

COMMITTEE HEARING  
BEFORE THE  
CALIFORNIA ENERGY RESOURCES CONSERVATION  
AND DEVELOPMENT COMMISSION

In the Matter of: ) Docket No.  
 ) 02-REN-1038  
Implementation of Renewables )  
Investment Plan Legislation ) Continuation of  
(Public Utilities Code Sections) Renewable Energy  
381, 383.5, and 445, [SB-1038])) Program  
\_\_\_\_\_)

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

THURSDAY, DECEMBER 12, 2002

10:06 A.M.

Reported by:  
Peter Petty  
Contract No. 150-01-005

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

COMMISSIONERS PRESENT

John L. Geesman, Presiding Member

James Boyd, Associate Member

ADVISORS PRESENT

Rosella Shapiro, Advisor

STAFF PRESENT

Marwan Masri

Tim Tutt

Tony Brazil

Dale Trenchel

ALSO PRESENT

Vincent Schwent, Ph.D., Senior Project Manager  
PV Market Development  
Renewable Generation Assets  
Sacramento Municipal Utility District

George Ingham  
NPCP, LLC

Daniel Shugar  
PowerLight Corporation  
California SEIA

Todd Foley  
BP Solar  
California SEIA

Jack McKearn  
Allied Sun Technologies

Michael Bergey, President and CEO  
Bergey WindPower  
representing Small Wind Turbine Committee of the  
American Wind Energy Association

ALSO PRESENT

David Saul  
Solel Solar Systems

Manuel Alvarez  
Southern California Edison Company

Michael Theroux  
Theroux Environmental

Ryan Park  
Renewable Energy Concepts, Inc.

Tom Starrs  
Schott Applied Power

Brad Smith  
Power Top Solar

Darryl Conklin  
Renewable Technologies, Inc.

Mark Liffman  
Solar Depot, Inc.

Rick Lavezzo  
TeamSolar  
California SEIA

Jonathan Hill  
Sierra Solar

Tor Allen, President  
The Rarus Institute

Jerry Huff  
C.J. Solar

Graham Owen  
GO Solar Company  
California SEIA

Tom McCalmont  
REGrid Power

W. J. "Doby" Fleeman  
Davis Ace Hardware

ALSO PRESENT

Jeff Oldham  
Real Goods Training Corporation

Leslie Brown  
Silicon Valley Power

Daryl Hutchings  
Harmony Solar

Gary Gerber  
Sun Light and Power Company

Chris Worcester  
Solar Wind Works

Mark Fillinger  
Heliotron Development, Inc.

John Schaeffer  
Real Goods Training Corporation

Glenn Harris  
Energy Outfitters

Scott Ragsdale  
Cooperative Community Energy

Chris Bunas  
Solarcraft Services, Inc.

Tommie Nellon  
Unlimited Energy

## I N D E X

	Page
Proceedings	1
Opening Remarks	1
Emerging Renewable Resources Program	
CEC Staff Presentation	4
Comments/Questions	11
Vincent Schwent, SMUD	11
George Ingham, NPCP	20
Daniel Shugar, PowerLight Corporation California SEIA	23
Todd Foley, BP Solar California SEIA	41
Jack McKearn, Allied Sun Technologies	47, 175
Michael Bergey, Bergey WindPower representing Small Wind Turbine Committee of the American Wind Energy Association	51
David Saul, Solel Solar Systems	60
Manuel Alvarez, Southern California Edison	63
Michael Theroux, Theroux Environmental	66
Ryan Park, Renewable Energy Concepts	76
Tom Starrs, Schott Applied Power	80
Brad Smith, Power Top Solar	90
Darryl Conklin, Renewable Technologies	99
Mark Liffman, Solar Depot	111
Rick Lavezzo, TeamSolar California SEIA	117

## I N D E X

	Page
Comments/Questions - continued	
Jonathan Hill, Sierra Solar	121
Tor Allen, The Rahus Institute	126
Jerry Huff, C.J. Solar	134
Graham Owen, GO Solar Company	136
Tom McCalmont, REGrid Power	138
W. J. "Doby" Fleeman, Davis Ace Hardware	140
Jeff Oldham, Real Goods Training	143
Leslie Brown, Silicon Valley Power	148
Daryl Hutchings, Harmony Solar	151
Gary Gerber, Sun Light and Power	154
Chris Worcester, Solar Wind Works	156
Mark Fillinger, Heliotron Development	158
John Schaeffer, Real Goods Training	160
Glenn Harris, Energy Outfitters	163
Scott Ragsdale, Cooperative Community Energy	165
Chris Bunas, Solarcraft Services	166
Tommie Nellon, Unlimited Energy	174
Closing Remarks	178
Adjournment	178
Certificate of Reporter	179

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

2 10:06 a.m.

3 PRESIDING MEMBER GEESMAN: I believe  
4 Commissioner Boyd will probably be joining us, but  
5 he seems to be otherwise detained.

6 I'm John Geesman, the Presiding Member  
7 of the Commission's Renewables Committee. We're  
8 conducting this hearing today and tomorrow as part  
9 of a docket identified as 02-REN-1038.

10 I think everybody realizes why we're  
11 here. Let me lay out a couple of the logistical  
12 matters. One, people wishing to speak should  
13 provide the Public Adviser with one of these blue  
14 cards so that I'll be able to identify you and  
15 call you in appropriate order.

16 Two, the staff and Commissioner Boyd and  
17 I need to attend a meeting this afternoon in the  
18 Governor's Office with our colleagues from the  
19 Public Utilities Commission to discuss the  
20 planning stages of a joint effort between the two  
21 Commissions on the renewable portfolio standards.

22 So I'm going to recess this particular  
23 hearing today at 2:15. Depending on how many  
24 people want to speak and what our time  
25 considerations are, we may or may not break for

1 lunch. But if we do, it will be a late break for  
2 lunch, and a relatively brief break for lunch.  
3 So, people, try and contain your appetites at  
4 least until 1:00.

5 Thirdly, if you've got written materials  
6 that would be the Committee's preference. Written  
7 materials are easier for us to digest in a more  
8 considered fashion. And I can assure you they are  
9 all read and carefully reviewed.

10 If you do have written materials I'd ask  
11 that you summarize them, or confine your verbal  
12 remarks to summarizing the written materials. If  
13 you don't have written materials, that's fine, but  
14 I'd ask that you try to keep your comments to  
15 about five minutes. Extensive research has shown  
16 that the human ear can't really absorb much more  
17 than five minutes from any one voice. I certainly  
18 don't exclude my own from that category.

19 Let me say just a general matter before  
20 asking the staff to present a summary of where we  
21 are, that the context in which we take up this  
22 matter is a good news and bad news context.

23 On the good news side, clearly it is a  
24 good idea for the state to be making the priority  
25 of renewables that it has. On the bad news side,

1 the amount of funding available to subsidize  
2 renewables development, in my judgment is quite  
3 likely to be inadequate to the task.

4 The Legislature has vested a lot of  
5 discretion in the Commission in trying to  
6 carefully shape how these subsidy dollars are  
7 expended. They've also given us an extremely  
8 aggressive set of goals for the renewable  
9 portfolio standard.

10 And I am, myself, skeptical that the two  
11 will not conflict in the coming years. I take as  
12 my guidelines or lodestars two comments from the  
13 two large investor-owned utilities in the state.  
14 One made by John Fielder, Southern California  
15 Edison Company, at the Independent Energy  
16 Producers Conference in September in which he said  
17 if he was skeptical that the public goods charge  
18 would provide adequate to accomplishing the 20  
19 percent renewable portfolio standard goal and that  
20 serious consideration would need to be given to  
21 expanding that public goods charge.

22 I don't know the extent to which that  
23 represents his company's policy, but I will say as  
24 one Commissioner, I embrace that.

25 The second comment made by Dan Richard,

1 Pacific Gas and Electric, at the CFEE conference  
2 in October, expressed the desire on his part that  
3 all Pacific Gas and Electric's new purchases of  
4 electricity be from renewables.

