMAN: Thank you
5 very much. Sara Birmingham, Solar Alliance.

6 MS. BIRMINGHAM: Hi, good morning. My
7 name is Sara Birmingham, and I'm representing the
8 Solar Alliance, which is an alliance of solar
9 integrators, solar manufacturers and solar
10 installers.

11 Because this is somewhat of a new
12 organization I'm going to read off the list of
13 members that are represented by the Solar
14 Alliance. It's fairly long, so --

15 PRESIDING MEMBER GEESMAN: Well, you can
16 submit it to our record if that's just as good for
17 you.

18 MS. BIRMINGHAM: Okay, if you don't
19 mind, the member organizations are: American
20 Solar Electric; BP Solar; Conergy; Energy
21 Innovations; Evergreen Solar; First Solar;
22 Kyocera; MMA Renewable Ventures; Mitsubishi
23 Electric; PPM Solar; REC Solar; Sanyo; Schott;
24 Sharp Electric; Sharp Electronics; SolarWorld; SPG
25 Solar; SunEdison; SunPower; SunTech; Turner

1 Renewable Energy; UniSolar; and Xantrex.

2 So you can see that we have a very broad
3 range of members. And so the comments here today
4 represent all of those different companies.

5 So I first want to really thank the
6 staff. I think that they've put an immense amount
7 of work into the different recommendations. And I
8 think that there's been a lot of progress that has
9 been made from the first recommendations to this
10 revised report. And I really want to applaud and
11 thank you for all the work that you've done.

12 We do have a few additional suggestions
13 and concerns that I do want to mention today. And
14 we'll go into more detail into our written
15 comments that will be filed on Monday.

16 In terms of the testing for the
17 different PV modules, I really appreciate the fact
18 that the staff did recognize that there's
19 currently a backlog at some of the testing
20 facilities. And in 2008 to allow some of the
21 inhouse testing. We greatly appreciate that
22 flexibility.

23 And one suggestion that we do have is
24 throughout 2008 to make sure to monitor the
25 situation at the different testing facilities to

1 see if there is a significant backlog, or if
2 there's not, we are considering maybe on a
3 quarterly basis. Just the concern being if we
4 come to November 2008 and there's a significant
5 backlog. That may have a big impact on 2009 when
6 the requirements go into place.

7 Regarding the calculator, this was very
8 very helpful today to see some of the different
9 comparisons between the two calculators. However,
10 I would recommend that before we mandate that we
11 switch over a calculator, we would like the
12 opportunity to see the detailed side-by-side
13 comparison to insure that the benefit that we're
14 receiving by going to a different calculator is
15 really warrants the change in the market
16 disruption that it may have.

17 One lesson, I think, that we've learned
18 in 2007 is that starting a new program is
19 incredibly significant. It has a huge impact on
20 the market and the installers. And I think that
21 we've made significant efforts to try to
22 streamline the program and streamline the process
23 for the installers and the program administrators.
24 And we just want to make sure that any additional
25 restrictions or barriers or changes we have in the

1 program really warrant the market disruption that
2 it may cause.

3 So, I really look forward to seeing the
4 detailed report. And we do ask that before
5 submitting the recommendation that we go with a
6 particular calculator, that we're able to look at
7 the results on a side-to-side basis and make that
8 determination at that point.

9 Regarding the shading methodology, there
10 has been a significant effort in the CSI program
11 that is looking at the different shading, at the
12 shading methodology. And there's been a group, a
13 shading subcommittee that was formed to look at
14 the definition of minimal shading.

15 And that subgroup included academia, the
16 program administrators, solar installers and
17 different consultants. And there was, I think, a
18 very very useful dialogue back and forth about,
19 you know, here's what the shading methodology
20 should be. And then there was a discussion about
21 the impact that that would have on the solar
22 industry.

23 And I think that that dialogue was very
24 valuable. And I would encourage the Commission to
25 look at those recommendations and adopt the

1 recommendations that were filed with the CPUC
2 regarding the shading definition.

3 MR. PENNINGTON: Could I respond to
4 that?

5 PRESIDING MEMBER GEESMAN: Bill, go
6 ahead.

7 MR. PENNINGTON: So the staff has looked
8 at that report. And one of the things about that
9 work is that it's looking at a completely
10 different construct for how to assess the
11 performance of a PV system.

12 And what these guidelines are advocating
13 is that we move to a time-of-use based system
14 where the impact of shading needs to be evaluated
15 on an hourly basis in order to assess and apply a
16 time-of-use valuation.

17 Whereas, with the methodology that the
18 shading committee was looking at, there's a global
19 monthly factor that is used to represent the
20 shading. And that global factor in no way
21 represents the hourly consequence of different
22 shading obstructions.

23 And so we found there to be such a
24 disconnect in those two ways of looking at shading
25 that there wasn't anything that we could take

1 directly away from that work.

2 I think we're always open to considering
3 how we might get input on refinement of this idea
4 related to looking at shading obstructions on an
5 hourly basis. So it's not that we're
6 disinterested in other people's views on this.
7 But we didn't see anything that was directly
8 usable from the report for this kind of hourly
9 calculation.

10 MS. BIRMINGHAM: Thank you, that
11 clarification helps quite a bit. I would then
12 just encourage or suggest that as 2008 moves
13 forward that the subcommittee reconvenes and looks
14 at it with this slant and interest.

15 The reason why the subcommittee was
16 formed is because when we're going out and doing
17 field verifications we found it very difficult to
18 replicate the initial reported shading. And we
19 also found that there was a difference depending
20 on what type of tool you were using.

21 And so we found the replicability very
22 difficult, which is why we needed to form the
23 subgroup in the first place.

24 So I think that it was a very useful
25 exercise, and would encourage the communication

1 and conversation to continue to keep in all these
2 different factors.

3 In terms of the maintenance plan, I
4 think that we can all agree that there is huge
5 consumer benefit to educating the owners of solar
6 systems about regular maintenance, regular
7 cleaning, how to see if your solar system is
8 operating correctly, and what to do if it's not
9 operating correctly.

10 However, I'm reluctant to add yet
11 another requirement or paperwork to the California
12 Solar Initiative process. As I mentioned, in 2007
13 we've been working very very hard to streamline
14 the process, eliminate paperwork, eliminate some
15 of the just process of applying for a rebate.

16 I'm sure you've all heard some of the
17 complaints that the installers have had that
18 there's a lot of paperwork, it's a burdensome
19 process. And so we're really trying to streamline
20 that effort. And really reducing the amount of
21 paperwork that is involved within the application.

22 I think, as an alternative, we would
23 like to suggest that this be looked at as part of
24 the CSI education and outreach efforts. And
25 there's some communication and brochures that are

1 created in that effort that can be shared with the
2 solar system owners.

3 But I don't necessarily think that it
4 needs to come from the installers as, you know,
5 part of the application process that comes in to
6 the program administrators. But I do agree that
7 the effort is very worthwhile, and we see the
8 benefit of educating solar system owners to how to
9 check if their system is operating properly.

10 And lastly, I did want to talk about the
11 energy efficiency requirements. And in general,
12 we absolutely support the goal of combining energy
13 efficiency with solar. For a lot of customers it
14 makes a lot of financial sense. And it makes a
15 lot of sense to their projects.

16 And -- sure, sorry, I didn't realize I
17 wasn't speaking into the microphone.

18 And while we support the goals of energy
19 efficiency in SB-1, we also need to make sure that
20 supporting the goals of energy efficiency doesn't
21 come at the expense of installing 3000 megawatts
22 of solar, which is also the goal of SB-1.

23 We support the recommendations for the
24 new construction, both on the residential and the
25 commercial side. And we greatly appreciate the

1 revision to the residential energy efficiency
2 requirements.

3 But we do remain concerned about the
4 commercial energy efficiency requirements. And I
5 do appreciate the information about the 50,000
6 square feet versus the 100,000 square feet size
7 threshold for requiring the retro-commissioning
8 study.

9 And some of the retro-commissioning
10 consultants that I've spoken with, they seem to be
11 under the impression that typically the results
12 for buildings under 100,000 square feet typically
13 didn't warrant the rigor of the analysis for
14 retro-commissioning. So I do encourage looking at
15 that size threshold to make sure that the results
16 will be significant.

17 And above and beyond, we would really
18 like to encourage that there be as much education
19 given to the customer so they can make an informed
20 decision that makes sense for their particular
21 facility and their particular business.

22 There are, as Mr. Venne spoke, in Macy's
23 they were looking at both energy efficiency, as
24 well as solar, but not necessarily in a
25 prescriptive we must install energy efficiency

1 first, and then we must install solar.

2 There's different stores and different
3 facilities and different businesses that need to
4 make those decisions based on their own standards
5 and their own criteria within their organizations.

6 We would like to suggest that -- and I
7 am encouraged that these two efforts can work in
8 parallel. And as a potential alternative rather
9 than state that all cost effective measures must
10 be taken to get the energy use index above the
11 75th quartile, that perhaps we limit the size of
12 the solar installation to say 80 percent of the
13 last year's energy usage.

14 That way, if they do operate in
15 parallel, they will, you know, they can install
16 the solar initially, and then they can proceed
17 with the energy efficiency recommendations and
18 measures at their decision.

19 And again I thank you for the workshop.
20 This has been very useful for me, and look forward
21 to working with you guys in the future.

22 PRESIDING MEMBER GEESMAN: Thank you
23 very much for your comments.

24 We're going to break now. We will come
25 back at 1:05.

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(Whereupon, at 12:02 p.m., the Committee Workshop was adjourned, to reconvene at 1:05 p.m., this same day.)

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AFTERNOON SESSION

1:07 p.m.

1
2
3 PRESIDING MEMBER GEESMAN: Why don't we
4 go ahead and resume our public comment period.
5 I'm going to go through the blue cards in the
6 order in which I've received them. But if
7 somebody's out of the room I'll just hold off on
8 that card until he or she comes back.

9 Joe Henri, SunEdison.

10 MS. SPEAKER: He's outside.

11 PRESIDING MEMBER GEESMAN: Andrew
12 McAllister, California Center for Sustainable
13 Energy.

14 MR. SPEAKER: He's outside.

15 (Laughter.)

16 PRESIDING MEMBER GEESMAN: David
17 Reynolds, NCPA. Marston Schultz, Clean Power Co-
18 op of Nevada County.

19 MR. SCHULTZ: Yes, of Nevada County.
20 Thank you for the opportunity to talk to you. The
21 Co-op is committed to promoting and facilitating
22 energy conservation, energy efficiency and the
23 production of clean sustainable energy in Nevada
24 County.

25 To that end we want to see more

1 households investing in solar PVC. Unfortunately,
2 many of the members of our community will not be
3 allowed to participate in the CSI program unless
4 the following restriction is removed.

5 (Pause.)

6 MR. SCHULTZ: Unfortunately, the many
7 members of our community will not be allowed to
8 participate in the CSI program unless the
9 following restriction is removed. And I quote:

10 "The solar system must be located on the
11 same premises where the consumers own electricity
12 demand is located."

13 This regulation, in effect, excludes the
14 following from participating in the program:
15 Renters, residences and businesses; residences and
16 businesses who do not get enough solar exposure;
17 historical buildings; residences and businesses in
18 historical zones; those living under some form of
19 restrictive covenant.

20 Therefore, the program, as drafted, is
21 inherently discriminatory. Only those who own a
22 building and have good solar exposure need apply.

23 Fortunately, this situation can be
24 rectified if the energy consumer is allowed to
25 install his or her array on a separate property

1 with proper solar exposure and access to the grid.
2 A second meter would be required.

3 The consumer would put up his array on
4 land made available by someone else. The property
5 owner where the solar array is located might be
6 compensated by getting a clean energy tax credit
7 based on the number of kilowatt hours generated
8 for that tax year. Or maybe he receives a modest
9 rent for the space.

10 The land could be anywhere within the
11 service area of the primary energy provider
12 preferably in the same community. Anyone doing
13 one of these installations would be eligible for a
14 rebate, just as if they had installed the array on
15 their building.

16 If we can break the physical link
17 between the user and the energy generator this
18 will democratize the rebate program.

19 Everyone contributes to the funding of
20 the CSI program. Shouldn't everyone be eligible
21 to participate?

22 We would be pleased to assist the
23 Commission in any way to help make the CSI program
24 available to all California's citizens.

25 Thank you.

1 PRESIDING MEMBER GEESMAN: Thank you
2 very much.

3 MR. BLACKBURN: If I could, Commissioner
4 Geesman, just make a quick comment. The language
5 in the report that has to do with requiring that
6 the solar system meet the onsite needs is specific
7 to SB-1 is a statute, I believe, already. So, we
8 don't -- we, as the Energy Commission, don't have
9 the flexibility to change that.

10 MR. SCHULTZ: Who does?

11 PRESIDING MEMBER GEESMAN: The
12 California Legislature. We implement statutes
13 that are passed by the Legislature.

14 MR. SCHULTZ: Yeah, I tried to track
15 back that rule that you refer to in your
16 documents. And I was looking for the docket on
17 discussion, and it took me right back to SB-1. If
18 there's anybody who can tell me how I can find
19 what the arguments are for imposing that rule, I
20 would appreciate it.

21 MR. BLACKBURN: I would say if you could
22 talk to me, if you're around, after the workshop
23 I'd be happy to get your contact information; and
24 we can potentially do some looking at statute and
25 provide you some feedback on that.

1 MR. SCHULTZ: Thank you.

2 PRESIDING MEMBER GEESMAN: If I'm not
3 mistaken, was that requirement not in the old
4 program, as well, before SB-1?

5 MR. BLACKBURN: It was a requirement,
6 yeah.

7 PRESIDING MEMBER GEESMAN: I think it's
8 been in state law for quite some period of time.

9 MR. SCHULTZ: Okay.

10 PRESIDING MEMBER GEESMAN: Bernadette
11 Del Chiaro. Environment California.

12 MS. DEL CHIARO: Make sure I get the
13 microphone right. Commissioner Geesman,
14 Commissioner Pfannenstiel, thanks for having this
15 workshop hearing. My name is Bernadette Del
16 Chiaro; I'm an energy applicant with Environment
17 California. For those who aren't familiar,
18 Environment California is a statewide nonprofit
19 environmental advocacy organization that's
20 membership funded. And we were the sponsor of SB-
21 1.

