COMMITTEE WORKSHOP

BEFORE THE

CALIFORNIA ENERGY RESOURCES CONSERVATION

AND DEVELOPMENT COMMISSION

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

CALIFORNIA ENERGY COMMISSION

HEARING ROOM A

1516 NINTH STREET

SACRAMENTO, CALIFORNIA

THURSDAY, OCTOBER 4, 2007

10:32 A.M.

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

10:32 a.m.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

So I'll run through these briefly.

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

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

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

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

strings, and matched up to the inverter operating voltage.

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

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

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

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

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

identify the shading impact on a string level.

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

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

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

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

as a record for conducting the field verification.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

approach.

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

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

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

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

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

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

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

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

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

seen as definitely the lower incentive level.

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

Moving on to the field verification process. So the basic part of the protocol that's being suggested is the same. The exception has been made to updating that program. Administrators may designate either the HERS rater or take on the task, themselves; or designate some qualified contractors to conduct this third-party field verification.

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

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

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

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

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

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

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

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

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

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

certification is encouraged again, though not required.

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

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

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

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

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

And that's all for me. Thank you.

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

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

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

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

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

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

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

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

is available for that particular equipment or appliance.

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

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

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

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

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

able to maintain that commitment for each tier.

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

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

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

Also, a list of energy efficiency

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

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

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

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

And the information and disclosure

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

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

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

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

buildings to move to that top quartile.

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

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

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

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

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

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

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

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

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

information and disclosure process.

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

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

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

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

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

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

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

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

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

And that's all, thank you.

You're next, Sandy.

MR. MILLER: My name is Sandy Miller. I'm working in the renewable energy office. And I'm going to -- I have about four slides; we can go through them fairly quickly. It's basically the reporting requirements for the publicly owned utilities.

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

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

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

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

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

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

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

So that's the conclusion of my

presentation. Thank you.

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

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

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

Aaron Nitzkin, Old Country Roofing.

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

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

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

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

MS. ORLANDO: To existing buildings.

MS. BLUNDEN: On actually exiting buildings, right.

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

MS. ORLANDO: One more?

MS. BLUNDEN: So, I understand that --

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

MS. ORLANDO: Yeah.

ASSOCIATE MEMBER PFANNENSTIEL: Thank you. Sorry, Julie.

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

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

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

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

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

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

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

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

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

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

be in terms of communication flows.

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

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

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

MS. ORLANDO: Um-hum.

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

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

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

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

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

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

MS. BLUNDEN: Yes.

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

MS. BLUNDEN: I understand that.

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

MS. BLUNDEN: Right.

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

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

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

MS. ORLANDO: Um-hum.

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

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

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

MS. BLUNDEN: Um-hum.

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

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

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

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

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

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

MS. ORLANDO: Right.

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

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

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

MS. ORLANDO: Um-hum.

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

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

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

MS. ORLANDO: Um-hum.

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

ones that are convincing them to do it.

MS. ORLANDO: Um-hum.

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

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

MS. ORLANDO: Um-hum.

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

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

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

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

So, but we appreciate your comment on that.

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

PRESIDING MEMBER GEESMAN: Joe Venne, SunPower.

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

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

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

programs.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Because as a building owner, as a

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

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

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

Thank you.

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

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

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

PRESIDING MEMBER GEESMAN: Yeah, PV.

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

It's the right thing to do for the environment; it's the right thing to do for the community; it's the right thing to do for associates; it's the right thing to do for customers and shareholders.

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

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

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

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

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

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

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

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

Renewable Energy; UniSolar; and Xantrex.

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

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

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

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

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

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

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

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

program really warrant the market disruption that it may cause.

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

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

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

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

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

MR. PENNINGTON: Could I respond to that?

PRESIDING MEMBER GEESMAN: Bill, go ahead.

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

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

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

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

directly away from that work.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

revision to the residential energy efficiency requirements.

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

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

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

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

first, and then we must install solar.

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

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

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

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

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

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

(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.

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

Joe Henri, SunEdison.

MS. SPEAKER: He's outside.