5 Again, I don't know the extent to which  
6 that represents his company's policy. But, as one  
7 Commissioner, I embrace that, as well.

8 And I would suggest that our task today,  
9 tomorrow and the weeks ahead will be in trying to  
10 utilize a finite pool of resources to best  
11 accomplish the aggressive goals that the Governor  
12 and the Legislature have set for us.

13 Don't expect everybody to be happy. In  
14 fact, I would be surprised if anybody is happy  
15 with the ultimate outcome. But hopefully over  
16 time we will have proved to have used these  
17 resources wisely and to have accomplished the  
18 goals that have been set for us.

19 Staff, if you would begin your  
20 presentation, I think now is the appropriate time.

21 MR. TUTT: Thank you, Commissioner  
22 Geesman. Dale.

23 I would briefly like to make one other  
24 announcement. Commissioner Geesman mentioned the  
25 docket, this is our third SB-1038, 02-REN-1038,

1 and you can find them in the future documents  
2 related to this proceeding on our website under  
3 that heading, proceeding 02-REN-1038.

4 Dale Trenchel, our account lead for  
5 emerging is going to do the presentation. For  
6 those of you who don't know me, my name is Tim  
7 Tutt. I'm the Technical Director of the Renewable  
8 Energy Program. Beside me is Tony Brazil, a  
9 Supervisor of our Consumer Accounts in the  
10 program. And sitting at the end of the table is  
11 Marwan Masri, our Deputy Director for the division  
12 this program is under.

13 And without further ado, to move forward  
14 with time, take it away, Dale.

15 MR. TRENSCHEL: Thanks very much. What  
16 you have in front of you, the guidebook, is about  
17 45 pages or so, and I just wanted to start by  
18 saying that it's amazing to me that there's nearly  
19 that many people that contribute to this guidebook  
20 within the Commission, itself. To produce that,  
21 everyone from the decision-makers to those people  
22 that put it up on the website.

23 I just want to take one second here to  
24 thank the, especially thank the emerging account  
25 staff that worked so hard to put this together in

1 a very short schedule and timeframe that we had.  
2 So I want to thank them.

3 And also know that before this becomes  
4 solidified that it will certainly represent  
5 hundreds of people's input, including everyone  
6 today. So thank you for coming.

7 This incentive structure is taken right  
8 from table 1 of the guidebook. So there's no new  
9 information here really to present to you, but on  
10 the photovoltaic side we have less than 30  
11 kilowatts. And 30 kilowatts and greater, the  
12 incentive amounts, this first column. The \$4 per  
13 watt column represents what we call a primary  
14 rebate, or those systems that are installed by  
15 licensed contractors.

16 The \$3 a watt column to the right is the  
17 secondary rebate that we refer to as the owner  
18 installed or self installed. And there's more  
19 information on that, of course, if you read the  
20 guidebook, but it's on page 3-5 of the guidebook.

21 Wind. You can see that there was a  
22 change, that that is increasing up to a 50  
23 kilowatt size system. That's a new change per the  
24 legislation.

25 And, let's see, I'll just move right

1 along here. The decline rate, as you have read  
2 about, is we're suggesting 25 cents drop in the  
3 rebate incentive per watt every six months unless  
4 the Commission decides to keep that, or extend  
5 that in place for another six months.

6 When we met a few months ago when we had  
7 the staff workshop there was a lot of concern  
8 expressed that the staff also do quarterly reviews  
9 of whatever the account is so that we can get some  
10 early indicators as to whether that reduction in  
11 the rebate amount is a wise thing to do, or  
12 whether we should, you know, extend it out. So  
13 that is included in what we -- in the program  
14 elements.

15 We've included this final program for  
16 performance incentives. We expect to get a lot of  
17 comments on that today. This is set up so that  
18 it's initially an 18-month reservation; and then  
19 there would be a three-year performance  
20 reservation in effect, as well. As this takes a  
21 totally different approach.

22 And it applies to photovoltaics, wind,  
23 fuel cells and solar thermal electric. So for all  
24 these systems that are greater than 30 kilowatts,  
25 this is the performance incentive details based on

1 annual energy output.

2 We have four ranges. They're specific  
3 to the technologies involved. And right there, a  
4 very simple -- let me apologize to those of you  
5 who can't see that bottom line there, but that's  
6 basically multiplying the dollar per kilowatt  
7 times the number of kilowatts in the system to  
8 calculate the annual payment.

9 This whole element of the program is, a  
10 key part of it is independent or internet based  
11 metering system to accompany these larger systems.

12 On the equipment side there were two  
13 noteworthy changes. One is the system performance  
14 meters. We heard a lot about that in the staff  
15 workshop. We've written in there, requirement to  
16 have performance meters for all systems.  
17 Basically a kilowatt-hour meter, or watt-hour  
18 meter, as we refer to it.

19 If the system was installed before March  
20 31, 2003, you may still get a reservation by  
21 providing a building permit with a reservation  
22 request if the system does not have a meter; for  
23 systems that are installed between now and March  
24 31st that may not have a meter.

25 The only specification we put on the

1 meters was that they also retain -- well, one of  
2 the specifications was that they retain the  
3 production data in the event of a power outage.

4 The total funding allocation, another  
5 item. The 17.5 percent of the total funds that  
6 were set aside for the renewable program, 17.5  
7 percent were for the emerging account. And that  
8 amounts to \$118,000-some-odd here.

9 We've split this up so that systems less  
10 than 30 kilowatts would receive the bulk of those  
11 funds. Because we have a pilot program for the  
12 large systems, we have initially set aside \$10  
13 million. And that's where we stand at this point.

14 On the performance rating, the only  
15 significant change is that we're proposing that  
16 the inverter efficiency at three-quarter load be  
17 used as opposed to the peak efficiency that we  
18 rely on today.

19 Moving down to solar schools, in the  
20 investor-owned utility areas we have system size  
21 increase from 20 to 30 kilowatts per district.  
22 That's still per district, school district. And  
23 that's 90 percent up to 850 per watt, which is all  
24 the other terms and conditions are fairly much the  
25 same as they are currently.

1           And we've also added a second bullet  
2           under schools. We're proposing that that rebates  
3           be available also for schools and municipal  
4           utility areas.

5           And it was set up in a similar dollar  
6           amount of a rebate. It amounts to about \$7.50 a  
7           watt. And that's a combination of the -- well,  
8           these are AB-29X funds that we have available.  
9           That's a new addition to the program structure.

10           Affordable housing is another new item.  
11           We have provided 75 percent of the cost. This  
12           amounts to sort of an odd dollar amount. It  
13           amounts to about \$6.38 a watt as a rebate, based  
14           on the 850 again per watt, for installed costs.

15           And, of course, we couldn't leave our  
16           farms alone. We had to make sure we changed  
17           those. Because we want to -- at any rate, we've  
18           added a warranted system output estimate as one  
19           feature that you'll no doubt hear some input from  
20           you today on.

21           We've added a retailer form, as well,  
22           and that's, in a way, similar to the standard 204  
23           we use now. Once that's filed, that's kept on  
24           file. It's not necessary to submit that with  
25           every application, but it would be an annual

1 submission on the retailers part to fill out this  
2 form and mail it in to us. And I think we are  
3 specifying March 31st of each year for that to be  
4 done.

5 And we've also included on the payment  
6 side a requirement for the utility interconnection  
7 agreement. Sometimes we get those now, and other  
8 times we've been using utility bills or what-have-  
9 you. So, that's another significant change.

10 And so that's all I have to say. We're  
11 ready to hear from you now.

12 PRESIDING MEMBER GEESMAN: Thanks, Dale.  
13 If we could have the lights brought back up?

14 Again, if possible, I'd like for you to  
15 keep your comments to five minutes so that we can  
16 move things along. I'd also encourage as much  
17 informality between the witnesses and the staff as  
18 possible. And I want to reserve the right to  
19 interrupt somebody and ask my own questions if  
20 that comes up.