22 I am going to make some brief comments.
23 And then reserve the right to expand upon them in
24 written comment, written form.

25 This has actually been said a couple

1 times today, but I'm going to say it a little bit
2 differently. The big picture vision of SB-1 is
3 not to create a green building program. But it
4 is, instead, to create a mainstream market for
5 solar electric technologies.

6 And the primary way in which we envision
7 getting there is hitting that million roof mark
8 and/or 3000 megawatts installed in distributed
9 form.

10 That said, the vision behind the Energy
11 Commission components to which this workshop is
12 specifically about was to make sure that this
13 mainstream market that we are creating in
14 California is one that's of highest quality and is
15 one that captures as many energy efficiency gains
16 as possible for both the environmental ratepayer
17 and individual consumer perspective.

18 And so it is therefore incumbent upon
19 the Commission here in developing these guidelines
20 that we walk that fine line between growing the
21 market and insuring quality and as much efficiency
22 as we can capture, while not slowing down the
23 market growth.

24 And I think on sort of based on all that
25 I've heard today and what I read, the Commission

1 is very close to walking that appropriate line
2 between those two goals. I think there might be a
3 few places that there might be room for tweaking.
4 But I just wanted to make that over-arching
5 statement and make sure that -- and one of the
6 reasons why I felt it was necessary is in the
7 slides describing the Commission's line-item
8 requirements under SB-1, there's no over-arching,
9 you know, recognition that the goal of SB-1 is to
10 create this mainstream market.

11 There's, you know, specific pullouts of
12 IERP and other goals that talk about efficiency
13 being a primary goal. But it's not sort of
14 balanced out.

15 So, that said, I have a couple of sort
16 of questions in which if Claudia wants to answer
17 them, or I'll put them in writing form, if not.

18 One is taking a step back, a lot of
19 the -- either the mandate and/or the sort of
20 consumer information, depending on if it's a new
21 or existing building, relies a lot on incentives
22 for those efficiency measures that either aren't
23 cost effective without that incentive, or just
24 might need that incentive to get the consumer to
25 make that investment.

1 And the Commission has been careful to
2 say we want to encourage the utilities to provide
3 those incentives. But there doesn't seem to be
4 any thought process to what happens if those
5 incentives actually are not available.

6 And it seems to me that we need,
7 especially on the -- well, on both fronts, that we
8 need to articulate a little bit further what
9 happens in the event that those incentives are not
10 made available, yet we're still requiring them, or
11 trying to get people in that direction.

12 The second is kind of related to that.
13 What happens when the utility is -- or the
14 administrator is not capable of responding to the
15 growth and not just solar demand, but efficiency
16 improvement demand in a timely fashion? I
17 recognize that there's been some care to attend to
18 that by making it two parallel processes, but it
19 still seems as though there might need to be some
20 kind of articulation of timeliness of the utility
21 in responding to the requirements of this.

22 This is a small point, but requiring
23 that the utility provide the homeowner or building
24 owner with 12 months data. You might want to put
25 in a little addendum of, or the most recent 12

1 months that the building has been occupied. It
2 maybe goes without saying, but it struck me as
3 something that needed to be put in there.

4 And then the thing I really like about
5 this is the care that's given to educating the
6 consumer, themselves, about the energy efficiency
7 improvements that should go right along with, in
8 tandem with solar. It seems to me that it might
9 be useful for the Commission to explicitly put in
10 here a requirement that that information include
11 the cost benefits for the consumer, whether it's a
12 homeowner or business owner, to investing in
13 efficiency alongside with solar.

14 Maybe again that's all in your head and
15 embedded in the report, but it's not spelled out.
16 And might be specifically a Energy Commission
17 brochure that spells it out for the consumer. And
18 that the consumer's required to say, you know,
19 check off sign, I saw and read that brochure at
20 the time of signing my solar agreement.

21 Let's see, the other -- two more, two
22 last comments. One is on the retro-commissioning
23 section for commercial buildings. It was unclear
24 to me if I sort of thought through from beginning
25 to end, what kind of an agreement exactly, what

1 the nature of the agreement that would be signed
2 between the consumer and I assume the utility.
3 What kind of agreement that would be; who would
4 actually be drafting that agreement; and would we
5 be asking consumers to sign an agreement to do
6 something they don't know what they're committing
7 themselves to do?

8 And if we can articulate what that
9 agreement should exactly look like or be in order
10 to protect -- not just protect the consumer, but
11 make them not afraid to sign on the dotted line.
12 And/or also the flip side is make it actually a
13 real agreement.

14 If we can't figure out how to do that,
15 and I don't have any specific ideas right now, but
16 we might need to just say get the consumer to
17 agree in writing and commit to doing a retro-
18 commissioning process or to flag an audit, and not
19 just an online audit, but a more in-depth audit
20 with the improvements not being something people
21 sign on the dotted line on. It just seems like it
22 might be cumbersome and difficult.

23 And then last, but not least, it strikes
24 me, and maybe again this is already in here, but
25 that we should do a study at some point, maybe

1 again this goes without saying, as to whether or
2 not these measures are effective in both meeting
3 the goals, the carved-out goals of the Energy
4 Commission's specific goals within SB-1, but then
5 also helping to meet the over-arching goals of SB-
6 1.

7 PRESIDING MEMBER GEESMAN: Thank you
8 very much.

9 MS. DEL CHIARO: Yeah.

10 PRESIDING MEMBER GEESMAN: Matt Golden,
11 Sustainable Spaces.

12 MR. GOLDEN: Thank you. My name is Matt
13 Golden; I'm with a company called Sustainable
14 Spaces. We're out of San Francisco, California.
15 And we're basically primarily focused on the
16 residential market. We're both a solar contractor
17 and mechanical contractor and a general
18 contractor. And we help clients with their whole
19 house make energy efficiency, as well as renewable
20 energy improvements and choices.

21 And I'm here today really just as a
22 voice that we talk about balance in these
23 programs. And I think one area that there's
24 really lacking balance right now is on the
25 residential existing building program.

1 I think the existing online audit
2 process is not really being effective when you
3 really look at what consumers are getting out of
4 it, and whether or not that's leading to action.

5 And I just hope that everybody on the
6 Commission really remembers that while SB-1 may be
7 focused on the solar initiative, that the CEC, at
8 some level you know that the loading order was
9 done for a reason and energy efficiency,
10 especially the low-hanging fruit energy efficiency
11 measures, and that's really how we look at it, is
12 there's these fundamentals you got to take care of
13 first. If a house is 30 to 40 percent duct
14 leakage and poor to no insulation, and
15 incandescent light bulbs and a 20-year-old
16 refrigerator, these are items we need to deal
17 with.

18 And we just hope that we might want to
19 look at that and strengthen that program. There
20 are a lot of companies like ours out there.
21 We're, I'd say, kind of leading in the industry,
22 but a lot of people are struggling to gain
23 foothold. And just like there's market creation
24 necessary for solar, you might need to think about
25 doing the same sort of thing for the residential

1 energy efficiency marketplace.

2 We also partner with many of the largest
3 solar firms, as well as small regional firms in
4 the state. And we're actually getting more demand
5 for our services that's coming directly from their
6 clients than we're able to fulfill at this point.

7 So, I think that this idea that solar is
8 necessarily going to hurt the solar -- I'm sorry,
9 efficiency is necessarily going to stand in the
10 way of the solar sale is not necessarily what's
11 really happening in the market. And that there is
12 actually a lot of demand for a more holistic
13 complete service.

14 So that's basically the statement I live
15 to give on that, be bold, you know, remember what
16 your initiatives -- what your underlying
17 principles are, and don't be afraid to make some
18 decisions that might be uncomfortable for a little
19 while, but will ultimately benefit the CEC's
20 mission.

21 Thank you.

22 PRESIDING MEMBER GEESMAN: The draft
23 efficiency chapter in the Integrated Energy Policy
24 Report that the Commission published earlier this
25 week, and which will be in front of the full

1 Commission for adoption November 21st, addresses
2 the residential retrofit market. And suggests
3 pursuing a mandatory time-of-sale retrofit
4 requirement.

5 So when we're being hung in effigy by
6 the realtors, we hope you'll be thinking of us.

7 MR. GOLDEN: We'll be there, also.

8 Don't worry.

9 ASSOCIATE MEMBER PFANNENSTIEL: You'll
10 be there.

11 (Laughter.)

12 MR. GOLDEN: Thank you.

13 PRESIDING MEMBER GEESMAN: Thank you.
14 Alyssa Newman, Solar City.

15 MS. NEWMAN: Hello. Thank you for
16 having this opportunity to speak, and for all the
17 work clearly that's gone into coming up with the
18 recommendations.

19 Solar City is an up and coming solar
20 installer. We've very quickly grown into at least
21 the top two. There's some debate of numbers, but
22 were close to 500 kW a month, a hundred jobs, and
23 obviously this directly impacts our business.

24 There's two points that we see as really
25 absolutely critical to the long-term sustained

1 growth of our business and the solar industry.

2 One is customer confidence. And I
3 encourage all of you to think of complexities and
4 program administration, and how that not only
5 affects who we see as very clearly partner,
6 program administrators, be they utilities or
7 other; but, also the customers, themselves. And
8 their ability to understand and have trust in the
9 system and the technical nuances of what you're
10 proposing as a solution for them.

11 In particular I'd like to talk about the
12 shading analysis. I think my colleagues have
13 given a very good summary on energy efficiency and
14 so forth. As one glimpse into this shading --
15 when we're going to compete, which we encourage
16 and would say to every consumer, get at least
17 three bids, get more than one bid certainly.
18 We're going into a situation where we've got three
19 different incentive rebate predicted for that
20 particular customer. And the customer is looking
21 at us saying, which one do I believe.

22 It ends up impacting the customer
23 confidence. It also puts us in kind of an
24 uncomfortable position of saying, well, here's
25 what we think our analysis is, and we don't really

1 know until the time of completion what that
2 incentive is going to be.

3 I think system performance is the
4 backbone of what this program to guarantee, I,
5 myself, as a ratepayer, the investment that's
6 made. But I think we need to balance the
7 complexity with the intended goals of the program.

8 I would say we may be unique in the
9 marketplace, in that we would rather have a lower
10 incentive that was predictable and insured our
11 seeing a longer CSI. Because at the rate we're
12 going, you know, it could be five years before the
13 ten-year program is gone through in incentives.

14 So I think for us really to, as you're
15 looking and coming up with recommendations, if we
16 can simply the calculations and set, in fact,
17 perhaps, and again we may be the minority in this,
18 a lower benchmark for let's say it's 80 percent,
19 but think of that as a rule and set the incentive
20 making sure that the customer's going to see the
21 exact same rebate calculation, which, you know,
22 important for the customer, important for the
23 program administrator and us.

24 And make it such that we can, as -- the
25 second point I sidetracked from is we can

1 predictably, within our business, know the rebates
2 are going to turn around efficiently. We maintain
3 our cash flow. We maintain a very cordial
4 relationship with both the PAs and our customers.

5 So, with that, thank you. If you have
6 any questions.

7 PRESIDING MEMBER GEESMAN: Thanks for
8 your comments. Joeline Monestier, SPG Solar.

9 MS. MONESTIER: Thank you for having us
10 here today. I really appreciate, first of all,
11 the changes between the first draft and the second
12 draft of your report. I think there are a lot of
13 really positive improvements, especially with the
14 residential existing buildings.

15 I also appreciate the residential new
16 construction, as well as the commercial new
17 construction requirements. I think that those are
18 very easy to -- maybe not easy to implement, but
19 they're very standardized. That will be helpful.

20 I have a couple points that I want to
21 run through here really quick. The first one is
22 about the maintenance that was discussed. Many
23 installers already do currently inform their
24 customers of the maintenance schedule; that they
25 need to clean their panels; they need to look out

1 for additional shading that may have come in over
2 the last year or two years, whatever it may be,
3 since they installed their system.

4 However, not all installers are at the
5 point where their companies have that
6 understanding or are informing responsibly their
7 customers.

8 So one thing that we did want to
9 potentially push forward is the idea of having an
10 education and outreach flyer that goes out to all
11 currently installed systems, moving forward with
12 the CSI program and/or New Solar Homes
13 Partnership. Especially with the New Solar Homes
14 Partnership it would make more sense to have a
15 customer that potentially buys a brand new project
16 to know what the requirements are for their
17 system.

18 Another question that I did have is with
19 the implementation. There's a lot of talk of
20 implementing these requirements on 1/1/08 or
21 1/1/09. One thing that we did want to clarify and
22 request is that these requirements are implemented
23 for all new applicants after this date, as opposed
24 to having them be retroactive to clients that were
25 not potentially informed of these requirements

1 because the decisions had not been made. Or to
2 have it go back with an 18-month period that some
3 of these projects are going through. It's unfair
4 to require energy efficiency measures or retro-
5 commissioning of projects that have already been
6 applied for and are now going to be held
7 responsible.

8 PRESIDING MEMBER GEESMAN: Do you feel
9 the staff draft is unclear on that point?

10 MS. MONESTIER: I do feel it's unclear.
11 I think that it just needs to be clarified that
12 any applicant, as of this date, whether it's
13 1/1/08 or 1/1/09, they are required to follow
14 these rules, as opposed to anybody who's applied
15 for these programs.

16 Another thing I wanted to clarify, and
17 this is different between New Solar Homes
18 Partnership program and the CSI program, is with
19 the information and disclosure. I believe it is
20 adding an additional step with the utilities
21 having to go back and get the 12 months of energy
22 usage. Most responsible installers have already
23 asked for the 12 months of usage from their
24 customers before deciding to size a system. So,
25 many customers have already looked at it.