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

MR. SPEAKER: He's outside.

(Laughter.)

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

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

To that end we want to see more

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

(Pause.)

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

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

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

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

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

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

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

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

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

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

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

Thank you.

PRESIDING MEMBER GEESMAN: Thank you very much.

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

MR. SCHULTZ: Who does?

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

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

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

MR. SCHULTZ: Thank you.

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

MR. BLACKBURN: It was a requirement, yeah.

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

MR. SCHULTZ: Okay.

PRESIDING MEMBER GEESMAN: Bernadette Del Chiaro. Environment California.

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

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

This has actually been said a couple

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

PRESIDING MEMBER GEESMAN: Thank you very much.

MS. DEL CHIARO: Yeah.

PRESIDING MEMBER GEESMAN: Matt Golden, Sustainable Spaces.

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

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

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

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

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

energy efficiency marketplace.

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

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

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

Thank you.

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

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

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

MR. GOLDEN: We'll be there, also. Don't worry.

ASSOCIATE MEMBER PFANNENSTIEL: You'll be there.

(Laughter.)

MR. GOLDEN: Thank you.

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

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

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

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

growth of our business and the solar industry.

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

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

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

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

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

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

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

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

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

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

PRESIDING MEMBER GEESMAN: Thanks for your comments. Joelene Monestier, SPG Solar.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

12 months of usage.

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

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

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

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

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

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

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

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

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

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

months to get the new benchmark reflected.

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

MS. ORLANDO: No, no --

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

over here as these draft conditions go further.

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

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

(Laughter.)

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

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

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

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

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

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

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

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

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

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

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

are to be submitted in the spring.

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

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

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

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

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

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

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

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

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

PRESIDING MEMBER GEESMAN: Sure. For you.

MS. SHAW: I think --

(Laughter.)

MS. SHAW: Thank you.

PRESIDING MEMBER GEESMAN: Take eight days.

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

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

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

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

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

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

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

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

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

(Laughter.)

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

(Laughter.)

MS. SHAW: Thank you very much.

PRESIDING MEMBER GEESMAN: Thank you very much, Polly.

Jeff Chapman, California Living and Energy.

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

of clarification.

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

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

What does that language mean?

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

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

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

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

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

MS. GUPTA: Right. The program administrator.

MR. CHAPMAN: Thank you very much.

MS. GUPTA: No problem.

PRESIDING MEMBER GEESMAN: David Rubin, PG&E.

MS. SPEAKER: He's gone.

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

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

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

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

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

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

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

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

wants to go forward now.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

MS. BROWN: Well, specifically --

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

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

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

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

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

MS. BROWN: I'm sorry?

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

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

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

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

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

MS. BROWN: Yeah.

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

MS. BROWN: Yeah.

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

MS. BROWN: Right.

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

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

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

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

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

to that meeting? Okay.

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

MS. BROWN: Well, I mean --

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

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

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

PRESIDING MEMBER GEESMAN: Who have you been asking?

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

ASSOCIATE MEMBER PFANNENSTIEL: Has the

staff met with the publicly owned utilities?

MR. PENNINGTON: In the context of their meetings.

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

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

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

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

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

have successful programs for my customers.

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

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

PRESIDING MEMBER GEESMAN: -- in your city.

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

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

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

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

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

And so, I think that --

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

MS. BROWN: I think so, yes.

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

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

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

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

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

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

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

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

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

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

out some more specific things that I could recommend.

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

MS. BROWN: Yes, Columbus Day.

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

MS. BROWN: Right.

(Laughter.)

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

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

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

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

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

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

know, after the guidelines were created.

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

PRESIDING MEMBER GEESMAN: Thanks for your comments.

MS. BROWN: Okay.

PRESIDING MEMBER GEESMAN: George Whitlow, Utility Conservation Services.

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

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

(Laughter.)

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

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

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

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

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

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

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

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

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

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

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

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

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

That's all I need to say.

PRESIDING MEMBER GEESMAN: Thanks for your comments.

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

Thank you.