21 Staff, I think, should be available to  
22 respond to any factual questions that exist. Why  
23 don't we have as our first speaker, Vince Schwent,  
24 from SMUD.

25 MR. SCHWENT: My name's Vincent Schwent;

1 I'm Senior Project Manager with SMUD. We'll be  
2 submitting written comments, and there will be a  
3 number of them.

4 Unfortunately, in the limited amount of  
5 time I'm not going to be able to tell you much of  
6 what we like about it. I'm going to focus on what  
7 we don't like about it --

8 PRESIDING MEMBER GEESMAN: And that's a  
9 fair premise for everybody, okay? I know you all  
10 love the general idea, but let's focus on what we  
11 need to focus on.

12 MR. SCHWENT: Yeah, this is a major  
13 rewrite. Unfortunately, it's full of ambiguities  
14 and drafting errors, but we'll go over those in  
15 our written comments.

16 But basically the main things are the  
17 new proposed structure for the muni buydowns.  
18 Obviously that thing affect us the most. Setting  
19 it at a combined \$4 a watt for muni incentives and  
20 CEC incentives is nonworkable.

21 When you're selling small systems to  
22 residential customers, the main determinant  
23 whether they buy or not is years to pay back  
24 that's directly affected by their utility rates.  
25 And muni customers pay significantly lower rates.

1           Therefore, for this program to be  
2 effective for munis, they need to have the ability  
3 to provide incentive levels greater than an IOU  
4 customer would receive.

5           The way you set it up it's no better and  
6 presumably worse. If you want to limit your  
7 contribution to \$4 a watt, that'd be fine. But  
8 don't limit the muni contribution, or at least set  
9 it proportionally based on muni difference. And  
10 muni rates and IOU rates would mean more like a \$6  
11 a watt cap for the combined incentive, muni and  
12 CEC.

13           Secondly, the inverter efficiency. What  
14 you propose is probably worse than the way you did  
15 it before. Inverters have different efficiency  
16 curves and don't all peak at 75 percent of full  
17 load output.

18           We had proposed before, and we'll  
19 propose again, that it would be better to try and  
20 determine some way of average inverter efficiency  
21 so that it wouldn't penalize certain inverter  
22 manufacturers over other manufacturers.

23           The actual effective inverter efficiency  
24 is very complex. It's going to differ from system  
25 to system, but it really depends upon the inverter

1 efficiency over the whole operating range.

2 Also, current inverter efficiencies do  
3 not take into account the isolation transformer  
4 which certain inverters have to have, and that  
5 does reduce their efficiency a couple more  
6 percent. And the isolation transformer should  
7 probably also be included when you do the inverter  
8 efficiency calculations.

9 Performance based incentives, I'm sure  
10 you're going to get a lot of comments. Basically  
11 I think it's a good idea to try and experiment  
12 with this, but the basic premise of going to this  
13 method is that it gives the same equivalent  
14 payback to the customer.

15 The customer buys, especially for  
16 commercial systems, based on years to pay back or  
17 internal rate of return. Therefore, the goal  
18 should be to set a performance based incentive  
19 which equates, in terms of its economic impact, to  
20 the current up-front based incentive payment.

21 Based on our preliminary estimates and  
22 calculations your current levels don't do that.  
23 We've offered to use and make available to you our  
24 economic models that we use when we sell  
25 commercial systems. Staff have not availed

1 themselves of that yet.

2 We think that the current levels are  
3 inadequately low. They will extend years to pay  
4 back and reduce the internal rate of return.

5 There's a number of things that need to  
6 be done to fix up the performance based  
7 incentives, as well. The cutoffs that you've set  
8 are too low. Very few systems would be able to  
9 achieve that.

10 For god sake, don't come up with yet  
11 another way to rate PV systems, as you've proposed  
12 here, where you drop out the inverter efficiency.  
13 Be consistent. Use the same rating for all the  
14 aspects of your program.

15 So, again, I would suggest delaying the  
16 implementation of performance based incentives  
17 until you've had time to really analyze it  
18 economically; consult with the industry; and make  
19 sure you understand how it's going to impact our  
20 ability to sell. And then try to set an  
21 appropriate performance based incentive level.

22 Clearly you're going to get a lot of  
23 comments on the funding split between large and  
24 small systems. This is, as I understand it, five  
25 years worth of funding that you're proposing to

1 allocate. I don't know why you think you need to  
2 allocate it today. And why you need to allocate  
3 so little to commercial systems.

4 The current CPUC program is set to  
5 expire at the end of 2004, if not sooner. Under  
6 this program there will be very little money  
7 available post-2004 for any large commercial  
8 systems. That's certainly an issue.

9 In terms of the buydown reductions,  
10 while we certainly endorse reducing the buydowns,  
11 of the three possible methods I could think of to  
12 do it, the method you've chosen is probably the  
13 least flexible method. Which is to simply say  
14 every given time period I'm going to reduce the  
15 amount of the incentive level.

16 It would be better if you went back to  
17 your old mechanism we believe where at least you  
18 allocated a block of funds. That's a self-  
19 correcting mechanism. If you set it too low, it  
20 will take longer to absorb, and that gives you  
21 some self-correcting feedback. If you set it too  
22 high, you blow through the block of funds fast,  
23 and you automatically go to the next lower block  
24 of funds.

25 The preferred method, I think, would be

1 to actually what we would get proposed in the last  
2 workshop, and will propose again, which is to set  
3 up a formulaic system based on actual recent sales  
4 data.

5 If you look at the range of sales prices  
6 that people have been able to sell muni systems at  
7 in the preceding six to 12 months, and you set a  
8 target level. Not at the middle, but somewhere  
9 below the middle. And then you base your  
10 incentive levels for the next time period on that  
11 actual data.

12 This, I think, best deals with the  
13 criticism that you reduced the rate too fast or  
14 too slow. They're not over-incenting or under-  
15 incenting, because you're actually looking at  
16 recent sales data saying I'm going to incent based  
17 on the most efficient market producers. I'm going  
18 to pick the 25th or the 30th percentile of recent  
19 sales made and that's going to become my target  
20 for sales prices.

21 We think that would deal with a lot of  
22 the criticism of the current system, which is --  
23 proposal of 25 cents a watt, which is just a  
24 little too rigid.

25 We also suggest making perhaps annual

1 steps, not six-month steps. It's very difficult  
2 when you're marketing PV systems to have to keep  
3 changing the prices. Just about the time -- it  
4 oftentimes takes at least six months to close a  
5 deal with a customer. So by the time you've  
6 started to talk to them and the time you close the  
7 deal, the incentive level has changed, so you got  
8 to change all your system economics.

9 And the last part on that is it's not  
10 clear to me in the guidebook, maybe I missed it,  
11 but clearly if you have a reservation at the  
12 current incentive level I presume that reservation  
13 will be honored even though the incentive level  
14 may be reduced in the meantime.

15 I mean, you've got a nine to 18 month  
16 reservation period, and you're proposing to change  
17 incentives every six months. So, I'm assuming  
18 you're not going to make the industry chase its  
19 tail in terms of trying to get the system  
20 installed before you change the incentive level.

21 The last comment is just in the last  
22 couple years I think it's unfortunate that I don't  
23 think the CEC Staff has gotten the kind of  
24 feedback that they need from the industry.

25 In the old days we used to have

1 opportunities where CEC Staff could interact with  
2 the industry through the PV Alliance or some other  
3 mechanism. They could get feedback from the  
4 industry. They could bounce ideas off of the  
5 industry. The current mechanism, the only time  
6 you really have a chance to talk to the industry  
7 is in a workshop or a Committee hearing like this.

8 And it's really not good for exchanging  
9 information. I would certainly urge the  
10 Commissioners, and this goes for all technologies,  
11 that there ought to be one or two staff to deal  
12 with each technology that can really interact.  
13 Hold some kind of forums. Hold periodic meetings  
14 throughout the year. And really get feedback.

15 I absolutely think government should be  
16 providing these incentives. But there's a million  
17 ways to do this wrong. You either set them too  
18 high or set them too low. The critical challenge  
19 for government is to set them at the right way and  
20 the right level. And they can only do that if  
21 they understand the industries they're trying to  
22 help.