1 Another thing is there are many parties
2 involved, especially in some of the commercial
3 program projects, where there may be a host
4 customer which is the utility customer of record,
5 as separate system owner and a financial situation
6 where there's a power purchase agreement.

7 An applicant, which many times is the
8 installer. Sometimes there's a separate
9 installer. Say if there's a consultant that had
10 to come in. Sometimes there's a different
11 building owner than all of these parties.
12 Sometimes there's a different seller of equipment.

13 Then there's the program administrator
14 which may or may not be the utility. And then
15 there can be the utility which if you're trying to
16 pull energy information, it might be a different
17 department than the CSI program or the
18 interconnection department.

19 So I just wanted to bring it to your
20 attention that although sometimes it sounds cut
21 and dried to say that there's a building owner
22 that needs to get the information of the utility
23 bills for the last 12 months, there are a lot of
24 other parties that can be involved in trying to
25 get the building owner to sign off on the last 12

1 months of usage. It just can get very complicated
2 and can add another step that could take possibly
3 months to try and get through to get somebody's
4 signature on it.

5 PRESIDING MEMBER GEESMAN: So, let me
6 try and pin you down a bit on that. It's not
7 clear to me whether you think because of that
8 complexity we ought not to have the requirement
9 for the 12 months of prior utility consumption.
10 And you did indicate that you thought many
11 customers already have access to that information
12 before they make a decision to invest.

13 Or whether you think that the staff
14 draft just is inadequate in recognizing the
15 complexity of the situation, particularly in
16 commercial settings.

17 MS. MONESTIER: I feel that if there was
18 another process, and I don't want to add any more
19 paperwork because I know there's already a lot of
20 paperwork, that all these programs are trying to
21 reduce that, whether there is a way that the host
22 customer can call their utility ahead of time and
23 turn -- I'm not sure if there's a report from the
24 utility, maybe somebody else can clarify it. But
25 if they can show a one-page report of their last

1 12 months of usage.

2 I know some of the utilities do offer
3 that. If there's a printout that they can do off
4 of, I believe PG&E has a program where you can
5 sign in and it has your last 12 months of usage.

6 Something where the host customer could
7 potentially show that they are aware of their last
8 12 months of usage. I think that that would be
9 more beneficial than trying to have some third
10 party go back and add another step through the
11 process.

12 So I think it's a good idea to make sure
13 the customer's informed of their last 12 months of
14 usage. But I just don't know if that's the right
15 process to make that implemented.

16 PRESIDING MEMBER GEESMAN: Thank you,
17 you've clarified that.

18 MS. MONESTIER: Another thing is that
19 benchmarking as a requirement at 75 in order to
20 move forward with the CSI program, even if it is
21 in parallel, I think that even if a project may
22 have a building that the customer wants to move
23 forward, and they maybe benchmarked at 25, for
24 example, and do significant energy efficiency
25 improvements, but are not able to bring their

1 building up to 75. I'm not sure if that meant
2 that they were not eligible for an incentive.

3 But I just think that there are a lot of
4 old buildings. If customers want to be able to
5 move forward, I'm not sure if there's a specific
6 number that they have to move up in percentage
7 points, if that's the right direction. Just to
8 require anybody that wants to be benchmarked to
9 make it up to 75, whether it's with retro-
10 commissioning, energy efficiency measures,
11 whatever it may be.

12 I think that if significant energy
13 efficiency measures can be implemented that there
14 should not be a benchmarked number at 75 required
15 in order for them to get an incentive.

16 MS. ORLANDO: There isn't anything in
17 the guidelines that say that a certain benchmark
18 needs to be reached in order to get -- that once
19 the benchmark that tells whether they've got a
20 retro-commission depending on the size of the
21 building.

22 But we want to see projects move towards
23 75, but there is no designated number that they
24 have to get to in order to do the PV. So it can
25 be done in parallel. And it would take another 12

1 months to get the new benchmark reflected.

2 MS. MONESTIER: Yeah, I just wasn't sure
3 if there was a 75 was required in order to receive
4 an incentive --

5 MS. ORLANDO: No, no --

6 MS. MONESTIER: -- or if it was just a
7 goal.

8 MS. ORLANDO: No, we'll clarify that in
9 the next --

10 MS. MONESTIER: Okay. Another thing
11 that I wanted to -- actually two more points,
12 sorry. Julie Blunden made the point about
13 budgeting differences between solar and energy
14 efficiency. Sometimes it comes out of capital
15 budgets. There may be different annual periods
16 that they can do these projects.

17 We've also found in our small commercial
18 business sector that there are different
19 decisionmakers between solar projects and/or
20 energy efficiency in capital improvement projects.

21 That's one thing to keep in mind if a
22 CFO really wants to do solar because of the
23 financial payback, and the facility manager
24 already has set aside money for something else,
25 and then they have to do additional energy

1 efficiency measures at the same time. I just
2 wanted to bring that to your attention that there
3 are different decisionmakers.

4 I think that having a date potentially
5 to do energy efficiency by, and or, I believe it
6 was addressed earlier, to do an 80 percent maximum
7 of building usage in order to allow for future
8 energy efficiency measures, I think would be a
9 great option for some of the people who really
10 want to get their incentive while it's higher, to
11 do solar, but still having the option to do the
12 energy efficiency, which will also be an incentive
13 so that they can offset their entire bill. I
14 think that's great.

15 Another thing I also just wanted to
16 bring to your attention and then I'll be done, is
17 the recent Navigant consulting report for the CEC
18 PIER program went through in detail the solar
19 power show last week.

20 Just an overview about how we have
21 significant improvements and lots of hurdles, I
22 guess you could say, to get through in order to
23 reach our 3000 megawatt goal for the CSI program.
24 And I just wanted to make sure that we are working
25 together as teams for all of us, which I know that

1 everybody's working together, but in order to
2 reach this 3000 megawatt goal. I don't want it to
3 be the energy efficiency versus the solar
4 industry.

5 And I want you guys all to know that we
6 do understand there's a lot of places that we need
7 to go. But I just want to make sure that these
8 energy efficiency measures don't stop or create a
9 hurdle that's even more that we can't get through
10 to get to our goal of 3000 megawatts.

11 So, thank you for your time. I really
12 appreciate all the work you guys have done.

13 PRESIDING MEMBER GEESMAN: Thank you
14 very much. Polly Shaw, California Public
15 Utilities Commission.

16 MS. SHAW: Good afternoon. I'm Polly
17 Shaw. I'm the CSI Team Lead in the energy
18 division of the California Public Utilities
19 Commission. And in charge of managing the CPUC
20 portion of the incentive program.

21 I want to say thank you very much for
22 offering the chance to speak. I want to give you
23 a responsive, some comments about our shared goals
24 and also some areas where we will continue to work
25 to insure close collaboration with our colleagues

1 over here as these draft conditions go further.

2 First of all, though, I want to thank
3 the CEC Staff for a very diligent and thorough set
4 of efforts to incorporate some of the lessons
5 learned in implementing the California Solar
6 Initiative over nine months this year. And in
7 regular and close collaboration in development of
8 even our portion of the program.

9 I specifically enjoy the renewable staff
10 efforts to meet us halfway, literally in a
11 Fairfield Denny's, --

12 (Laughter.)

13 MS. SHAW: -- a few weeks ago, to talk
14 over a little bit more of what we're learning as
15 we're rolling out this incentive program for the
16 existing markets and new commercial ag/industrial.

17 I just want to reiterate that we have
18 shared goals to maximize energy efficiency and
19 solar. Solar is a very enticing lead to help
20 consumers identify energy efficiency and harvest
21 the energy and carbon savings from the existing
22 buildings market.

23 We share the goals or the interest to
24 help consumers identify the right size of the
25 solar system to meet their needs. We appreciate

1 the staff's efforts to look again at the August
2 recommendations, especially for energy efficiency
3 in the existing residential and commercial, at
4 small commercial, and to try to propose some new
5 modifications.

6 I think we agree with staff that the
7 challenges in crafting the smoothest path that
8 will most effectively weave the energy efficiency
9 and solar measures together for consumer.

10 I do want to point out a couple things,
11 though, from our vantage point. Achieving solar
12 in existing markets. The existing buildings
13 markets has just very different transaction needs
14 and pace of demand, as we're finding.

15 The administrators on the CSI program at
16 the PUC are pretty close to their administrative 5
17 percent budget cap as they are trying to staff up
18 to meet the high demand, especially in the
19 residential market in northern California.

20 We've had very frequent industry,
21 Governor, legislative, media calls throughout the
22 last nine months as we have tried to introduce the
23 new performance-based paradigm, but in an
24 administrative way that doesn't stop the market or
25 confuse the market.

1 And I think, as you've seen, we have
2 spent nine months working with industry to keep
3 refining our processes as you can see in some of
4 our efforts to reduce the initial application
5 paperwork, as we approved in September. To change
6 some of the considerations of the shading
7 calculation methodology; our metering
8 requirements; and even the independent PMRS
9 requirements.

10 So, I wanted to offer that we had
11 refreshed a comparative chart of existing CSI
12 program processes against this new proposed
13 version that was released on September 27th so
14 that we can adequately compare what is happening
15 in the current CPUC-managed programs against what
16 is being proposed. And we hope that this chart
17 can be helpful for us to review where the existing
18 programs may be slightly diverging, or raise
19 questions about logistics.

20 I'd like to remind the audience the CPUC
21 and the investor-owned utilities have a very
22 thorough planning process for energy efficiency
23 that takes place. We are just beginning a three-
24 year program planning cycle with investor-owned
25 utilities for 2009 to 2011. I believe the plans

1 are to be submitted in the spring.

2 We hope the next report, the conditions
3 report, can clarify a little bit more about how
4 these energy efficiency requirements will fit into
5 the IOU/CPUC planning process.

6 But last, I just want to reaffirm that
7 we have statewide goals to achieve 3000 megawatts
8 of distributed solar. And to decrease solar costs
9 to good parity by 2017.

10 I hope that we can continue to work with
11 your staff to carefully consider this proposal in
12 light of three things. Whether these ambitious
13 and, in other cases, more moderate energy
14 efficiency requirements allow the solar programs
15 to meet the SB-1 megawatt goals.

16 Whether we want to monitor whether or
17 not the report requires additional transactions
18 that could increase rather than decrease the cost
19 to consumer through the transactions that are
20 needed to implement the conditions. And within
21 our 5 percent administrative budget gap, as well.

22 And then third, whether the report,
23 which appears to present some major changes to the
24 existing CPUC-managed programs could lend some
25 inadvertent confusion in the market. And we

1 should keep looking for ways that we can try to
2 smooth that process for implementation.

3 I'd like to propose that the -- I'd like
4 to ask whether or not the Energy Commission is
5 open to extending the comment period. I think the
6 conditions report was released on September 27th,
7 which was last Friday; and I believe the comment
8 period is due on a public holiday on the 8th. Be
9 very beneficial if there was a chance to try to
10 extend the public comment period for written
11 comments.

12 PRESIDING MEMBER GEESMAN: How much
13 additional time would you contemplate needing?

14 MS. SHAW: Are you open to a week, the
15 end of the week?

16 PRESIDING MEMBER GEESMAN: Sure. For
17 you.

18 MS. SHAW: I think --

19 (Laughter.)

20 MS. SHAW: Thank you.

21 PRESIDING MEMBER GEESMAN: Take eight
22 days.

23 MS. SHAW: I think that would be very
24 beneficial, thank you. Because, you know, most of
25 us have come back from an 11,000 person solar

1 conference; and I think there hasn't been enough
2 time to digest and try to work towards the
3 solutions, and mapping out some of the questions
4 that are still needed.

5 And the last thing I would just like to
6 say is, of course, we, as staff at the PUC, are
7 very very interested to continue to work
8 collaboratively with the Energy Commission Staff
9 to identify areas where we can keep improving the
10 clarity within this report based on our knowledge
11 of implementing the program so far.

12 For example, whether or not the
13 maintenance plan could be something that the staff
14 suggest in a long-term marketing outreach
15 component of the CSI to make it consistent across
16 the state.

17 Or specifically, how to map out the
18 logistics of implementing these energy efficiency
19 requirements, given some of, as SPG Solar just
20 mentioned, the variety of applicants or parties
21 who come into the application process, and what
22 those transactions mean in terms of time and
23 money, to the consumer.

24 The effective date of the conditions
25 being applied to applicants for people who are in

1 the queue as of January 1st. And especially also
2 whether or not the technology categories under the
3 nonPV incentives, that we are moving forward to
4 adopt, will conform to what is being suggested in
5 this conditions report.

6 So, again, I wanted to thank you very
7 much for providing some time to provide comments.
8 Thank you very much.

9 PRESIDING MEMBER GEESMAN: Thanks for
10 your comments. And I should say that in an
11 earlier day and age half-way was at the Nut Tree.

12 (Laughter.)

13 PRESIDING MEMBER GEESMAN: So, the
14 record should show that we've moved a number of
15 miles --

16 (Laughter.)

17 MS. SHAW: Thank you very much.

18 PRESIDING MEMBER GEESMAN: Thank you
19 very much, Polly.

20 Jeff Chapman, California Living and
21 Energy.

22 MR. CHAPMAN: Thank you very much. And
23 just a point of clarification, and maybe, Bill,
24 this question is for you. I think we know each
25 other well enough, you know this is just a point

1 of clarification.

2 In appendix 2 I read that every solar
3 system installed will be inspected by the
4 installing contractor. Then there'll be a third-
5 party verification in one in seven. Obviously we
6 know it could be 100 percent, but one in seven.

7 My question is from chapter 4, page 50
8 and under field verification, this is the reading:
9 The third-party field verification shall be
10 carried out in a minimum sample size of one-in-
11 seven by a qualified home energy rating system
12 HERS rater or by the program administrator, or
13 their designated qualified contractor, as
14 determined by the program administrator.