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

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

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

But I would like to draw a couple of

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

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

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

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

That 20-year relationship is a long-term

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

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

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

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

things. It's a power agreement.

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

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

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

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

PRESIDING MEMBER GEESMAN: Don't you

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

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

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

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

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

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

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

Just a --

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

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

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

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

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

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

MR. HENRI: Certainly.

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

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

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

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

Thank you.

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

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

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

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

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

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

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

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

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

MR. McALLISTER: Sure.

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

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

PRESIDING MEMBER GEESMAN: Different computing environment, as well.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

really great exchange.

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

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

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

I really see this very clearly. I don't

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

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

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

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

I mean they both can be very

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

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

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

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

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

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

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

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

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

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

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

So, thanks very much.

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

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

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

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

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

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

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

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

phased approach to make sure that the industry gets there.

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

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

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

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

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

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

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

MR. REYNOLDS: Yes, they are.

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

MR. REYNOLDS: Okay.

PRESIDING MEMBER GEESMAN: Thanks very much.

MR. REYNOLDS: Thank you.

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

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

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

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

PRESIDING MEMBER GEESMAN: Four to six weeks?

MR. SHISLER: That's correct.

PRESIDING MEMBER GEESMAN: What's your capacity?

MR. SHISLER: The capacity for the CEC testing?

PRESIDING MEMBER GEESMAN: Yes. Yeah.

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

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

MR. SHISLER: If volumes triple in the queue?

PRESIDING MEMBER GEESMAN: Yeah.

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

PRESIDING MEMBER GEESMAN: Okay.

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

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

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

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

Now, for these performance requirements

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

So, --

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

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

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

the time right there.

Again, just thank you for your time.

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

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

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

PRESIDING MEMBER GEESMAN: 3000.

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

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

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

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

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

(Laughter.)

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

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

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

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

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

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

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

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

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

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

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

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

PRESIDING MEMBER GEESMAN: From

residential customers, or the requests --

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

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

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

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

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

systems.

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

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

PRESIDING MEMBER GEESMAN: -- some form of --

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

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

different kinds of request for help.

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

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

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

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

Thank you.

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

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

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

PRESIDING MEMBER GEESMAN: Good.

MS. ANTHONY: Thank you.

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

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

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

(Laughter.)

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

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

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

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

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

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

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

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

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

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

So those are two specific comments that I can make.

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

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

that inverter.

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

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

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

MR. CLARK: We do.

MR. PENNINGTON: -- customers?

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

MR. PENNINGTON: There's no dictation

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

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

MR. CLARK: Sure.

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

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

MR. PENNINGTON: That would suffice.

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

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

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

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

PRESIDING MEMBER GEESMAN: Change your oil every 5000 miles.

MR. CLARK: Right. Right.

PRESIDING MEMBER GEESMAN: Okay. Thanks.

MR. CLARK: Thank you.

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

MR. KYES: Okay, thank you.

PRESIDING MEMBER GEESMAN: Mr. Kyes?

MR. KYES: Yes, hello.

PRESIDING MEMBER GEESMAN: Go right ahead.

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

And I think it became clear later on why

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

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

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

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

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

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

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

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

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

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

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

And under the NSHP rules, whether it's

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

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

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

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

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

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

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

MR. KYES: Well, there's one additional

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

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

PRESIDING MEMBER GEESMAN: So then why don't we just use that particular calculator? I mean the path of least resistance here is to say the National League can play baseball the way it chooses to, and the American League can play baseball the way it chooses to. But I think SB-1 contemplates us figuring out which is the preferred way to play baseball, and then sticking to that.

But if you think that it would be better to do it two different ways, I'd like to hear the rationale.

MR. KYES: -- have to be a question, I'm prepared to answer.

PRESIDING MEMBER GEESMAN: Yeah, put a question mark on it. What is the rationale for doing it two different ways.

MR. KYES: Well, the rationale is that for existing buildings the CSI method is much quicker and has higher resolutions, so it's presumably more accurate.