23 And I think some of that feedback has  
24 been lost over the last one to two years, the  
25 opportunity to get that feedback between staff and

1 the industry. And I hope we can reestablish it.

2 And with that, I'll close my comments.

3 Thank you.

4 PRESIDING MEMBER GEESMAN: When do you  
5 think you can get your written comments in to us?

6 MR. SCHWENT: Tomorrow or Monday.

7 PRESIDING MEMBER GEESMAN: Good. Let me  
8 suggest for everybody, Monday is when we're going  
9 to cut off for written comments.

10 (Applause.)

11 PRESIDING MEMBER GEESMAN: George  
12 Ingham.

13 MR. INGHAM: Good morning. I'm George  
14 Ingham, and I'm the Chief Officer of NPCP, LLC,  
15 which is a national photovoltaic construction  
16 partnership designed to assist electricians to  
17 power up their own homes.

18 I have a long statement. It is much  
19 over five, ten minutes, so I'm going to pick out  
20 parts of it and get it down to five.

21 PRESIDING MEMBER GEESMAN: Thank you.

22 MR. INGHAM: What we have done, we have  
23 gone to the labor movement and the  
24 environmentalists in California and asked them to  
25 contribute or participate in the development of

1 renewable energy.

2 So our partners with NPCP are the IBEW,  
3 International Brotherhood of Electrical Workers,  
4 UNITE, the textile workers, SEIU and the Sierra  
5 Club. And these partners represent over a million  
6 people in California.

7 And the basic problem we have is the \$3  
8 rate for homeowners. And we feel that it affects  
9 very very poorly on the electricians that are  
10 already qualified personnel to install these  
11 systems.

12 So, skipping through to the main point  
13 what we're asking is that we ask you to change  
14 proposed regulations so the homeowner is called by  
15 an electrician and able to provide the warranty  
16 you require is eligible to receive the same rebate  
17 for their installation as a homeowner that buys a  
18 system from a retailer. In other words, the \$4.

19 We believe that it's necessary to  
20 increase the number of people able to do solar  
21 installations. And we think that the strongest  
22 group to be able to do that are the electricians  
23 of California.

24 And at present, in California, there are  
25 60,000 electricians who are qualified for that

1 work. And we are enhancing those electricians to  
2 come forward to install systems on their own  
3 homes.

4 We have been, at present, successful in  
5 installing about 65, 67 kilowatt in San Diego, San  
6 Jose and other local areas using our personnel.

7 So, our concern is by lumping the  
8 experienced electrician into the homeowner  
9 category, you're receiving a position that is not  
10 satisfactory from a standpoint of increasing solar  
11 for California.

12 We definitely, through the program we  
13 have, provide the ability to do an awful lot more  
14 systems under the structure we have than any other  
15 structure that is presently in place.

16 So we'd ask you to look at the written  
17 statement. Then if there's any comments or  
18 questions we'd ask for you, you know, to come back  
19 to us.

20 PRESIDING MEMBER GEESMAN: How do we  
21 identify who qualified electricians are?

22 MR. INGHAM: There is the position where  
23 each electrician -- let's start how it operates.  
24 What happens is the electricians are designated as  
25 journeymen through a trade agreement between the

1 National Contractors Association and the  
2 international unions that they have trade  
3 qualifications for.

4 Out of that comes the journeymans  
5 certificate of acceptance through the local union.  
6 So the local union involved can provide a letter,  
7 a certified letter detailing the experience of  
8 that electrician in certifying that he is a  
9 journeyman tradesman. So it's not a hard thing to  
10 do, really.

11 PRESIDING MEMBER GEESMAN: Okay. Other  
12 questions? Thank you very much.

13 MR. INGHAM: Thank you very much.

14 PRESIDING MEMBER GEESMAN: Daniel  
15 Shugar.

16 MR. SHUGAR: Good morning. Thank you  
17 for holding this hearing. I'm here today on  
18 behalf of PowerLight Corporation, as well as the  
19 California Solar Energy Industries Association.  
20 CalSEIA is an organization of 130 members. And  
21 all the major manufacturers in photovoltaics.

22 In California CalSEIA members represent  
23 over 90 percent of the revenues in the solar  
24 industry. So it's both major manufacturers and  
25 contractors.

1           We have had three days of meetings on  
2           this topic. And today I'm here presenting a  
3           consensus opinion of the CalSEIA, and we will be  
4           filing comments by Monday, written comments.

5           First of all, I'd like to say this is a  
6           phenomenal program, the emerging renewable  
7           program. This program is responsible for creating  
8           a vibrant, growing market here in California.  
9           We've created thousands of jobs. There have been  
10          tens, if not hundreds of millions of dollars of  
11          investment by the solar industry across the board  
12          in making this market happen. It's a terrific  
13          thing.

14          I'd like to say before that the CEC,  
15          through investments with the ETAC program and  
16          others, is responsible for a lot of the progress  
17          in photovoltaics. And it's fair to say most of us  
18          would not be here today if it were not for the  
19          CEC.

20          So, what we really need to do is take a  
21          great program, refine it and try to meet the  
22          challenges to be met with how do we provide a  
23          limited pool of money.

24          Okay, I'd like to go down just a few  
25          summary comments, and then our testimony will go

1 into those in detail.

2 First we'd like to address the rebate  
3 level. CalSEIA in its filing in response to  
4 request for comments suggested a level of 4.25 a  
5 watt for photovoltaic systems. Decreasing at a  
6 rate of 5 percent per year.

7 Currently, the proposal is \$4 a watt  
8 decreasing at a rate that could be adjustable, but  
9 initially at about 12 percent per year. We feel  
10 that's too fast to absorb through manufacturing  
11 improvements in the industry.

12 And so we would respectfully suggest  
13 take a look at this level going to the 4.25 for  
14 systems under 30 kilowatts -- I'll address the  
15 others in a moment -- and look at the rate of  
16 decrease. And we're available to work with staff,  
17 sharing Vince's comments, to provide our backup  
18 data and share how we got to that value.

19 Secondly, we would like to suggest  
20 strongly that we allocate more dollars to this  
21 program from the consumer choice account that was  
22 formerly created for customers who wanted to buy  
23 green power. Because that market capability is  
24 gone in California, for new customers, the way  
25 customers can buy green power now is to put solar,

1 wind or other qualified emerging renewables on  
2 their own facilities.

3 So we embody this completely. There's a  
4 large pool of money. Our understanding, about \$13  
5 million a year allocated to this. We would like  
6 to respectfully suggest that we allocate any  
7 unused monies, both historical and going forward,  
8 to the emerging renewable fund to make the total  
9 pot larger.

10 I'd like to address the kilowatt hour  
11 warranty that was proposed to go on the new form.  
12 We think it's a good idea to represent the  
13 customers in expectation to put on the form here's  
14 a target of what the system should produce. And  
15 our comments basically propose that on the first  
16 round.

17 We feel it would be a disaster to have  
18 that as a required warranty on the form. Why?  
19 Because circumstances beyond the industry's  
20 control will impact the energy of the system.

21 For example, residential, someone could  
22 plant a tree in their front yard, have excessive  
23 bird soiling, Mount Pinatubo could erupt again and  
24 drop, due the ash in the sky, the amount of solar  
25 resource by 10 percent, as it did in the early

1 '90s.

2 So there's a lot of factors. For a  
3 company like PowerLight and other companies, if we  
4 have a warranty requirement that's out on energy  
5 to all our customers that's reflected on our  
6 financial statements as a contingent liability.  
7 And that would have a very bad effect on our  
8 ability to have working capital in the company.

9 Now, --

10 PRESIDING MEMBER GEESMAN: Do you offer  
11 any warranty at all presently?

12 MR. SHUGAR: Well, currently what's  
13 required is a five-year comprehensive system  
14 warranty to receive the rebates. Everyone's  
15 basically saying the equipment's going to perform,  
16 it's going to work.