15 What does that language mean?

16 MS. GUPTA: Okay, let me respond to that
17 one. So, that gives the program administrators
18 flexibility in designating who acts as a third-
19 party field verifier.

20 As a case in point example, the New
21 Solar Homes Partnership has designated the HERS
22 rater community as the eligible third-party field
23 verification. But potentially a different program
24 administrator may choose to take on the field
25 verification on the administrative side, and

1 identify and contract with field verification
2 contractor to conduct these field verifications.

3 So it gives the program administrators
4 the flexibility to designate a field verifier who
5 acts as a third party.

6 MR. CHAPMAN: So, if I'm understanding
7 you right, it'll be a local utility company that
8 would have that freedom?

9 MS. GUPTA: Right. The program
10 administrator.

11 MR. CHAPMAN: Thank you very much.

12 MS. GUPTA: No problem.

13 PRESIDING MEMBER GEESMAN: David Rubin,
14 PG&E.

15 MS. SPEAKER: He's gone.

16 PRESIDING MEMBER GEESMAN: Leslie Brown,
17 City of Santa Clara.

18 MS. BROWN: Hello; my name's Leslie
19 Brown; I work with the City of Santa Clara
20 Municipal Electric Utility, Silicon Valley Power.
21 I was here last month in August and provided a few
22 brief comments. I have some other comments that
23 I'd like to add in.

24 First of all, coming from a couple of
25 different perspectives. One, from a municipal

1 utility and a program administrator within a
2 municipal utility for a program -- we've had a
3 solar program in existence in Santa Clara for
4 several years.

5 It's been slow to adopt for several
6 reasons. Most notably, I believe, due to our very
7 low electric rates. For our customers, the
8 decision to install a solar system is not a
9 financial decision to reduce their energy load for
10 their energy costs. It's really a decision to
11 support solar power and support the solar industry
12 to install a solar system.

13 So, the decision to make that investment
14 always costs them more money. It always costs
15 them more money than any energy efficiency measure
16 that they could be taking in their home.

17 We do provide energy audits for both
18 residences and businesses. We do encourage energy
19 efficiency as a first measure. We have a lot of
20 programs in place to support energy efficiency.

21 But we believe that tying all of these
22 extra things on top of -- that you have to do
23 these things prior to being able and being
24 eligible to install a solar system will very
25 effectively kill every project that we have that

1 wants to go forward now.

2 We have projects, we have customers that
3 are trying to make the case to install a solar
4 system and not save money, because that's going to
5 cost them more money to have a solar system. But,
6 how to maybe barely break even or pay a little bit
7 extra for their solar power, because they really
8 want to have a system on their commercial facility
9 or to have one on their home.

10 If we require retro-commissioning for
11 every facility that wants to do this we add a six-
12 month lead time for a study, and a \$50,000, you
13 know, project cost, to add that in, too, before
14 you can install a solar system, not only will we
15 not have any solar systems, but I think it will
16 also greatly hurt our ability to get some of the
17 energy efficiency measures implemented.

18 You know, within the municipal utility
19 territories we are very unique with our customer
20 bases. We don't always represent the customer mix
21 and motivations that are in our neighboring IOU
22 territories.

23 And I think one of the dangers when you
24 go to implement a one-size-fits-all type of
25 program is you risk alienating a huge segment of

1 population and you risk alienating a huge segment
2 of customers that would like to move forward. But
3 they can't because the program is not set up in a
4 way that works for them.

5 Our ability to design our programs so
6 that they are effective for our customers and
7 their needs is key in order for us to be able to
8 meet some of these very aggressive goals, not only
9 for energy efficiency, but for SB-1 and installing
10 solar systems.

11 If we have a program in place that meets
12 the CEC guidelines and is a CEC-approved program,
13 but does not get any solar systems installed and
14 does not move anything forward, what have we
15 accomplished?

16 And I don't believe that that's the
17 goal. I don't believe that that's the goal that
18 were set out with SB-1. I believe that the goal
19 in there, and the language in there that says that
20 the public utilities shall have programs that are
21 consistent with SB-1 gives us the ability to
22 design the programs that are going to be effective
23 for our customers, in that they are consistent
24 with some basic guidelines for the investor-owned
25 utilities.

1 And I say guidelines, and I think
2 there's an interpretation here of guidelines
3 versus requirements. When you're talking about
4 guidelines for a program creation, and
5 requirements that these are things that have to be
6 included in your program creation.

7 That's, I believe, a different
8 interpretation of guidelines that goes beyond, I
9 would say, the interpretation that I think most of
10 us are familiar with.

11 Requirements are a different level. And
12 if you start dictating down to the ABCs and 123s
13 of how every single program has to operate, I
14 believe that you're just going to hinder the
15 ability to actually reach the end goal.

16 I'm a big supporter of solar power. I
17 would like to be able to have more of my customers
18 install solar. I would like to make sure that
19 they also do all of their energy efficiency
20 improvements first.

21 But I don't believe that -- and I
22 believe that the intentions behind this draft and
23 this guidelines in the staff report are very --
24 they come from the right place. But implementing
25 these types of requirements, I believe, are really

1 going to slow down the goals of both ends of the
2 industry, both the solar industry and both the
3 energy efficiency industry.

4 We've heard time and time again from our
5 installers that streamlined processes for
6 applications for solar systems are key in order
7 for them to be able to improve their business
8 process internally. And ultimately bring down the
9 cost of the systems to the end user.

10 We have a whole separate industry going
11 on developing new technologies and manufacturing
12 and all of these things for the actual products of
13 solar systems, but the installers and integrators,
14 they're responsible for a whole other set of, you
15 know, part of the process. That every time we
16 implement a new procedure, a new piece of paper, a
17 new application, a new calculator that they have
18 to use, a new tool that they have to become
19 familiar with, it just puts that piece of, you
20 know, bringing the -- ultimately bringing down the
21 cost of solar out just a little bit further.

22 They have to hire more staff to learn
23 these things. They have to have more people on
24 top of it to require it. And from a program
25 administrator's side, if I have to now track

1 several more pieces of paper, create new
2 documents, new forms, somehow create some type of
3 agreements with the customer where they're going
4 to promise to do these things, and I'm not really
5 clear what my role is in terms of enforcing it
6 after the fact.

7 And, you know, we're creating all of
8 these extra processes in the place, we're just
9 creating a lot of paper and a lot of procedures,
10 and not necessarily moving forward the goals.

11 PRESIDING MEMBER GEESMAN: So do you
12 have any specific recommendations --

13 MS. BROWN: Well, specifically --

14 PRESIDING MEMBER GEESMAN: -- as it
15 relates to Santa Clara --

16 MS. BROWN: -- I think that we can learn
17 from where the CSI is going from. I'm not sure I
18 see the value in changing the calculator tool from
19 the CSI program to the New Solar Homes Partnership
20 program.

21 I'm not familiar -- I haven't used
22 either one of those tools, but just from talking
23 to my other colleagues that do use those tools.
24 The CSI tool is something that's been out there in
25 the marketplace. It's been pretty heavily used

1 and tested and vetted over this last year. And
2 there have been changes and improvements made to
3 it.

4 PRESIDING MEMBER GEESMAN: So has Santa
5 Clara been making use of it?

6 MS. BROWN: I'm sorry?

7 PRESIDING MEMBER GEESMAN: Has Santa
8 Clara been making use of it?

9 MS. BROWN: No, we haven't, because
10 we're not included as far as the -- we're not
11 included in the database. And actually my
12 colleague from Palo Alto, Lindsey Joye, did call
13 the calculator, the group that does create that
14 calculator and asked if they could add Palo Alto
15 into -- just one zip code of Palo Alto into the
16 calculator for use of the calculator so she could
17 use that for her customers.

18 And they told her, sure, for \$40,000.
19 No other changes to the calculator, just add one
20 zip code to it.

21 And so, you know, beyond all of those
22 things, I --

23 PRESIDING MEMBER GEESMAN: Okay, you've
24 made it very clear --

25 MS. BROWN: Yeah.

1 PRESIDING MEMBER GEESMAN: -- you hate
2 state programs and you hate state requirements.
3 And I don't disagree with that.

4 MS. BROWN: Yeah.

5 PRESIDING MEMBER GEESMAN: But focused
6 on your own utility, --

7 MS. BROWN: Right.

8 PRESIDING MEMBER GEESMAN: -- and
9 recognizing that SB-1 creates certain
10 requirements; we're supposed to adopt something
11 that are called guidelines, they may be
12 regulations in their effect, we're supposed to
13 adopt something by the end of the year.

14 What, with respect to Santa Clara, would
15 you suggest we do?

16 MS. BROWN: Well, I would like the
17 opportunity to sit down and have that
18 conversation. And I don't feel like this is
19 really the best venue to do that. This feels very
20 adversarial.

21 PRESIDING MEMBER GEESMAN: Okay, why
22 don't you arrange a meeting with our staff, then.

23 MS. BROWN: Okay. Is there an
24 opportunity -- okay, that'd be great. Can I
25 invite the rest of the municipal utilities along

1 to that meeting? Okay.

2 PRESIDING MEMBER GEESMAN: If you'd
3 like, and certainly they are always welcome to
4 come in and see us. We don't really consider this
5 adversarial. For better or for worse, this is the
6 way the law --

7 MS. BROWN: Well, I mean --

8 PRESIDING MEMBER GEESMAN: -- provides
9 for us to get information --

10 MS. BROWN: -- this process, in terms of
11 me getting up here and trying to pick out points
12 that I don't, you know, that I don't agree with,
13 or provide suggestions in this format, I think it
14 would be a lot more productive if we could have
15 had a conversation, you know, six months ago.

16 And we have been asking for that
17 conversation. We have been saying we're willing
18 to sit down and do that.

19 PRESIDING MEMBER GEESMAN: Who have you
20 been asking?

21 MS. BROWN: If we could have done this -
22 - Tim knows that we've been asking for that. Or,
23 I mean, Tim has been a part of some of our other
24 meetings that we've had.

25 ASSOCIATE MEMBER PFANNENSTIEL: Has the

1 staff met with the publicly owned utilities?

2 MR. PENNINGTON: In the context of their
3 meetings.

4 ASSOCIATE MEMBER PFANNENSTIEL: In the
5 con -- I'm sorry, I don't understand that. You
6 mean --

7 MR. PENNINGTON: So there's been
8 presentations that Tim did starting last year.
9 And I was there in January. And every time
10 they've met we were -- invited to one meeting in
11 the spring --

12 MS. BROWN: It's not a formal -- that
13 particular group is not a formal process. It's
14 not a formal meeting of all of the publicly owned
15 utilities. It's sort of a group that we've formed
16 on our own to try to keep communications amongst
17 ourselves open.

18 But, you know, I wouldn't use that as a
19 substitute for getting actual comment from the
20 public utilities on the program, or inviting
21 discussion on it.

22 And I recognize that this is a huge
23 task, and a huge process. And we want to be a
24 part of it proactively. And we'd like to be a
25 part of it collaboratively. But I also want to

1 have successful programs for my customers.

2 PRESIDING MEMBER GEESMAN: And we want
3 our guidelines to be successful in Santa Clara,
4 which is why I keep trying to push you to tell us
5 what will work --

6 MS. BROWN: Well, I don't know that you
7 can --

8 PRESIDING MEMBER GEESMAN: -- in your
9 city.

10 MS. BROWN: -- I don't know that you can
11 pick a set of guidelines that are going to be
12 applicable to every single municipal utility
13 territory. There's 55 of us. So, I don't know
14 that my guidelines are going to work for Gridley,
15 are going to work for Anaheim, are going to work
16 for Lodi, are going to work for Roseville.

17 PRESIDING MEMBER GEESMAN: So what
18 flexibility do you think SB-1 provides us in
19 addressing those specific situations?

20 MS. BROWN: Well, I think that it
21 doesn't necessarily mean that -- I don't believe
22 that the interpretation of SB-1 says that the
23 California Energy Commission must dictate all of
24 the program administrative standards for every
25 single utility.

1 I think it says that you establish some
2 eligibility criteria, you establish some standards
3 for equipment. But I don't think that it dictates
4 that you need to, you know, document how we are
5 going to transmit information between a utility
6 and a program administrator and a customer.

7 I don't think it dictates, you know,
8 that you need to develop those processes
9 throughout the line within the program
10 administrators. I don't think that it says that.

11 And so, I think that --

12 PRESIDING MEMBER GEESMAN: So the
13 proposed guidelines that the staff has put forward
14 have too much detail?

15 MS. BROWN: I think so, yes.

16 PRESIDING MEMBER GEESMAN: Okay. I mean
17 I'm looking for specifics. I've heard a lot of
18 very generalized concern, but I'm trying to boil
19 it down to something that'll be more workable for
20 Commissioner Pfannenstiel and myself.

21 MS. BROWN: Well, if I could just pick
22 out the reporting requirements. You know, Sandy
23 put up, you know, a couple of slides that were
24 very general and it looked like not a whole lot of
25 information.

1 But in the guidelines, themselves, it's
2 two pages of very detailed, bulleted items. And
3 my colleague, Marty, here counted 32 separate
4 pieces of program information to be tracking and
5 reporting on in an annual basis. And I'm not sure
6 that that is really necessary.

7 It's not clear to me what the value of
8 all of these different pieces of information are
9 to the Commission. And if this is the only way to
10 transmit that information, and if there isn't
11 maybe a better way to develop that process.

12 I mean, so hat, right there, is, I
13 think, a very detailed requirement that I'm not
14 clear on what the value is for it, or what's going
15 to happen to that information. If I spend a
16 couple months writing this report, what comes back
17 out of it?

18 And, you know, from my standpoint of a
19 staff, I mean I'm the program administrator from
20 the City of Santa Clara. It's not the only thing
21 I do. I have several other positions. I think
22 we're fortunate in Santa Clara that we even have
23 one person that's somewhat dedicated to the solar
24 programs. If I'm, you know, required to have now
25 third-party verifiers and, you know, a lot of

1 other development calculator tool for time-
2 dependent valuation of calculation of solar
3 system, am I breaking out my 19-square-mile
4 territory in determining which street in Santa
5 Clara gets more solar incentive than another one?