For new homes that don't exist yet, the rationale is that you can't go there and take those pictures. We need to do a methodology that's somewhat more time consuming, and that's more detail oriented, more time consuming methodology.

PRESIDING MEMBER GEESMAN: Okay, so it's a new building versus existing retrofit?

MR. KYES: Is there the difference is.

PRESIDING MEMBER GEESMAN: Okay. Okay. That's clear.

MR. KYES: Okay. And then the second point was the PBI payments, as far as I can tell, remain capacity based. And that PBI portion may over, which will, in the next two years, three years, become over 30 kilowatt systems, are probably capacity-installed basis (inaudible).

They are the same modules, possibly the same inverters, why are they treated one way and prepaid treated a second way. It seems that the logic of time value for energy is the same in both

cases.

Did I say that so you can understand it?

MR. TUTT: Are you suggesting that the PBI payments don't have time-dependent valuation in them?

MR. KYES: Yes. I'm not suggesting that, I was stating that.

MR. TUTT: I believe that you're correct. I don't know what the answer to your question is.

MR. KYES: Well, my question is --

PRESIDING MEMBER GEESMAN: Why treat them different.

MR. KYES: -- why are they different. And they shouldn't be different.

PRESIDING MEMBER GEESMAN: That may be beyond the scope of our statutory ability to second guess. And we don't ordinarily hesitate to second guess --

(Laughter.)

PRESIDING MEMBER GEESMAN: -- my colleagues at the other Commission, but I don't know that that's within our purview under SB-1.

If somebody can figure out a rationale as to how it is, I'd certainly entertain that.

And please submit that in your written comments if there is such a rationale.

But I think that's something the other Commission determined.

MR. KYES: But they also determined the EPB statement.

PRESIDING MEMBER GEESMAN: And I think that that is within our purview under SB-1.

MR. KYES: But there isn't any difference, since they're producing electricity with the same equipment.

PRESIDING MEMBER GEESMAN: Yep.

MR. KYES: Okay. That's my rationale.

PRESIDING MEMBER GEESMAN: Thanks for your comments.

MR. KYES: Okay, thank you very much.

PRESIDING MEMBER GEESMAN: Aaron Nitzkin, Old Country Roofing. He may still be on the phone.

Okay. I've exhausted my supply of blue cards. Is there anyone else in the audience who cares to address us? Yes, sir. Come on up. Please introduce yourself so we can get your name on the transcript.

MR. BRUDER: Thanks. I didn't get my

card in, but thanks for giving me the opportunity. I'm Dave Bruder with Southern California Edison.

I want to partially reiterate comments that I made at the last workshop. Southern California Edison supports, you know, having meaningful energy efficiency requirements tied to the solar program.

It appears that the changes made in this version of the report significantly address a lot of the concerns about cost and complexity, both to customers and the industry.

One of the things that occurs to me in that process is that some of that burden has been shifted to the program administrators. And, you know, I think that some of it is appropriately shifted there. There's a concern about cost, as Polly Shaw with the PUC mentioned. We do have an administrative cost limitation.

Things like providing information to the building owner. For instance, we provide access through our website for a customer to get 12 months of consumption information. They put in their account number, and then they can get that information from our website.

The disclosure back to us from the

customer is kind of another step in the process that, you know, we're already under considerable pressure to, you know, simplify that process, the entire process of the CSI incentive.

So, you know, not that they are not good ideas and things that we should be doing, we're going to need to work with CEC and PUC Staff, the other administrators in the industry, to figure out, you know, kind of what is the best actual sequence of steps there. It puts us in the middle of a process that we kind of weren't in before as much. So that's a concern.

PRESIDING MEMBER GEESMAN: Can I ask you if you think you've got enough detail in the staff draft that you can intelligently comment back to us in your written comments that point out areas that you think are problematic?

MR. BRUDER: Yeah. I think I can. I think we will, you know, kind of come up with some suggestions.

PRESIDING MEMBER GEESMAN: I think that would be helpful.

MR. BRUDER: Which raises a question about the process going forward. We're going to comment on this draft report, and then it's going

to be finalized ultimately.