17 The difference is it's like buying a  
18 car, if you went to buy a car down at GM, right  
19 now they give you a five-year, bumper-to-bumper  
20 warranty. They don't guarantee what your fuel  
21 economy is going to be.

22 This is like us guaranteeing our fuel  
23 economy. They're saying that we can give you a  
24 target, like they do say, yeah, you should get 25  
25 miles to the gallon, but we can't guarantee that.

1           PRESIDING MEMBER GEESMAN: Then how do  
2 you reflect your current warranty provisions on  
3 your balance sheet?

4           MR. SHUGAR: Those are basically handled  
5 as equipment warranties. So that has an  
6 assignable risk. And also that's shared between  
7 cell manufacturers, system providers and inverter  
8 manufacturers.

9           If we have to guarantee the energy  
10 production of the system, it raises that  
11 complexity very substantially and the liability  
12 very substantially.

13           PRESIDING MEMBER GEESMAN: But you don't  
14 currently carry your product warranty as a  
15 contingent liability, do you, on your balance  
16 sheet?

17           MR. SHUGAR: It's mitigated by the fact  
18 that we have pass-through warranties from  
19 photovoltaic manufacturers and inverter folks.  
20 Our piece is carried as a warranty going forward.

21           MS. SHAPIRO: As a liability, going  
22 forward, is that what --

23           MR. SHUGAR: That's correct. Thank you.

24           Okay, I'd like to reflect on the  
25 inverter piece. If you had to pick a number to

1 just say okay, we're going to make the inverter  
2 efficiency calculation for the purpose of rebate  
3 form, if you had to pick one, the 75 percent  
4 number would probably be as good a number as any,  
5 because it's near the center of the bell-shaped  
6 curve.

7 So we think that's an improvement over  
8 the current system of just having a peak, the  
9 manufacturer provide a peak efficiency number.

10 There may be a better way to do it as  
11 Vince suggested. Maybe we could look at an  
12 average efficiency or something like this. For  
13 simplicity, if you had to pick a number we would  
14 support that. We have no objections to that.

15 PRESIDING MEMBER GEESMAN: Let me ask  
16 you, do you think we ought to be doing that at  
17 all? Because implicit in this is a willingness to  
18 discriminate against the less efficient inverters.

19 MR. SHUGAR: Yes, I think the inverter  
20 efficiency should be on there, absolutely. So, I  
21 think we should do that. The question is what's  
22 the best methodology.

23 PRESIDING MEMBER GEESMAN: Okay.

24 MR. SHUGAR: I think what you've  
25 proposed is an improvement. It could -- perhaps

1 we could do that now and have dialogue in six  
2 months from now or something, revise it.

3 Okay, getting to the split between  
4 residential and commercial systems. Currently  
5 it's roughly 60/40. What's been proposed is  
6 90/10, with 10 percent being a performance based  
7 model.

8 We have a big problem with that. And  
9 the reason is is that it's true that the PUC has a  
10 program that will continue for another two years.  
11 But we really want the Commission to stay engaged  
12 in large systems business.

13 What we would propose in summary, and  
14 then I'll say briefly why, is we go to 70 percent  
15 for systems 30 kilowatts or less; 25 percent for  
16 systems larger than 30 kilowatts under the current  
17 rebate program. And then 5 percent of your pool  
18 allocated for a performance based model.

19 And what we'd like to do is work  
20 together over some months that we believe it's  
21 going to take to develop a functional system to do  
22 performance based rates.

23 PowerLight and all the other companies  
24 we visited with in CalSEIA really support the idea  
25 of figuring something out here. We think it's a

1 constructive step. There's a high level of  
2 complexity and it needs to be treated right in  
3 order for this program to function in the market.

4 We're willing to step forward and do  
5 that. But we need to carefully deliberate to make  
6 sure we have an important program.

7 It goes without saying, but your program  
8 is very important, not only for California, but  
9 there are many other states that replicated the  
10 program. The program in California is, you know,  
11 an order of magnitude less in size than the  
12 national programs of Germany or Japan, but it's  
13 the largest program here in the States. And other  
14 states, such as New Jersey, Illinois, and others  
15 have emulated this program.

16 So it's very important you approach this  
17 matter with a great deal of deliberation. And so  
18 on the split, what we propose is again, 70 percent  
19 for smaller systems over 30 kilowatts; 25 percent  
20 under the existing rebate model for systems above  
21 30 kilowatts; and 5 percent for the performance  
22 based model.

23 Now, in recognition of there are a lot  
24 of monies available under the PC program. As  
25 Vince mentioned, that sunsets two years from now.

1 We want to have continuity with this program, be  
2 able to transition past that if those monies don't  
3 get extended.

4 Additionally, there are \$30 million that  
5 have been allocated under the schools program to  
6 systems 30 kilowatts and less. There's a large  
7 pool of money for the small systems.

8 We're willing to reduce the amount, or  
9 suggest reducing the amount for larger systems,  
10 but we want to keep that in balance. And that's  
11 our proposal.

12 Now, systems --

13 PRESIDING MEMBER GEESMAN: Let me ask  
14 you there, it goes against the grain a bit in  
15 terms of the state government budget process to  
16 have two agencies involved in a particular subject  
17 area. The budget control agencies tend to think  
18 of duplication and overlap.

19 I guess I wonder why it is you think we  
20 should stay engaged. Can't the improvements that  
21 you're talking about be addressed in the context  
22 of the PUC program?

23 MR. SHUGAR: Well, it's a fair question,  
24 and let me just say, staff of Energy Commission  
25 and PUC has worked productively, and has ironed

1 out. There's not like a lot of conflict.

2 PRESIDING MEMBER GEESMAN: Um-hum.

3 MR. SHUGAR: So, if someone were to  
4 apply to both programs there's an efficient method  
5 for saying, oh, you can have one or the other, but  
6 not both. So it's already working, it's  
7 functional.

8 I certainly respect the comment. The  
9 Energy Commission program extends well beyond the  
10 sunset of the PUC program. Speaking, you know, as  
11 a business person, when we present our -- the  
12 biggest question any investor in any solar  
13 industry or any potential -- any company that  
14 wanted to get into this industry, they look at,  
15 you know, if General Electric, for example, said I  
16 want to get in the solar industry. We want more  
17 investment in the solar industry. The first  
18 question they'd ask is, how -- what is, you know,  
19 where are these incentives going to it. What's  
20 going to happen to them in the future.

21 And so they have a duplicative program  
22 out there. It's a good thing. It's good to have  
23 LADWP doing a program and Sacramento Municipal  
24 Utility District and others having programs.

25 So, since you have a functional system,

1 I think let's just keep doing more of a good thing  
2 there. But balance it, given the appropriate  
3 funding.

4 I have only one or two more comments and  
5 I'll wrap up. In terms of the rate for large  
6 systems, CalSEIA's proposing 4.25 for the systems  
7 30 kilowatts and larger. Because there is a  
8 delivery efficiency with larger systems, we are  
9 willing to propose a smaller level and start at \$4  
10 a watt. So 25 percent less.

11 And then also recommend that both the  
12 small and the large systems were decreased at the  
13 same rate of 5 percent per year.

14 We'd like to point out that while there  
15 is an efficiency of delivery of the large systems,  
16 commercial customers pay substantially less in  
17 dollars per kilowatt hour than a residential home  
18 that's on the tiered structure. So, very  
19 substantial. I mean you could be paying up to 20  
20 cents a kilowatt hour if you're on a tiered  
21 structure at your home. It might be, you know,  
22 13, 14 kind of numbers for a large commercial.

23 So that the rate's a lot less. So get -  
24 - internal rate of return target. I just wanted  
25 to make that point.

1           Okay, final comment. CalSEIA proposed  
2           in our initial filings that the rebate be limited  
3           to 60 percent of the system cost. The existing  
4           structure, as I understand it, proposes there's no  
5           limit. That in effect the rebate could pay for  
6           the whole system.