6 So, some of that stuff is not really
7 clear, I think. And it's being sort of captured
8 into this big over-arching net that I think has a
9 lot of good intention behind it, but as far as the
10 administrative side, from a program
11 administrator's side, I think it's just going to
12 create a lot of extra work without moving forward
13 to the end goal.

14 And I'll look through this. I've only
15 had three days to look at this. This came out on
16 Thursday evening, and there was a weekend. And I
17 was down at the solar power conference. So I've
18 only had a few days to really look at this, to
19 provide a lot of really good detailed comment on
20 what could be improved and what would be better
21 for Santa Clara and maybe the other municipal
22 utilities.

23 So, if you are agreeable to extending
24 the comment deadline beyond Monday's holiday, that
25 would be helpful for us to be able to maybe pick

1 out some more specific things that I could
2 recommend.

3 PRESIDING MEMBER GEESMAN: Santa Clara
4 has a holiday on Monday?

5 MS. BROWN: Yes, Columbus Day.

6 PRESIDING MEMBER GEESMAN: So that's a
7 situation where one size fits all has actually
8 worked out pretty well.

9 MS. BROWN: Right.

10 (Laughter.)

11 PRESIDING MEMBER GEESMAN: I guess the
12 one thing that I would add, and I feel your pain,
13 but one of the weaknesses in state legislation and
14 in the way each of the regulatory agencies
15 approaches the energy area in general is like it
16 or not, whether we acknowledge it or not, our
17 thinking tends to be dominated by the largest of
18 the utilities.

19 And in this instance dominated by focus
20 primarily on the investor-owned utilities. And
21 those programs contemplated or thought through at
22 a PG&E or a Southern California Edison scale
23 oftentimes aren't very well calibrated to the POU's
24 or any of the other smaller jurisdictions that
25 they can have a pretty heavy impact on.

1 So, I appreciate what you're saying.
2 I'd invite you to provide as much detail as you
3 can in your written comments. I'd invite you also
4 to meet with our staff. And if a meeting with
5 Commissioner Pfannenstiel and I would be of any
6 help, get on our calendars.

7 MS. BROWN: Okay. And I guess going
8 forward in the future, I would hope that we
9 could -- and if it needs to be initiation on our
10 part to request the meeting formally, then maybe
11 we need to be doing that.

12 PRESIDING MEMBER GEESMAN: I will tell
13 you, with respect to me, that's the only way it's
14 going to happen. I don't ever have the
15 opportunity to ask anybody to meet with --

16 MS. BROWN: I think -- I can't speak for
17 everyone, of all the munis, but I do believe that
18 at some level we believe that the language in here
19 saying collaborating in creating the guidelines
20 and communication with and in collaboration with
21 the publicly owned utilities and other
22 stakeholders, we maybe felt that there was going
23 to be an opportunity where we would have been
24 asked to provide some comment and work together
25 outside of the public hearing notice after, you

1 know, after the guidelines were created.

2 So, maybe we can work on that in the
3 future.

4 PRESIDING MEMBER GEESMAN: Thanks for
5 your comments.

6 MS. BROWN: Okay.

7 PRESIDING MEMBER GEESMAN: George
8 Whitlow, Utility Conservation Services.

9 MR. WHITLOW: Yes, sir. This is in
10 regard to energy efficiency. Seems to me that
11 we're kind of putting the horse before the cart,
12 or the cart before the horse.

13 PRESIDING MEMBER GEESMAN: It's either
14 one or the other.

15 (Laughter.)

16 MR. WHITLOW: Yeah. We've had programs
17 since the '70s, I think, a first program for
18 energy efficiency was the 8 percent finance
19 program for insulation. In the '80s we had a zero
20 interest program, a cash back program. In '96 we
21 had a window and heating and air conditioning
22 program that lasted for two years. In 2003 there
23 was an interest buydown program for HVAC.

24 And currently there's no rebates or
25 financing for any of the items that would be

1 needed to upgrade a home. A HERS rater costs
2 about, in a metropolitan area about \$400. If
3 you're looking at heating and air conditioning,
4 you're talking anywhere from 5000 to 7000.
5 Windows, anywhere from 4000 to 7000.

6 And I think we're putting a really big
7 burden on these consumers who want to participate
8 in a solar program.

9 One of the issues I think that we need
10 to look at is the age of the customer that's
11 purchasing the solar. Most of the people are in
12 their mid-60s. And they've had an opportunity
13 over the past 30 years to selectively decide what
14 programs they want to participate in.

15 And if they haven't, and they've found
16 solar to be the legacy that they want to leave,
17 and now we're having to encumber them with this
18 additional cost, I don't know if they're still
19 going to want to buy. 40-year-olds are still
20 trying to buy a BMW. They're not the people
21 participating in solar.

22 I just think we need to have a real hard
23 look. Most of the endeavor that I've been
24 listening to isn't talking about commercial.
25 Well, commercial has the money. A lot of the

1 people that I deal with are in the rural area.
2 They live on anywhere from one acre to 40 acres.
3 Most of their costs, insofar as their electricity
4 bill, is a workshop, their well. Doesn't have
5 anything to do with the residential.

6 And to ask them to spend that kind of
7 money to participate in a solar program, just
8 don't think is right. I concur totally with the
9 young lady from Santa Clara.

10 I think we need to take a real hard look
11 at, you know, solar's the hot gig, let's dump
12 everything that we want to do for energy
13 efficiency on the solar program.

14 Now, I'm licensed to do all of the items
15 that you're wanting to do for energy efficiency.
16 But most of the solar contractors aren't there,
17 you know. We're wanting the solar contractors to
18 market the program for energy efficiency, not for
19 solar. If they're lucky they'll get solar. if
20 the customer can't afford to do solar after
21 they've done the upgrades, they've lost the deal.

22 So I think we're hindering the program
23 further than pushing it forward. And as the
24 rebates drop, it's not going to look as pretty as
25 it is right now, with the rebate where they're at.

1 And I don't think many people are going to
2 participate knowing they have to spend that
3 additional money and yet not be able to receive
4 that much of an incentive.

5 That's all I need to say.

6 PRESIDING MEMBER GEESMAN: Thanks for
7 your comments.

8 MR. WHITLOW: Incidentally, these
9 programs are driven by the contractors. If you
10 dump so much on them, they're not going to want to
11 participate as readily.

12 Thank you.

13 PRESIDING MEMBER GEESMAN: Thank you.
14 Joe Henri, SunEdison.

15 MR. HENRI: Good afternoon,
16 Commissioners. I'm Joe Henri; I work with
17 SunEdison. I want to thank you for the
18 opportunity to speak this afternoon, and also
19 thank the staff for all the hard work that clearly
20 has gone into this.

21 As well as the previous speakers,
22 there's been a lot of great comments made, and I
23 sure won't try to repeat all of that. Just try to
24 stick to some fresh stuff.

25 But I would like to draw a couple of

1 conclusions out of what I've heard so far, and I
2 think one of the interesting and exciting pieces
3 of information that has been shared today is that
4 solar creates an opportunity. Solar creates an
5 opportunity when customers start to think about
6 how they use energy. They start to look at other
7 things.

8 We've just heard about Macy's and other
9 companies, or even residential customers, as they
10 look at solar. It's an opportunity for them to
11 think about how they use energy throughout their
12 buildings, throughout their home. And it creates
13 an opportunity for them to make those investments
14 if they choose to do it.

15 A couple of other insightful comments, I
16 thought, were the comment to stay focused on what
17 are the objectives of the solar initiative. Keep
18 it simple. And I guess to that I would add let's
19 also harness the markets.

20 SunEdison is one of a growing number of
21 solar services providers that uses the PPA model,
22 in other words the power purchase agreement,
23 between ourselves, the owners of the solar system
24 and a customer.

25 That 20-year relationship is a long-term

1 relationship, and it creates certain incentives
2 that ought to be recognized here. One is that
3 SunEdison or some of the other solar providers are
4 very strongly incented to maintain those systems
5 and keep them producing as much power as they
6 possibly can, because every kilowatt produced from
7 the system is sold to the customer.

8 So, maintenance agreements, or
9 maintenance plants, of course, are part of the
10 success of SunEdison and other companies. But
11 it's not necessarily something that ought to have
12 to be filed as part of a solar application.

13 There are customer incentives that are
14 created, as well. And we've just heard about at
15 Macy's there's an incentive there to do better
16 energy efficiency for the purposes of making sure
17 that there's less purchased from the utility and
18 more purchased through their solar system.

19 So, one of the key things that I've
20 learned at SunEdison is the key to their success,
21 and I'm sure it's true of other companies, as
22 well, is they keep it simple. SunEdison goes in
23 and sells power. SunEdison does not sell a
24 complex solar system; SunEdison does not ask its
25 customers to allocate capital; none of those

1 things. It's a power agreement.

2 That simplicity enables customers to be
3 very focused on what they want to do; and to be
4 able to go forward with the decision that might
5 otherwise take years, or might not happen at all.

6 We're working very closely with the
7 Solar Alliance, and we very strongly support the
8 comments that Sara's made, and Julie's remarks, as
9 well.

10 There were a couple of issues that I
11 wanted to point out that weren't -- have not, I
12 believe, not yet been mentioned. One is the
13 importance of consistency between the CEC and the
14 CPUC requirements. Consistency, of course,
15 obviously will reduce the cost of compliance,
16 enables all of us to provide solar in a lower cost
17 to our customers.

18 But what we've seen pretty consistently
19 is that when there's any kind of a divergence in
20 requirements, in that tiny crack a thousand
21 complications can bloom. So, please, be very
22 mindful of that, and we appreciate the comments
23 that Polly was making to that effect, that you are
24 all working very closely together.

25 PRESIDING MEMBER GEESMAN: Don't you

1 think SB-1 contemplates a single standard, as
2 opposed to duplicate or competing standards?

3 MR. HENRI: Yes. I think, from my own
4 personal experience in working with the CSI
5 program at Pacific Gas and Electric, what I saw
6 was that when we get to the specific
7 implementation of the program, and the question is
8 well, shall we do it this way or that way, that's
9 where there can be divergence in how one program
10 administrator may administer the program, or
11 another program administrator.

12 So those are the kinds of things that I
13 realize now in my new role are very -- can cause a
14 tremendous amount of complexity, confusion and
15 increases costs overall. So those are the kinds
16 of things that we'll be very mindful of as we
17 participate in the process going forward.

18 PRESIDING MEMBER GEESMAN: But didn't
19 SB-1 anticipate that, and through this process
20 attempt to create some uniformity to the chagrin
21 of Santa Clara and others of the smaller program
22 administrators, but I think that's a pretty clear
23 intent coming through the statute.

24 MR. HENRI: I would agree with you on
25 that.

1 Just a couple more quick points. On the
2 five-year payment stream, the draft proposal
3 contemplates granting the program administrators
4 some leeway in creating longer or shorter payment
5 streams. And I guess, as a company that takes its
6 transactions and then uses Wall Street resources
7 to finance those transactions, that kind of
8 flexibility can be quite harmful.

9 We'd like to see a consistent term
10 that's used throughout California. And the five-
11 year payment stream has been working. It's been
12 working quite well. We'd like to keep it there.

13 Just a --

14 PRESIDING MEMBER GEESMAN: What if a
15 Santa Clara determines that a ten-year payment
16 stream is preferable?

17 MR. HENRI: Well, I think a couple of
18 thoughts on that, Commissioner. Number one, since
19 Santa Clara's rates are so low, they'll have a
20 tough time, anyone will have a tough time
21 installing solar in that market environment.

22 And they would have to do an analysis, I
23 think. As they look at the nominal value or the
24 nominal amount that's been allocated towards
25 installing solar for the PBI programs, the longer

1 you stretch out those payments, in effect, the
2 lower the subsidy that's available then for the
3 system.

4 So, there's clearly a balance that needs
5 to be struck. Five years has been working, and we
6 would like to see it stay there.

7 PRESIDING MEMBER GEESMAN: So this is a
8 situation where, from your perspective, one size
9 fits all would be preferable to a local option?

10 MR. HENRI: Certainly.

11 A quick comment on the commercial
12 retrofit market energy efficiency. So much has
13 already been said there I won't go on, but I would
14 like to point out that photovoltaic systems
15 produce only electricity. And when we talk about
16 energy efficiency, of course, we're talking about
17 a whole industry that covers both thermal and
18 electrical energy.

19 So, perhaps if we're going to really
20 effectively address energy efficiency and
21 retrofits, we ought to also take a look at solar
22 thermal technologies and what kinds of energy
23 efficiencies might be more appropriate to that
24 side of the market versus electric energy
25 efficiency.

1 And by electric energy efficiency we're
2 talking about things like, of course, envelope,
3 space conditioning, power factor and factors other
4 than gas or thermal usage.

5 So, SunEdison is very much looking
6 forward to filing comments on this next week.
7 Thank you very much for the extra time. And we
8 very much look forward to working with the staff
9 on getting this pulled together.

10 Thank you.

11 PRESIDING MEMBER GEESMAN: Thanks for
12 your comments. Andrew McAllister from California
13 Center for Sustainable Energy.

14 MR. McALLISTER: Thank you very much for
15 the opportunity to speak. And I will reiterate
16 what many have said, that it is a really nice
17 report and the underlying philosophy behind it, I
18 think, is unassailable. Energy efficiency is, you
19 know, cost effective, and we need to do more of
20 it.

21 And CCSE, of course, has that as part of
22 our mission, as well. So obviously we're onboard
23 with the underlying intent.

24 And we will be filing comments on a few
25 issues, the maintenance, equipment eligibility

1 issues and particularly shading. I think we have
2 some concerns, which John Supp, who's leading that
3 charge for us on the shading committee, leading
4 the shading committee within the CSI group, the
5 PUC side of things, has made some comments last
6 time. And also, I think, has had some follow-up
7 conversations with staff since then.