Does it then go to the PUC for further detailing or interpretation, you know, beyond what's in this report? Or, is it intended that that would be the literal, you know, order to implement these things?

PRESIDING MEMBER GEESMAN: No, I think that the staff is collaborating with the PUC Staff to come up with something which they submit to our Commission, which we contemplate adopting, I think, December 19, if I've got that date right.

So, there's ample time --

MR. BRUDER: Okay.

PRESIDING MEMBER GEESMAN: -- for continued interaction here in the next couple of months.

MR. BRUDER: Okay, thanks. And then to the benchmarking and commissioning requirement, you know, I may be the only one, other than the staff, that thinks that's a good idea.

We have a really great, highly funded program for commissioning. It pays -- it ultimately ends up paying half or more, in some cases, of the total cost of a customer's doing the commissioning.

I'm hopeful that we can, you know, work out some process whereby there is, you know, the synergy, the actual transferring of a customer's need into an energy efficiency program. Perhaps not making it, you know, so heavy-handed that, you know, we, as the program administrators, become the bad guy in the process. But I think the idea is good, and I think that all the utilities actually have a program that, you know, really fulfills the need there. So, I'll make some comments on that, too.

The part about requiring like an affidavit of measures that would be implemented, that is a part of the commissioning program. We go to a certain point, we spend a certain amount of money in exchange for the customer's commitment to implement measures that are discovered through the process that have a certain payback. So that already is part of that commissioning process.

So, all in all, looks good. We want to be mindful of the administrative costs, putting the administrators kind of as the role of the bad guy, worse than we already are in this CSI process. Which we are really working hard to fix with the PUC and others.

ASSOCIATE MEMBER PFANNENSTIEL: This is actually -- this is an opportunity to be the good guys in this.

MR. BRUDER: Yeah, actually. Excellent. We'll do that. Thank you very much. Thanks for the opportunity.

PRESIDING MEMBER GEESMAN: Anyone else in the audience who cares to address us? Yes, sir, come on up again.

MR. SCHULTZ: (inaudible).

PRESIDING MEMBER GEESMAN: Just get up and use the microphone.

MR. SCHULTZ: Hi. Marston Schultz, Clean Power Co-op of Nevada County.

Just some thoughts came up as I was listening to this discussion about evaluating the systems. And I think if you were to do a performance evaluation, maybe a performance cost ratio number rather than worrying about whether there's shade and whether it's the right angle and whether it's facing the sun, if you just looked at the performance, that would be the simple way to come up with an amount for the rebate.

And in Europe they just have a performance standard. Like, for example, heating

is what, a 1 watt per square foot. And they don't care how you do it. It's just get that -- heat that house for 1 watt per square foot.

And if you take that kind of concept, I think it would simplify the whole area.

PRESIDING MEMBER GEESMAN: Well, this Commission recommended that particular structure for several years, and it was chosen not to go in that direction. So, --

MR. SCHULTZ: Oh, sorry.

PRESIDING MEMBER GEESMAN: -- that's kind of water under the bridge.

MR. SCHULTZ: The other thing about requiring all of this home or building energy thing, in my case I don't have an HVAC. I heat with gas. So, you would be requiring me to do all of this stuff, and it wouldn't change my electrical bill before or after. My energy level would be virtually the same.

And I think that if -- in my community a lot of people don't have HVAC; they're heating with wood or propane. If maybe you considered the requirement that HVAC, which is one of the biggest electrical loads, assuming the idea is that you don't want people to over-size their systems, that

you have them look at some specific areas where the electricity is consumed, and have those things upgraded, rather than the whole house upgrading.

PRESIDING MEMBER GEESMAN: Those are good points. Thank you.

Anyone on the phone? One more opportunity in the audience. Anybody care to address us?

Okay, thank you all very much. We'll be adjourned.

(Whereupon, at 3:04 p.m., the Committee workshop was adjourned.)

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CERTIFICATE OF REPORTER

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

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

IN WITNESS WHEREOF, I have hereunto set my hand this 22nd day of October, 2007.