7           While that's appealing in a theoretical  
8           sense, we would like to take a more conservative  
9           view and reiterate our recommendation that the  
10          rebate be limited to 60 percent of the system  
11          cost.

12          Why is that? Well, we don't want to get  
13          into a situation where some suppliers are going  
14          around to customers saying, you know, we'll pay  
15          for 90 percent of your system with this rebate,  
16          and providing a level of service, and not warranty  
17          reserve and other things that the industry needs.

18          Many of the companies I mentioned, that  
19          CalSEIA are providing -- well, there's a code of  
20          ethics, they provide warranty reserves; they're  
21          standing behind the systems and doing a good job  
22          on that.

23          We don't want to get in a situation  
24          where there's a, you know, a frenzy to give away  
25          these systems, collect rebates, and then these

1 companies go out of business.

2 So we would respectfully recommend a  
3 more conservative view where you say, okay, let's  
4 limit this rebate to 60 percent of the total  
5 systems.

6 That concludes our comments. And we  
7 will have written testimony in by Monday. Thank  
8 you. We appreciate the opportunity.

9 MR. TUTT: Thank you, Daniel. Couple of  
10 questions?

11 MR. SHUGAR: Yes.

12 MR. TUTT: Tim Tutt.

13 MR. SHUGAR: Sure.

14 MR. TUTT: I wanted to first ask you  
15 about the warranty, the warranty forms that we've  
16 now included in the guidebook --

17 MR. SHUGAR: Yes.

18 MR. TUTT: -- explicitly exempts some of  
19 the acts, or the challenges to having a warranty  
20 performance estimate that you're bringing up.

21 For example, earthquake, fire, flood,  
22 Act of God. The warranty is no longer enforced in  
23 those cases. So does that assuade (sic) you a  
24 little bit, or is that still a problem for you?

25 MR. SHUGAR: Again, we're in support of

1 having the comprehensive system warranty for five  
2 years. We have no issue with that. We think  
3 that's a good thing.

4 In terms of warranting the kilowatt hour  
5 portion, the energy portion, it's difficult to  
6 envision all the conditions of which the energy of  
7 a system would be affected, environmental or  
8 otherwise.

9 And that also applies that we, meaning  
10 the industry, would have an obligation to be  
11 measuring and evaluating that.

12 Now I'll tell you, PowerLight, for every  
13 system we've ever installed, has a data  
14 acquisition system. We scan the performance every  
15 second. And we have that data posted on  
16 customers' websites every night.

17 So we know how ours is performing. And  
18 we have over a, you know, 99 percent availability  
19 for our systems in the state. We have the  
20 capability to do that. But to impose that  
21 requirement on other suppliers in the industry  
22 that, you know, may not have a data acquisition  
23 system installed on a residential application or a  
24 small commercial application, we feel it would  
25 place an unnecessary burden and liability on these

1 companies.

2 MR. TUTT: If we did just put a target  
3 on, how would the homeowner then, what would they  
4 do if that target wasn't met? Is that a problem?

5 MR. SHUGAR: The homeowner would be able  
6 to, even if there wasn't a separate meter or data  
7 acquisition system, you know, if your home usage  
8 pattern hasn't changed substantially over the last  
9 few years, it's pretty easy to look at your bill  
10 and have a sense for what the system's doing.

11 I think it's a credibility issue. You  
12 know, the successful members of this industry, a  
13 lot of whom are here, get additional business by  
14 referrals, word of mouth. Many of our projects  
15 are, you know, we're selling a fifth or sixth  
16 system to the same customers.

17 The survivors in the industry are  
18 credible companies that do a good job on that.  
19 They go out and they evaluate the roof and make  
20 sure there's no shading and things.

21 So I think that's where you'd see the  
22 success of the kilowatt hour forecast.

23 MR. TUTT: Okay. Another question about  
24 the reduction in rebate levels by about 5 percent  
25 per year, starting around the \$4, \$4.25 level,

1 going down 5 percent per year.

2 Doing a quick calculation that means ten  
3 years from now we'll be paying \$2 a watt in  
4 rebates for these systems. And this fund only  
5 exists for ten years. So, at that point we'd go  
6 from a \$2 a watt rebate to perhaps nothing.

7 That's one reason -- I guess the  
8 question is how do we address that long-term cliff  
9 that we're coming up with with that 5 percent per  
10 year decline?

11 MR. SHUGAR: Yeah, it's a fair comment.  
12 And, you know, we really, we went back and we  
13 evaluated where did we come up with the 5 percent  
14 number. And that is absent inflation, okay. So  
15 we're not saying make it 8 percent, and then  
16 adjust it for CPI and come down.

17 So, we're saying it actually, the rate  
18 of decrease is in excess of 5 percent when you  
19 consider inflation. I won't get into what it is.

20 We went back and we analyzed how much  
21 have manufacturing improvements in the  
22 photovoltaic industry been able to drive down the  
23 costs. And, you know, we are where we are with  
24 that.

25 It's been about 5 percent per year for

1 ten years. That's pretty good in the overall  
2 sense.

3           Going forward, what happens ten years  
4 from now? That's a fair question. I would say we  
5 should have flexibility in program design to be  
6 able to adjust as we go forward. Hopefully what  
7 happens is we have the effect of increased  
8 production continues to drive more manufacture and  
9 more volume, and we exceed an inflection of the  
10 demand supply curve, have more sales volume which  
11 drives down price.

12           So hopefully the rate could decrease  
13 further in the future. But, a fair comment. I  
14 think that's really beyond our planning horizon to  
15 get out ten years. What we're really looking at  
16 is certainly over the next, you know, five years,  
17 or so. But I would certainly support having some  
18 flexibility in that structure.

19           Fair question.

20           MR. TUTT: Okay.

21           MR. SHUGAR: Anything else?

22           PRESIDING MEMBER GEESMAN: Thanks, Dan.

23           MR. SHUGAR: Thank you very much.

24           (Applause.)

25           PRESIDING MEMBER GEESMAN: Let me,

1 before you begin, Todd, say that I've been  
2 neglectful in failing to introduce Commissioner  
3 Boyd, who has joined us. And Rosella Shapiro,  
4 representing Commissioner Pernell's Office.

5 MR. FOLEY: Thank you. A pleasure to be  
6 here this morning. I'm Todd Foley with BP Solar.  
7 BP Solar has our California facility here in  
8 Fairfield, which houses our west coast sales and  
9 marketing team and serves as our warehouse and  
10 distribution center for all of our North American  
11 operations.

12 We're here, of course, on behalf of BP  
13 Solar as well as CalSEIA. And I would really just  
14 want to echo, you know, Dan's comments, because  
15 they do reflect our industry view.

16 But just to add a couple of points for  
17 emphasis. I think from our perspective, and it's  
18 a shared mutual objective of the CEC, and that is  
19 the area of system cost reduction.

20 Very much is that an important goal for  
21 the CEC, and we understand that. But it's  
22 actually a fundamental objective for our industry.  
23 And that is to reduce the cost of our systems to  
24 the consumer.

25 With that kind of emphasis in reduction

1 we could see our market going, you know, quite  
2 dramatically beyond what it is today. So, with  
3 regard to the comments that we've just added on  
4 where we think the rebate ought to be, the  
5 suggested 4.25 with the 5 percent reduction, we  
6 think that is the best way to begin to encourage  
7 that ramp-down of cost to the consumers.

8 It's in line, as Dan said, with  
9 historical reductions in module costs. And we  
10 continue to make improvements at about, you know,  
11 5 percent a year or more.

12 What's more is, you know, the module, of  
13 course, is just part of the system. And we are  
14 working, you know, all the ways we can to reduce  
15 the overall system costs, in addition to the  
16 modules, what we manufacture.

17 And we also think that going forward,  
18 it's important to ramp down gradually the cost of  
19 systems. What has been proposed we think is a bit  
20 dramatic and could have a negative impact on the  
21 momentum that together the CEC and the industry  
22 have created in establishing a market here in  
23 California.