8 That we're not sure how sort of how
9 practical and actually accurate the proposed
10 methodology is for the shading analysis. In
11 practice, when you're out in the field taking
12 measurements, how that's actually going to work.

13 So, just want to get that on the table
14 and say that we will be filing some comments on
15 that.

16 But I wanted to focus much on the energy
17 efficiency side of things.

18 PRESIDING MEMBER GEESMAN: Before yo
19 move off shading, --

20 MR. McALLISTER: Sure.

21 PRESIDING MEMBER GEESMAN: -- if I
22 understood the earlier exchange on that, it's a
23 question between 12 data points in the one
24 situation and 8760 in the other. How do you come
25 down on that dimension?

1 MR. McALLISTER: It's been about, let's
2 see, maybe ten years since I actually installed a
3 PV system, myself. That was under a very
4 different regulatory environment, as well, so.

5 PRESIDING MEMBER GEESMAN: Different
6 computing environment, as well.

7 MR. McALLISTER: Yeah, for sure, very
8 different computing power available these days.

9 But I think our issue is mostly that no
10 matter what the object looks like in reality
11 whether it's a telephone pole or a huge tree, if
12 it is located at a certain angle from the point
13 that you're taking the measurement, in the
14 methodology it covers a large area of the array,
15 itself.

16 So, if it's a telephone pole, it's sort
17 of treated as functionally equivalent to a larger
18 object. And that that isn't necessarily
19 appropriate. And it's somewhat subject to the
20 vagaries of where you're actually standing when
21 you actually look over and see the thing.

22 And so I think it just requires a
23 conversation to figure out, okay, what is the
24 intent. Are we understanding this process exactly
25 correctly. And if not, you know, how it can be

1 done. Because obviously we all want to go forward
2 in a logical fashion. So that's really all that's
3 about. But I think we do need some clarity on
4 that process, what's actually being proposed and
5 what it looks like in practice.

6 So I will just remind everybody, I do
7 this every time, but I feel compelled. I was very
8 thankful that Julie brought this up, as well. Is
9 that the utility and the program administrator are
10 not synonymous. In particular, we, I understand
11 99 percent of the audience for this, is utilities,
12 particularly with the alternative portfolio energy
13 plan, energy savings plan option sort of
14 implicitly seems that that is meant to be
15 developed by an entity that has a portfolio
16 approach, which would be the utility.

17 So, I want to just remind everybody that
18 also CCSE is a nonprofit administrator of the
19 California Solar Initiative. And the only
20 nonutility, right, that implements the CSI. And
21 so our situation is unique, and that's really
22 mostly what I want to talk about here, with
23 respect to the energy efficiency requirements.

24 I'm very exciting by the prospect of
25 increased attention to energy efficiency. I do

1 think they go together. I think that as the
2 cultural shift happens toward environmentalism,
3 they will go together more and more and overlap.

4 I don't think that situation exists
5 quite yet in San Diego. As I said last time,
6 solar is a very different beast from energy
7 efficiency. And not everybody who does one
8 necessarily wants to do the other.

9 So there's a sales and education aspect
10 to this that is supremely important. And must be
11 coordinated between the two efforts.

12 I'm also very excited by the potential
13 for market transformation that is implied by CSI
14 and SB-1 implementation. I mean these are two
15 market transformation programs in that they
16 address market barriers, failures, and seek to
17 address those and provide incentives to move
18 markets toward socially desirable outcomes. We
19 need more of both.

20 The CSI, as several people have said,
21 particularly Polly, we have been streamlining in
22 response to multiple channels of communication and
23 feedback from stakeholders, most notably in the
24 public forums. And I will say that October the
25 12th in San Diego at our facility is the next

1 public forum for the CSI. We'll be getting all
2 sorts of feedback and we'd love to see you all
3 there.

4 You're cordially invited. And just let
5 me know; we'll make sure you get there; and if you
6 want to speak we can have you speak and put you on
7 the agenda. I think that would be fabulous to
8 have that feedback with stakeholders. And it
9 might be instructive for you, as well, to hear
10 what sort of the interests that stakeholders have
11 to say along these lines.

12 Also clearly within the marketing and
13 outreach activity within the CSI we are already
14 planning on doing this, and it obviously needs to
15 be coordinated very tightly with the Energy
16 Commission, we are mandated to do workshops on as
17 many relevant topics as we really can.

18 And this is obviously one of them, when
19 the implementation happens for the efficiency
20 requirements and the eligibility requirements, we
21 will be developing workshops with the other PAs
22 and doing a roadshow on this and other issues on
23 the energy efficiency and the other issues brought
24 up in the requirements report. So, I'm looking
25 forward to that. I think it's going to be a

1 really great exchange.

2 Participation in the CSI has been good,
3 as everybody probably knows. In the
4 nonresidential side we're blasting through the
5 first couple of steps. And remains to be seen
6 what will happen after we get down to step four in
7 our service territory.

8 But we know that as the challenge --
9 that the challenge becomes greater as the
10 incentives decline and the megawatt goals
11 increase. And we're going to hit a point
12 relatively soon where the market is going to have
13 a bottleneck. It's going to not pencil out on the
14 nonres side at some point, relatively soon. And
15 eventually on the residential side, as well. This
16 will vary between regions; it'll be different in
17 the north than that south. But this will happen.
18 It also depends on how costs decline, et cetera,
19 It's an issue of the market.

20 The addition of energy efficiency due
21 diligence, and in many cases actual installations
22 that imply investment either by the site owner,
23 the system owner or by the public in the form of
24 incentives, will impact CSI participation.

25 I really see this very clearly. I don't

1 have any doubt about this, as the program
2 administrator, understanding the market that we
3 are dealing with in the San Diego region.

4 CCSE has run and currently implements
5 successful programs within the San Diego energy
6 efficiency portfolio. And we know from this
7 experience that larger customers, whether they're
8 military, nonresidential, large commercial,
9 industrial, municipal, et cetera, these large
10 public and commercial institutions, we know that
11 they often -- getting energy efficiency
12 implemented often takes years of education and
13 relationship building.

14 It's a really fairly substantial
15 investment in developing a relationship with that
16 customer in order to get to that trigger point
17 where they say, yes, we want to do energy
18 efficiency.

19 Particularly with military and
20 institutions that have fairly byzantine processes
21 and budgeting and timelines and that sort of
22 thing. So that, you know, I see this as a very,
23 sort of independent activity from the very
24 different process that happens with solar.

25 I mean they both can be very

1 bureaucratic, but they are seen as different
2 activities within those customers. And I think it
3 requires this relationship building over time.

4 So, in order to continue to meet the
5 goals set by SB-1 for CSI, for the installation,
6 the megawatts installation, and just the basic
7 administration of the program, we will need to
8 develop and administer what is essentially -- I
9 see it as an independent energy efficiency program
10 in parallel with, but that is tightly linked with
11 the CSI implementation.

12 To work with these commercial and
13 military -- and public institutions to do energy
14 efficiency that feeds into the CSI program, and
15 meets the eligibility requirements so that we can
16 also do solar in those sites, will require a
17 fairly large effort. We know this in our service
18 territory.

19 And CCSE, of course, you know, we
20 believe we're up to the task, we're both a solar
21 PA in San Diego and a seasoned implementer of
22 energy efficiency programs in all the sectors that
23 are relevant here.

24 So, to do this we are going to need
25 resources. Ostensibly from the public goods

1 charge funds. And we, therefore, ask in order to
2 make energy efficiency workable in our region,
3 that the Commission work with the Public Utilities
4 Commission during this planning cycle for the
5 upcoming energy efficiency cycle from 09 to 11, to
6 insure that as the well-established PA for the CSI
7 in the San Diego Gas and Electric service
8 territory, that CCSE has direct access to and
9 control over energy efficiency resources to insure
10 compliance with these guidelines.

11 It's only fair that we have control over
12 the process that enables our success in meeting
13 CSI installation and administration goals. Of
14 course, this will be within the portfolio. It
15 would also, you know, have to comply with the cost
16 effectiveness measures, and meet all the -- it
17 would have to fit within the region's goals in
18 energy efficiency. I would anticipate that
19 absolutely.

20 What we're really talking about here is
21 a cultural shift. And so there's education in
22 programs and a lot of elements that go into moving
23 the marketplace, both in energy efficiency and
24 solar. And so I think it really does need to be
25 an integrated approach that under this umbrella of

1 SB-1 we're talking about, but that both does
2 technical, on-the-ground installations, but also
3 make sure that we've got the long-term prize in
4 mind, which is making sure that the education and
5 the enabling of each customer to make the right
6 decision about what they're going to do about
7 their energy future, is well informed.

8 So, our population in the San Diego
9 region, business, residential, government, knows
10 that energy efficiency and self generation go
11 hand-in-hand. That's the goal. We want them to
12 know that.

13 And, you know, CCSE is completely in
14 alignment with this shift. It's written right in
15 our mission statement. So I want to just make it
16 clear that we see a path forward to be able to do
17 everything that needs to be done, and want to just
18 work with staff and also with the Utility
19 Commission to make sure that the conditions exist
20 to be able to do that.

21 So, thanks very much.

22 PRESIDING MEMBER GEESMAN: Thanks very
23 much for your comments. David Reynolds, NCPA.

24 MR. REYNOLDS: Good afternoon. My name
25 is David Reynolds, and I'm with the Northern

1 California Power Agency, which consists of 17
2 utilities that serve communities throughout
3 northern and central California.

4 We appreciate this opportunity to submit
5 comments and we will be providing written comments
6 in which we will be providing some rationale and
7 some recommendations on what we think are some of
8 the solutions.

9 I would also state that we know that
10 CMUA and some other publicly owned utilities will
11 be submitting comments, as well. So we do want to
12 participate in this process.

13 We commend the Commission Staff for the
14 effort put into the development of the guidelines.
15 However, we feel strongly that the guidelines, as
16 they exist right now, are going to be a
17 detrimental impact to achieving the goals of SB-1.

18 Specifically, or I guess more broadly,
19 we feel that more flexibility is needed. And I
20 did hear today, I've heard some comments, some
21 clarifying comments today, that did provide some
22 of that flexibility. And we think it needs more
23 of that.

24 And also we think some of the more
25 ambitious requirements might need more of a longer

1 phased approach to make sure that the industry
2 gets there.

3 And it's been said, but you know, again,
4 we want to say that we must consider that one size
5 does not fit all. And that the process, as
6 prescribed by the guidelines, are too excessive
7 and likely cost-prohibitive for some of the
8 smaller utilities. Especially those that provide
9 services in rural areas.

10 We ask the Commission to reconsider some
11 of the insightful and constructive comments that
12 were submitted previously. In particular we'd
13 point out SMUD's comments and CMUA.

14 And NCPA is willing to work with the
15 Commission Staff in the further development of
16 guidelines so as to promote administrative
17 flexibility while insuring, to the best extent
18 possible, that no significant barriers are created
19 for customers who wish to install solar energy
20 systems.

21 I would say to this point that not
22 enough consideration has been given for the unique
23 and diverse needs of publicly owned utilities.

24 And just in conclusion, you know, I
25 think a door's been opened, and that we want to

1 participate and work with staff in helping
2 developing these standards further, and in
3 creating a partnership so that, you know, local
4 and state goals for SB-1 are met.

5 PRESIDING MEMBER GEESMAN: My
6 understanding is your ratepayers are paying the
7 freight for the incentive portion of the program
8 that applies in your service territory, are they
9 not?

10 MR. REYNOLDS: Yes, they are.

11 PRESIDING MEMBER GEESMAN: I think we
12 need to stay focused on that.

13 MR. REYNOLDS: Okay.

14 PRESIDING MEMBER GEESMAN: Thanks very
15 much.

16 MR. REYNOLDS: Thank you.

17 PRESIDING MEMBER GEESMAN: William
18 Shisler, I may have mispronounced that.
19 Photovoltaic Testing Lab from Arizona State
20 University.

21 MR. SHISLER: Thank you for the
22 opportunity to come up here and speak. I'm Bill
23 Shisler at the Photovoltaic Testing Laboratory,
24 Arizona State University; I'm the Quality Manager
25 there.

1 I just want to provide a point of
2 clarification regarding the CEC performance
3 requirements. I was informed that there is some
4 misconception that the test timeline is somewhere
5 between the area of six and nine months. That's
6 completely incorrect.

7 So far as the CEC performance
8 requirement testing goes, even to include a queue
9 time, the test period is about four to six weeks.

10 PRESIDING MEMBER GEESMAN: Four to six
11 weeks?

12 MR. SHISLER: That's correct.

13 PRESIDING MEMBER GEESMAN: What's your
14 capacity?

15 MR. SHISLER: The capacity for the CEC
16 testing?

17 PRESIDING MEMBER GEESMAN: Yes. Yeah.

18 MR. SHISLER: We haven't reached that.
19 It's specifically a queue-based timeline. But we
20 have recently dedicated some equipment to the CEC
21 testing to include a roof-mounted structure for
22 the building integrated.

23 PRESIDING MEMBER GEESMAN: What happens
24 to that four to six weeks if volumes triple in the
25 queue?

1 MR. SHISLER: If volumes triple in the
2 queue?

3 PRESIDING MEMBER GEESMAN: Yeah.

4 MR. SHISLER: Well, the backlog will
5 increase. Probably worst case scenario is, if it
6 was tripled, it would be about two and a half
7 months, probably.

8 PRESIDING MEMBER GEESMAN: Okay.

9 MR. SHISLER: We do have the opportunity
10 to do parallel testing with a lot of those
11 performance requirements.

12 Now the IEC 61215 requirements
13 specifically address crystal and silicon
14 photovoltaics, which make up probably more than 90
15 percent of the applicants. That's the specific
16 timeline I'm talking about here.