24 So, we think that 4.25 a watt to start,  
25 5 percent per year represents a nice gradual

1 reduction. And would work in the market. Because  
2 as we look at and analyze, you know, consumer  
3 behavior and what they're willing to pay for  
4 systems, that kind of approach, in our view, works  
5 best.

6 There is the problem if you move too  
7 quickly too fast. There are places in the country  
8 where they have rebate programs that are  
9 substantially less than the 4.50 a watt here now.  
10 Unfortunately, while those programs are  
11 interesting and nice, the money is sitting on the  
12 table. It's just not moving the market.

13 So, getting this right is actually very  
14 very important, especially to continue the  
15 momentum that we've all built here in California.

16 PRESIDING MEMBER GEESMAN: Let me ask  
17 you, is there value in having a multi-year  
18 rampdown disclosed in advance?

19 MR. FOLEY: I think so. I think --  
20 well, I think one is it sends a signal, sends a  
21 signal to the industry, all those involved in it.  
22 And to consumers that, you know, this is what you  
23 can expect in the future.

24 For us it tells us we need to reduce  
25 costs if we want to be able to move in the market,

1 it's a strong incentive in addition to our other  
2 incentives for doing so, to reduce costs.

3 So I think that does make sense.

4 PRESIDING MEMBER GEESMAN: So that would  
5 be preferable, from your standpoint, to us making  
6 the year-by-year determination as to what the  
7 magnitude of the rampdown should be?

8 MR. FOLEY: I think that that's useful.  
9 I think it's more important, though, that we allow  
10 time for the market to adjust, so that there'd be  
11 some predictability. And I think that's the point  
12 you're getting at.

13 We would agree with that. We think that  
14 along those lines it's probably more important  
15 that we understand where things are going to be  
16 for the next year or so, rather than say that six  
17 months we'll come back at this.

18 What's more, it's probably important to  
19 get this right now because if we change it now and  
20 come back in six months to adjust, I think we've  
21 lost the momentum in the market.

22 We could, you know, see a -- we would  
23 believe a significant decline in sales and moving  
24 technology by doing that. So we would think it's  
25 advisable to get that straight now and offer the

1 predictability going forth on the gradual  
2 rampdown.

3 We think also, BP Solar is a company  
4 that focuses both on the commercial and  
5 residential markets. Our technology is used for  
6 large systems and, you know, for small systems for  
7 homeowners.

8 The balance that has been suggested, we  
9 would agree ought to be probably closer to where  
10 it is today at the 60/40. So we would reinforce  
11 the point that it ought to be somewhere around  
12 70/25/5 meets a nice balance of where the market  
13 is at today. The interest in all of us to see  
14 both, you know, businesses and homeowners share in  
15 the benefits of the program.

16 And what's more is begin to look at a  
17 new way of giving value to the systems through  
18 that, you know, performance based approach. There  
19 are performance based approaches being used around  
20 the world. They're a little bit more complicated  
21 than, you know, rebates. So we think therefore  
22 it's very important that we work together to put  
23 that program together to make sure it works  
24 effectively.

25 PRESIDING MEMBER GEESMAN: Is there a

1 particular performance based approach used in any  
2 jurisdiction elsewhere that you really think is  
3 superior?

4 MR. FOLEY: Well, the one that we think  
5 about in the industry is in Germany. Right now  
6 Germany is probably the second largest market in  
7 the world. California would be number three  
8 because of the leadership here.

9 Germany offers an incentive for the  
10 power produced from the system. And it's a 20-  
11 year incentive. So that -- and there's also a  
12 capital program to offset the upfront capital  
13 costs, especially for, you know, homeowners who,  
14 you know, may not have access to large capital.

15 So, that is actually suggested that you,  
16 the incentive comes from a premium paid for  
17 electricity generated. So, the more you generate,  
18 the larger your incentive is, performance based.

19 And then --

20 PRESIDING MEMBER GEESMAN: Are they  
21 looking primarily at large systems? Or they have  
22 mixed, too?

23 MR. FOLEY: It's very much a mix. In  
24 fact, it's just -- the program and the market is  
25 robust, even without, you know, the great solar,

1       you know, resources that California has. And it's  
2       astonishing to see how the German market has grown  
3       as a result.

4                I think that will just sum up my  
5       comments. And just then to reiterate that we have  
6       submitted comments in the previous proceeding. We  
7       will do so again, that reflects the comments on  
8       all of the issues.

9                PRESIDING MEMBER GEESMAN: Thank you,  
10       Jack. Any questions, staff?

11               MR. TUTT: Can I just ask Todd in  
12       regards to the German program, who reads the  
13       meters and determines the performance of the  
14       systems in that program?

15               MR. FOLEY: I believe it's the utilities  
16       who are required to deliver the program.

17               MR. TUTT: Thank you.

18               PRESIDING MEMBER GEESMAN: Thanks, Todd.  
19       I mis-identified you as Jack, but I apologize to  
20       you and to our next speaker, Jack McKearn.

21               (Applause.)

22               MR. McKEARN: Good morning. I'm Jack  
23       McKearn with Allied Sun Technologies. We're a PV  
24       integrator in L.A. and San Diego. And just going  
25       to summarize. We have written comments already

1 prepared. Going to try to be very quick.

2 First of all, we'd like to applaud the  
3 idea that was presented in the draft guidebook for  
4 removing the percentage of the buydown. Although  
5 perhaps something like the gentleman from CalSEIA  
6 recommended would also be good.

7 We like the way the DWP program is at 85  
8 percent. Currently I believe that 50 percent  
9 companies are incented to say, well, let's keep  
10 your price at \$9 a watt, let's say, so that you  
11 get the maximum benefit from the rebate.

12 And we believe that a straight dollar  
13 per watt rebate would help give them the maximum  
14 benefit from any discount they would get from the  
15 retailer.

16 The main point that we want to address  
17 is also the one that CalSEIA, both CalSEIA members  
18 hammered on, and that was the issue of warranting  
19 the system output.

20 We also agree with them that having  
21 system output projections is a very good idea.  
22 And we've always done that, well, not on our  
23 contracts and letters of intent and such, but  
24 we've always given our customers an estimate of  
25 system production.

1           We feel that having to warranty that  
2           would open up a can of worms that we really don't  
3           want to see, both with legal, potential legal  
4           quagmires. But really the problem is that the  
5           contractors and retailers don't have control over  
6           things such as, gosh, they could plant a tree in  
7           their front yard; the neighbor could build a  
8           second story on their house; they could neglect to  
9           clean the panels for three years. Any number of  
10          things that could happen that the system could be  
11          off for six months.

12                 And that kind of thing may not be  
13           reflected in the data provided by the metering  
14           system. So, there are just many challenges to  
15           that that we see and we'd like to see that  
16           removed.

17                 Let's see what other issues we have  
18           here. The incentive levels, as far as reduction  
19           in incentive levels, we are in favor of a gradual  
20           incentive level change. The comments presented by  
21           CalSEIA at the last meeting, or after the last  
22           meeting, rather, suggested that a stable market  
23           would require a six-month advance notice of any  
24           kinds of incentive level changes. We very  
25           strongly agree with that.

1           Our customers, because the sales cycle  
2           is typically six months, can be up to two years,  
3           it's very important for us to be able to tell a  
4           customer, okay, this is what the incentive level  
5           is; this is what it's going to be six months from  
6           now. And not have the level of uncertainty that  
7           we've had over maybe the last year.

8           So, we recommend sticking with the \$4.50  
9           until June of 2003. What we recommend is  
10          incremental annual reductions, perhaps not a  
11          percentage change, but something about the same  
12          amount, maybe 25 cents per year, maybe 20 cents  
13          per year, something in that area might be more  
14          equitable.

15          So, 4.50 all the way through June of  
16          2003, and then starting in June of 2003, going to  
17          4.25; and then a year later going to \$4, et  
18          cetera, et cetera. We think that would serve the  
19          industry very well.

20          We think that the performance based  
21          model is not nearly as equitable as, say, the CPUC  
22          program or something that Germany is doing right  
23          now. And that that money, as far as the CEC is  
24          concerned, is perhaps better spent either in the  
25          10 to 30 kilowatt range, or back into the general

1 emerging renewables fund for under 10, over 10,  
2 anywhere in that area.