17 With the 61646, with the thin films, it
18 is going to be more dependent on the module's
19 ability to stabilize through the light soaking
20 that we need to do.

21 So if you have a single crystal --
22 single junction amorphous silicon module,
23 depending on the specific manufacturer, it could
24 take three months just to stabilize.

25 Now, for these performance requirements

1 we're really not opposed to manufacturers pre-
2 stabilizing their modules before they send them
3 in, so long as they're not conditioned in any
4 other way.

5 So, --

6 PRESIDING MEMBER GEESMAN: And do you
7 specify what's an acceptable method of
8 stabilization or --

9 MR. SHISLER: Yes. Well, that's defined
10 in the 61646 standard, the procedure that we
11 follow is a period of 48 kilowatt hour light soak
12 between performance measurements. And we look for
13 three consecutive performance measurements that
14 are within 2 percent of each other. Once we
15 achieve that, we consider that stabilized.

16 Again, I just wanted to -- I also would
17 like to recommend that I believe right now we give
18 the performance parameters to the manufacturer,
19 then to -- or is it national recognized test
20 laboratory who has to send them to KEMA. If we
21 had possibly a short test report that was already
22 available, and we only had to fill in those
23 parameters, that would eliminate the back-in time
24 to writing any reports. We could just simply fill
25 in the data and submit it. Maybe cut a week off

1 the time right there.

2 Again, just thank you for your time.

3 PRESIDING MEMBER GEESMAN: Thanks for
4 your comments. Cece Barros, PG&E.

5 MS. BARROS: Thank you for the
6 opportunity to comment. We'd like to thank the
7 staff for all their hard work and the changes that
8 they made to the prior draft.

9 And PG&E does, you know, support the
10 Energy Action Plan incorporating, you know,
11 everything into the entire process. But we want
12 to insure that the energy efficiency standards
13 adopted are not done in a way that risks the
14 success of the broader CSI program, establishing
15 the 300 megawatts of solar generation in
16 California.

17 PRESIDING MEMBER GEESMAN: 3000.

18 MS. BARROS: 3000, excuse me, 3000. I
19 didn't have my glasses on. And we, regarding the
20 residential retrofit, we believe that the current
21 proposal is much more workable than the last.

22 And the additional enhancements are
23 needed, we feel, are around the definition of cost
24 effectiveness. And also maybe a cap of either a
25 square footage or a percentage.

1 Regarding the existing buildings, while
2 retro-commissioning can be useful for achieving
3 energy efficiency in existing buildings, we feel
4 it's not a solution for all facilities.

5 And lastly, the EPBI versus EPB
6 calculator, additional analysis still needs to be
7 done; maybe a side-by-side comparison so that for
8 the PAs in the industry we can see the difference
9 between the two. And then all of us can feel
10 comfortable going forward, which one's going to be
11 used.

12 And we will plan to submit written
13 comments in more details. And we do not have a
14 holiday on Monday.

15 (Laughter.)

16 PRESIDING MEMBER GEESMAN: Juliette
17 Anthony, Advocates for Clean Energy.

18 MS. ANTHONY: Thank you. I want to
19 thank the staff for all the hard work, and explain
20 that I've changed organizations. But I'm still
21 Ratepayer Advocate.

22 And as a Ratepayer Advocate I would like
23 to say that I think we definitely need maintenance
24 contracts. But maintenance contracts that provide
25 for the fact that if a PPA, a large PPA like

1 Honeywell or SunEdison, has an installer; and that
2 installer subcontracts out to another small
3 installer that's local and is able to provide the
4 good service, what happens when that local
5 installer goes out of business and the maintenance
6 contract is with that local installer?

7 We need to make sure that the
8 maintenance goes on to the next level of
9 installer, and then on to the PPA, such as
10 Honeywell or SunEdison, itself.

11 What I've found as a Ratepayer Advocate,
12 as opposed to being a member of the solar
13 industry, is I'm getting a lot of calls about
14 people with stranded systems. There seems to be a
15 real legal problem when there is a contract for
16 maintenance with an organization that's gone out
17 of business. Then no one else wants to come in
18 and repair that system. The system sits there
19 broken. We can't have that.

20 And so this is true for small
21 residential systems where people go out of
22 business. We've got to make some provision that
23 the homeowner, the business owner, even the PPA is
24 able to move ahead and get someone else to repair
25 the system without being hung up legally, and

1 having other contractors terrified to come in
2 because then they'll take on the whole liability.
3 These are the complaints that I'm now hearing,
4 being a Ratepayer Advocate.

5 PRESIDING MEMBER GEESMAN: Would you
6 distinguish between residential applications and
7 commercial applications? Or would you lump them
8 all into the same category?

9 MS. ANTHONY: Well, I think we need to
10 make -- there are PPAs that are coming in in
11 residential. There's SolarPower Partners that is
12 doing PPA. So we have a whole layer -- I mean the
13 structure of people coming in goes to both sides,
14 both commercial and residential.

15 We also have ownership on commercial,
16 ownership by the owner of the building on
17 commercial and residential. We need to make sure
18 that no customer is left stranded with a legal
19 problem where they cannot get someone to come and
20 repair their system. And that's what's happening
21 right now.

22 I have received personally requests for
23 help in this area. And I'm unable to give it,
24 really.

25 PRESIDING MEMBER GEESMAN: From

1 residential customers, or the requests --

2 MS. ANTHONY: So far two residential
3 customers have come to me with this. But I know
4 installers that won't -- that have received calls,
5 one namely in L.A. County, he won't go to
6 someone's house who has a warranty with a -- and
7 he's an excellent repair person -- he will not go
8 to someone's house or business if they have a
9 warranty contract for maintenance with someone and
10 that person's out of business. He will not assume
11 the liability.

12 So we've got to look at that somehow.
13 Because the customer may not be protected. And
14 these are SGIP customers left over from SGIP. And
15 these people are just stranded.

16 So I want to see if we can take care of
17 that. We must have maintenance contracts that
18 make sure the customer's protected.

19 PRESIDING MEMBER GEESMAN: And you'd
20 apply that requirement across the board --

21 MS. ANTHONY: Yes, I would. And this is
22 as a Ratepayer Advocate. My funds as a -- I mean
23 ratepayer funds are going into these incentives.
24 These systems must be kept working for the benefit
25 of all the ratepayers. We cannot have stranded

1 systems.

2 PRESIDING MEMBER GEESMAN: So, in the
3 Macy's circumstance it would be wrong for us to
4 rely on Macy's own financial incentive to make
5 certain that the system stays working? We should
6 require --

7 MS. ANTHONY: Well, if Macy's --

8 PRESIDING MEMBER GEESMAN: -- some form
9 of --

10 MS. ANTHONY: -- has a contract with
11 SunEdison, and SunEdison has hired TeamSolar, and
12 TeamSolar has subcontracted that out to another
13 company that's local in that particular Macy's
14 store, and that subcontractor goes out of
15 business. And the contractor specific to that
16 subcontractor, TeamSolar must be responsible. And
17 if TeamSolar changes ownership or goes out or
18 something happens, then SunEdison needs to be
19 responsible.

20 We need to have a chain of
21 responsibility on the maintenance of these
22 systems. That's just what I'm now -- I'm in a
23 very different position than I was when I was
24 inside the industry. I'm now getting different
25 kinds of calls, different kinds of complaints,

1 different kinds of request for help.

2 And then I wanted to say also that I do
3 not feel one size fits all is the right way to go.
4 That solar, in the retrofit market, as opposed to
5 say the brand new homes where it might work, we
6 really need to have flexibility.

7 Retrofit solar has always been a custom
8 type of application. We can't just lay across the
9 board one way to do things. It doesn't work.

10 And I think that bending just towards
11 the huge installer like SunEdison would be a very
12 major mistake. We have to take the whole range of
13 customers in, and the whole range of utilities
14 into our consideration.

15 And to lay a really strict one size fits
16 all onto this industry, which is basically a
17 custom industry, would be a terrible mistake. We
18 have all kinds of products now; we have different
19 types of installers; we have very different types
20 of customers. I just think that would be a
21 terrible mistake.

22 Thank you.

23 PRESIDING MEMBER GEESMAN: So how would
24 you change the staff draft guidelines in order to
25 better accomplish that?

1 MS. ANTHONY: Well, I just was able
2 to -- I also was at the solar convention, and I
3 apologize for being late today, but I had another
4 commitment, and I couldn't -- I got here as fast
5 as I could from my other commitment.

6 I would like to study that further
7 before I would make any specific recommendation.
8 And I will, in my written comments, be sure to
9 talk about that.

10 PRESIDING MEMBER GEESMAN: Good.

11 MS. ANTHONY: Thank you.

12 PRESIDING MEMBER GEESMAN: Thank you
13 very much. Christie Sands, Regrid Power.

14 MR. CLARK: My name is Erin Clark, and
15 I'm speaking on behalf of Regrid. Not Christie,
16 sorry about that.

17 PRESIDING MEMBER GEESMAN: You just
18 thought I'd call you sooner if it was Christie.

19 (Laughter.)

20 MR. CLARK: We're an installer in the
21 State of California, 300-plus residential systems
22 a year and commercial.

23 Today I'd like to talk, I guess, on two
24 specific issues. Instead of pointing out every
25 flaw that's in the program, I'm going to address

1 two issues that I specifically think do not need
2 to be implemented.

3 It's unfortunately -- it's the
4 toothpaste is already out of the tube. If the CSI
5 program could get pushed back in and then
6 rewritten, that would be great, but that's not
7 going to happen. So, let's focus on what these
8 specific issues are.

9 I feel that solar, as an analogy, is a
10 school bus, and we're stopping along the way and
11 picking up a lot of different things. We're
12 picking up, oh, there's a rebate calculator, let's
13 pick them up. And then we go on, there's another
14 rebate calculator, let's pick that one up, too.

15 Then there's a HERS rater. Well, let's,
16 you know, we've got room on board for the HERS
17 rater. Energy audit, okay, hop on board.

18 What's happening is now the solar that
19 was in this bus is getting pushed out as we add
20 all of these other things on.

21 The one issue is the maintenance
22 requirement. Larger systems already have monitor.
23 So that's all the maintenance that you need. The
24 company that buys a system, whether it be a Macy's
25 or a Kohl's or whatever establishment, they're

1 going to call the installer within ten minutes of
2 something going on. So a maintenance requirement
3 is redundant. We've got a monitor to watch what's
4 going on with the system. You're going to track
5 that over time.

6 The other is the calculator issue.
7 We've got two calculators. Let's have one
8 calculator for both, and currently I prefer the
9 CSI one. If the New Homes calculator is better,
10 if we can take that one on. But let's -- the
11 earlier comment about finding out which one is the
12 most beneficial for the industry, and adopt that
13 specific one. But I think we only need one.

14 So those are two specific comments that
15 I can make.

16 PRESIDING MEMBER GEESMAN: Well, I think
17 SB-1 certainly agrees with you in terms of the
18 calculator question. On the maintenance you
19 address the large installation circumstance. What
20 about the smaller residential guy?

21 MR. CLARK: Customers who are interested
22 in solar and renewable and invest a lot of money
23 into these -- I run Central California Division.
24 I'll get a call on my cellphone at 10:00 at night
25 if they got home and there's a red light on in

1 that inverter.

2 So, that is the maintenance right there.
3 The customer. It is in their best interest to
4 have that system working to their advantage and
5 producing the most.

6 So having them specifically, okay, you
7 need to go out three times a week and take a
8 squeegee or you need to wash down your panels X
9 amount of times, they're already doing that. And
10 then adding a requirement is just not necessary,
11 in my opinion. The homeowners on the smaller
12 installations are very well aware of what's going
13 on with their system, what they're producing day
14 by day, and throughout the year.

15 MR. PENNINGTON: Do you provide a plan -
16 - do you provide information about maintenance --

17 MR. CLARK: We do.

18 MR. PENNINGTON: -- customers?

19 MR. CLARK: We do. And I think
20 maintenance, I think there's a myth that if you're
21 out there let's say washing these panels down,
22 you're going to have this much higher production.
23 You're not. Unless you're religious about it.
24 Weekly out there --

25 MR. PENNINGTON: There's no dictation

1 here about how frequently you wash your panels or,
2 you know, there's guidance here that's different
3 than the guidance that you would give related to
4 how frequently you wash your panel.

5 The idea is that information go to the
6 customer about reasonable maintenance.

7 MR. CLARK: Sure.

8 MR. PENNINGTON: That'd be part of the
9 initial information that goes to the customer.

10 MR. CLARK: And we do, we provide that.
11 We have a packet at the end that is a detail
12 manual of what we've installed at their house,
13 wire diagram, and maintenance.

14 MR. PENNINGTON: That would suffice.

15 MR. CLARK: Sure, sure. But as far as
16 the requirement, I don't think there's a need on
17 the smaller systems. And the larger has a
18 monitor, that's your maintenance right there.

19 PRESIDING MEMBER GEESMAN: If I
20 understand this right, Bill is saying you hand the
21 guy a brochure that says brush your teeth three
22 times a day, as opposed to the state coming out
23 and inspecting whether the guy's brushed his teeth
24 three times a day.

25 MR. CLARK: Yeah, and I agree. We can

1 have a piece of paper which we, as a contractor,
2 include already, wash your panels down. Don't get
3 on the roof and risk injury to do it. And, yes,
4 check your inverter, make sure it's on, make sure
5 it's working every single week. Absolutely.

6 PRESIDING MEMBER GEESMAN: Change your
7 oil every 5000 miles.

8 MR. CLARK: Right. Right.

9 PRESIDING MEMBER GEESMAN: Okay.

10 Thanks.

11 MR. CLARK: Thank you.

12 PRESIDING MEMBER GEESMAN: Michael Kyes,
13 KGA Associates. Is he still on the phone?

14 MR. KYES: Okay, thank you.

15 PRESIDING MEMBER GEESMAN: Mr. Kyes?

16 MR. KYES: Yes, hello.

17 PRESIDING MEMBER GEESMAN: Go right
18 ahead.

19 MR. KYES: Yes. There were just a
20 couple items I wanted to address. The first one
21 is the shading requirements. And I was on the CSI
22 shading subcommittee, and was a little distressed
23 to hear what the CEC Staff had to say about CSI
24 guidelines.

25 And I think it became clear later on why

1 that -- actually come about. And -- CSI
2 guidelines, the CSI calculator requires 12 inputs
3 or 12 data points. The CSI methodology for
4 calculating shade does it on an annual basis. And
5 there are 8760 data points. In the case of some
6 of the devices that have finer resolution than
7 that, perhaps down to a quarter of an hour.

8 So this is completely adaptable to the
9 CEC tool. And that the actual CSI methodology for
10 calculating shade also does somewhat higher
11 resolution, although I did notice now that the
12 NHSP calculator requires that it be done by --
13 that was something that was inherent in the CSI
14 calculator.

15 I don't think that the NSHP or the CEC
16 guidelines in this case should limit that.

17 PRESIDING MEMBER GEESMAN: You think
18 there should be two calculators?

19 MR. KYES: Not necessarily. A single
20 calculator could do both if you wanted.

21 PRESIDING MEMBER GEESMAN: Okay. Don't
22 you think the law requires a single calculator?

23 MR. KYES: No, but the NSHP calculator
24 does things -- there's like a precalculator that
25 calculates the output, and then there's post-

1 processing that does shade and the TDV in
2 calculation of the rebate. And I don't think
3 there's anything in the law that says that the
4 rebates have to be calculated the same. They just
5 need to be based on TDV --

6 One of the things in the committee that
7 may or may not be reflected well in the report, is
8 the effort that goes into calculating shade. And
9 the NSHP calculator basically requires you measure
10 the distance to objects. In a residence if you
11 have 150-foot tree that's two lots away, it
12 becomes very difficult to measure the distance to
13 that tree. And compared with under CSI you'd use
14 the tool, retake a snapshot of the two locations.

15 And so a lot of it just has to do with
16 the effort that goes into doing the shade
17 analysis. Now, CSI shading analysis is also a
18 multi-point shading analysis. So you can take a
19 string and take, for example, the four corners and
20 average them.

21 So if you have a shading object that's
22 very close, like a roof vent that wouldn't have a
23 large amount of impact on that string, that would
24 be reflected in the analysis.

25 And under the NSHP rules, whether it's

1 150-foot tree or a foot-and-a-half vent, it has
2 the same shading.

3 So, actually what I'm suggesting is that
4 the shading analysis not be limited to the NSHP
5 methodology.

6 PRESIDING MEMBER GEESMAN: So you don't
7 think we need to arrive at one?

8 MR. KYES: Well, let's see, they're sort
9 of different issues. Under NSHP you're doing at
10 least the initial shade calculation before there's
11 a building, more likely before there's a building.
12 So it would be very difficult to actually be on
13 the roof and measure the shade in the plane of
14 where the array is. Although you could do that
15 for verification.

16 In the case of existing buildings, you
17 don't have necessarily a lot of plans with
18 proposed tree heights. All that needs to be
19 measured.

20 So, yes, perhaps there needs to be
21 multiple shade calculations.

22 PRESIDING MEMBER GEESMAN: Does that
23 simplify things, or does that make them more
24 complicated?

25 MR. KYES: Well, there's one additional

1 choice that whoever is doing the shade study needs
2 to do. So I guess you could say it would tend to
3 make it a little bit more complicated.

4 That from the perspective of having to
5 do, measure distance and angles for every
6 obstruction, it's relatively time consuming
7 compared to going and taking a couple of snapshots
8 of the roof.

9 PRESIDING MEMBER GEESMAN: So then why
10 don't we just use that particular calculator? I
11 mean the path of least resistance here is to say
12 the National League can play baseball the way it
13 chooses to, and the American League can play
14 baseball the way it chooses to. But I think SB-1
15 contemplates us figuring out which is the
16 preferred way to play baseball, and then sticking
17 to that.

18 But if you think that it would be better
19 to do it two different ways, I'd like to hear the
20 rationale.

21 MR. KYES: -- have to be a question, I'm
22 prepared to answer.

23 PRESIDING MEMBER GEESMAN: Yeah, put a
24 question mark on it. What is the rationale for
25 doing it two different ways.

1 MR. KYES: Well, the rationale is that
2 for existing buildings the CSI method is much
3 quicker and has higher resolutions, so it's
4 presumably more accurate.

5 For new homes that don't exist yet, the
6 rationale is that you can't go there and take
7 those pictures. We need to do a methodology
8 that's somewhat more time consuming, and that's
9 more detail oriented, more time consuming
10 methodology.

11 PRESIDING MEMBER GEESMAN: Okay, so it's
12 a new building versus existing retrofit?

13 MR. KYES: Is there the difference is.

14 PRESIDING MEMBER GEESMAN: Okay. Okay.
15 That's clear.

16 MR. KYES: Okay. And then the second
17 point was the PBI payments, as far as I can tell,
18 remain capacity based. And that PBI portion may
19 over, which will, in the next two years, three
20 years, become over 30 kilowatt systems, are
21 probably capacity-installed basis (inaudible).

22 They are the same modules, possibly the
23 same inverters, why are they treated one way and
24 prepaid treated a second way. It seems that the
25 logic of time value for energy is the same in both

1 cases.

2 Did I say that so you can understand it?

3 MR. TUTT: Are you suggesting that the
4 PBI payments don't have time-dependent valuation
5 in them?

6 MR. KYES: Yes. I'm not suggesting
7 that, I was stating that.

8 MR. TUTT: I believe that you're
9 correct. I don't know what the answer to your
10 question is.

11 MR. KYES: Well, my question is --

12 PRESIDING MEMBER GEESMAN: Why treat
13 them different.

14 MR. KYES: -- why are they different.
15 And they shouldn't be different.

16 PRESIDING MEMBER GEESMAN: That may be
17 beyond the scope of our statutory ability to
18 second guess. And we don't ordinarily hesitate to
19 second guess --

20 (Laughter.)

21 PRESIDING MEMBER GEESMAN: -- my
22 colleagues at the other Commission, but I don't
23 know that that's within our purview under SB-1.

24 If somebody can figure out a rationale
25 as to how it is, I'd certainly entertain that.

1 And please submit that in your written comments if
2 there is such a rationale.

3 But I think that's something the other
4 Commission determined.

5 MR. KYES: But they also determined the
6 EPB statement.

7 PRESIDING MEMBER GEESMAN: And I think
8 that that is within our purview under SB-1.

9 MR. KYES: But there isn't any
10 difference, since they're producing electricity
11 with the same equipment.

12 PRESIDING MEMBER GEESMAN: Yep.

13 MR. KYES: Okay. That's my rationale.

14 PRESIDING MEMBER GEESMAN: Thanks for
15 your comments.

16 MR. KYES: Okay, thank you very much.

17 PRESIDING MEMBER GEESMAN: Aaron
18 Nitzkin, Old Country Roofing. He may still be on
19 the phone.

20 Okay. I've exhausted my supply of blue
21 cards. Is there anyone else in the audience who
22 cares to address us? Yes, sir. Come on up.
23 Please introduce yourself so we can get your name
24 on the transcript.

25 MR. BRUDER: Thanks. I didn't get my

1 card in, but thanks for giving me the opportunity.
2 I'm Dave Bruder with Southern California Edison.

3 I want to partially reiterate comments
4 that I made at the last workshop. Southern
5 California Edison supports, you know, having
6 meaningful energy efficiency requirements tied to
7 the solar program.

8 It appears that the changes made in this
9 version of the report significantly address a lot
10 of the concerns about cost and complexity, both to
11 customers and the industry.

12 One of the things that occurs to me in
13 that process is that some of that burden has been
14 shifted to the program administrators. And, you
15 know, I think that some of it is appropriately
16 shifted there. There's a concern about cost, as
17 Polly Shaw with the PUC mentioned. We do have an
18 administrative cost limitation.

19 Things like providing information to the
20 building owner. For instance, we provide access
21 through our website for a customer to get 12
22 months of consumption information. They put in
23 their account number, and then they can get that
24 information from our website.

25 The disclosure back to us from the

1 customer is kind of another step in the process
2 that, you know, we're already under considerable
3 pressure to, you know, simplify that process, the
4 entire process of the CSI incentive.

5 So, you know, not that they are not good
6 ideas and things that we should be doing, we're
7 going to need to work with CEC and PUC Staff, the
8 other administrators in the industry, to figure
9 out, you know, kind of what is the best actual
10 sequence of steps there. It puts us in the middle
11 of a process that we kind of weren't in before as
12 much. So that's a concern.

13 PRESIDING MEMBER GEESMAN: Can I ask you
14 if you think you've got enough detail in the staff
15 draft that you can intelligently comment back to
16 us in your written comments that point out areas
17 that you think are problematic?

18 MR. BRUDER: Yeah. I think I can. I
19 think we will, you know, kind of come up with some
20 suggestions.

21 PRESIDING MEMBER GEESMAN: I think that
22 would be helpful.

23 MR. BRUDER: Which raises a question
24 about the process going forward. We're going to
25 comment on this draft report, and then it's going

1 to be finalized ultimately.

2 Does it then go to the PUC for further
3 detailing or interpretation, you know, beyond
4 what's in this report? Or, is it intended that
5 that would be the literal, you know, order to
6 implement these things?

7 PRESIDING MEMBER GEESMAN: No, I think
8 that the staff is collaborating with the PUC Staff
9 to come up with something which they submit to our
10 Commission, which we contemplate adopting, I
11 think, December 19, if I've got that date right.

12 So, there's ample time --

13 MR. BRUDER: Okay.

14 PRESIDING MEMBER GEESMAN: -- for
15 continued interaction here in the next couple of
16 months.

17 MR. BRUDER: Okay, thanks. And then to
18 the benchmarking and commissioning requirement,
19 you know, I may be the only one, other than the
20 staff, that thinks that's a good idea.

21 We have a really great, highly funded
22 program for commissioning. It pays -- it
23 ultimately ends up paying half or more, in some
24 cases, of the total cost of a customer's doing the
25 commissioning.

1 I'm hopeful that we can, you know, work
2 out some process whereby there is, you know, the
3 synergy, the actual transferring of a customer's
4 need into an energy efficiency program. Perhaps
5 not making it, you know, so heavy-handed that, you
6 know, we, as the program administrators, become
7 the bad guy in the process. But I think the idea
8 is good, and I think that all the utilities
9 actually have a program that, you know, really
10 fulfills the need there. So, I'll make some
11 comments on that, too.

12 The part about requiring like an
13 affidavit of measures that would be implemented,
14 that is a part of the commissioning program. We
15 go to a certain point, we spend a certain amount
16 of money in exchange for the customer's commitment
17 to implement measures that are discovered through
18 the process that have a certain payback. So that
19 already is part of that commissioning process.

20 So, all in all, looks good. We want to
21 be mindful of the administrative costs, putting
22 the administrators kind of as the role of the bad
23 guy, worse than we already are in this CSI
24 process. Which we are really working hard to fix
25 with the PUC and others.

1 ASSOCIATE MEMBER PFANNENSTIEL: This is
2 actually -- this is an opportunity to be the good
3 guys in this.

4 MR. BRUDER: Yeah, actually. Excellent.
5 We'll do that. Thank you very much. Thanks for
6 the opportunity.

7 PRESIDING MEMBER GEESMAN: Anyone else
8 in the audience who cares to address us? Yes,
9 sir, come on up again.

10 MR. SCHULTZ: (inaudible).

11 PRESIDING MEMBER GEESMAN: Just get up
12 and use the microphone.

13 MR. SCHULTZ: Hi. Marston Schultz,
14 Clean Power Co-op of Nevada County.

15 Just some thoughts came up as I was
16 listening to this discussion about evaluating the
17 systems. And I think if you were to do a
18 performance evaluation, maybe a performance cost
19 ratio number rather than worrying about whether
20 there's shade and whether it's the right angle and
21 whether it's facing the sun, if you just looked at
22 the performance, that would be the simple way to
23 come up with an amount for the rebate.

24 And in Europe they just have a
25 performance standard. Like, for example, heating

1 is what, a 1 watt per square foot. And they don't
2 care how you do it. It's just get that -- heat
3 that house for 1 watt per square foot.

4 And if you take that kind of concept, I
5 think it would simplify the whole area.

6 PRESIDING MEMBER GEESMAN: Well, this
7 Commission recommended that particular structure
8 for several years, and it was chosen not to go in
9 that direction. So, --

10 MR. SCHULTZ: Oh, sorry.

11 PRESIDING MEMBER GEESMAN: -- that's
12 kind of water under the bridge.

13 MR. SCHULTZ: The other thing about
14 requiring all of this home or building energy
15 thing, in my case I don't have an HVAC. I heat
16 with gas. So, you would be requiring me to do all
17 of this stuff, and it wouldn't change my
18 electrical bill before or after. My energy level
19 would be virtually the same.

20 And I think that if -- in my community a
21 lot of people don't have HVAC; they're heating
22 with wood or propane. If maybe you considered the
23 requirement that HVAC, which is one of the biggest
24 electrical loads, assuming the idea is that you
25 don't want people to over-size their systems, that

1 you have them look at some specific areas where
2 the electricity is consumed, and have those things
3 upgraded, rather than the whole house upgrading.

4 PRESIDING MEMBER GEESMAN: Those are
5 good points. Thank you.

6 Anyone on the phone? One more
7 opportunity in the audience. Anybody care to
8 address us?

9 Okay, thank you all very much. We'll be
10 adjourned.

11 (Whereupon, at 3:04 p.m., the Committee
12 workshop was adjourned.)

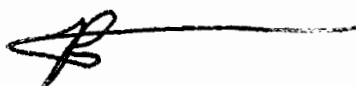
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CERTIFICATE OF REPORTER

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 22nd day of October, 2007.



PETER PETTY