3 It is something that we may want to do  
4 research into, but the way the program's currently  
5 proposed we don't feel it's nearly as equitable as  
6 it needs to be.

7 I believe that is all my comments.

8 PRESIDING MEMBER GEESMAN: Okay.

9 Questions for Jack? Thank you very much.

10 Mike Bergey.

11 MR. BERGEY: Commissioners, staff, I'm  
12 pleased to be here. My name is Mike Bergey; I'm  
13 President of Bergey Windpower Company, but I'm  
14 also representing the Small Wind Turbine Committee  
15 of the American Wind Energy Association, which has  
16 a membership of about 35 companies. The American  
17 Wind Energy Association has about a little over  
18 1000 members.

19 My comments are specifically on the  
20 small wind aspects of the draft. And first of  
21 all, for the under 30 kW, we feel that these cuts  
22 are far too severe. It looks like some of the  
23 estimates of the numbers that the Commission is  
24 using on installed costs really relate back to the  
25 early days when the systems were highly

1 discounted, put on short towers, just trying to  
2 get the market going. A number of do-it-  
3 yourselves.

4 A survey of our dealers, we have 55  
5 dealers here in the state. And the average right  
6 now for is a 9.2 kilowatt turbine, 10 kilowatt  
7 derated for the inverter, is between \$40,000 and  
8 \$60,000, or \$4.35 a watt to \$6.50 a watt. That  
9 upper range is self-supporting towers with no guy  
10 wires, and taller towers for more difficult  
11 installations.

12 Proposed cuts would reduce the current  
13 subsidization level from a current 50 percent  
14 roughly to between 31 and 47 percent. We feel  
15 that that would significantly affect sales. It  
16 would discourage the use of non-guyed towers, and  
17 taller towers, all things that the public would  
18 like and is in their best interests.

19 And I'll opine to you that small wind  
20 isn't causing the over-subscription problem in  
21 this program. I think it's a wonderful problem to  
22 have, although no problem's good, I guess.

23 And whacking small wind just isn't going  
24 to solve the problem. Whacking is perhaps an  
25 exaggeration, but it will, we think, significantly

1 reduce the market.

2 The proposed scheme hits wind harder  
3 than solar. The effective rebate rate based on \$9  
4 a watt for the smaller systems, for solar is  
5 reduced to 44 percent versus 32 to 47 for wind.

6 Out of the \$32.8 million that this  
7 program has spent this year between January 1st  
8 and November 26th, 97.7 percent has been spent on  
9 solar photovoltaics. And 2.3 percent has been  
10 spent on small wind. It's a testament to the  
11 success of the California and U.S. solar industry.  
12 Many people have been working in the trenches for  
13 a long time and we think that's wonderful, but  
14 wind is a very small component of the program.  
15 And a severe cut in wind, if you eliminated wind  
16 it wouldn't solve the over-subscription problem.

17 We think there are very good public  
18 interest reasons to maintain a robust push for  
19 small wind. The energy marketplace needs more  
20 choices for consumers, more competition, that's  
21 obvious. We have very good price reduction  
22 possibilities with higher volume. And in fact the  
23 CEC money can have more of an effect on power  
24 cottage industry than the more established solar  
25 industry. So the ratepayers' money can be more

1 effective in injecting competition into the  
2 marketplace.

3 In California you have an interesting  
4 phenomenon because of the coastal winds and  
5 interior valley. Wind is often effective on heat.  
6 Not always as effective as solar, but in  
7 residential areas and some places it's more  
8 effective.

9 And finally, the permitting situation is  
10 improving. That's the reason why you don't see as  
11 many small wind turbines. We face permitting hell  
12 here, because we have to go over 35 feet, and  
13 changing, doing conditional use variances and that  
14 sort of thing here in California is very  
15 difficult.

16 AB-1207 which the Legislature passed  
17 last year kicked in this year and that's having a  
18 great effect, streamlining the permitting.

19 The Wind Association proposes that the  
20 Commission consider a structure that would be \$3  
21 per watt for the first 7500 watts; \$2 a watt  
22 incremental from 7501 to 15 kW. And \$1 a watt  
23 from 15 to 30 kW.

24 We further propose that the decline, and  
25 we do like the concept of the rates declining on a

1       foreseeable basis, be 15 cents every six months  
2       instead. Which puts it about proportional to the  
3       25 cents proposed would have on the solar.

4                 And we salute the inclusion of the  
5       secondary rebate scheme which addressed a thorny  
6       problem with customer supplied later and other  
7       things. But we recommend that that be just a flat  
8       20 percent less. We think that's a true  
9       reflection .

10                Now, the AWEA proposal would allow lower  
11       cost insulations to exceed 50 percent in rebate.  
12       But I'd like to point out that you already have in  
13       this program a 75 percent rebate allowance for low  
14       income homes. That's only solar. Up to 90  
15       percent for solar schools. And the Commission  
16       does provide special treatment for builders  
17       because they think that's an encouraging market.  
18       So, we think there's mitigating circumstances that  
19       would support maybe an affirmative action program  
20       for small wind.

21                In general we support the production  
22       credits concept for the larger systems where we  
23       believe changes are needed for the wind numbers to  
24       accomplish the stimulus desired.

25                The capacity factors set in the initial

1 draft are just too high. They would, in order to  
2 qualify for any rebates, require a 14 mile an hour  
3 average wind speed or better, which means you've  
4 got to have wind farm quality wind resources to  
5 get any rebate at all.

6 But we're trying to put the 50 kilowatt  
7 wind systems out in commercial properties, places  
8 where there's businesses. And these are not wind  
9 farm quality wind resources.

10 And we find that the rates, even then,  
11 are a little low for the projected \$125,000  
12 typical cost for a 50 kilowatt installed here.

13 So our recommendation on that is to set  
14 the minimum productivity level to the same as  
15 solar, 1000 kilowatt hours per kilowatt of  
16 installed capacity, so both technologies are on a  
17 level playing field. But because the wind  
18 resource gets more energetic with increasing wind  
19 than solar gets, there's more variation, we have a  
20 little bit different structure.

21 So we up the housing to 1500 kilowatts  
22 productivity; 1500 to 2000; and 2000-plus. And we  
23 actually would like to see you do an inverted  
24 subsidy on that. Start with a higher number at  
25 the lower productivity, \$375. Next would be 340,

1 and then down to 310.

2 And we do that because the higher wind  
3 areas already yield disproportionately better  
4 economics. And there's a greater effect there in  
5 resources, relationship to economics, that there  
6 is with solar.

7 So the guys who site wind systems in the  
8 high wind areas are already getting a faster  
9 payback period. We'd like to incentivize the low  
10 wind areas, and that would be actually beyond a  
11 certain effectivity minimum.

12 And that would actually be in line with  
13 the focus of the Department of Energy's wind  
14 research program now, which is focusing on  
15 technology for low wind areas, to expand the range  
16 the wind turbines can operate in.

17 And they're specifically doing a small  
18 wind turbine in low wind area program in the \$10-,  
19 \$20-million range over the next five years.

20 We support the metering requirements  
21 fully. And we have qualified support for the  
22 proponents' estimates and proponents' warranties.

23 We think that giving customers  
24 performance estimates is good. For wind we would  
25 like to give a range because there's more

1       uncertainty as to the resource than there is with  
2       solar. But, we think giving customers the  
3       estimate is good.

4               The energy production warranty, however,  
5       is problematic for wind, even moreso than for  
6       solar because the resource is more uncertain, and  
7       there's greater inner-annual resource variations.  
8       The wind farms have documented variations of plus  
9       or minus 20 percent on an interannual basis. So,  
10      it would be problematic to have a 10 percent level  
11      on performance.

12             Our recommendation then is to require  
13      estimates of energy so that the economics that we  
14      give customers that they'll make their purchasing  
15      decision on are based on something we put in  
16      writing.

17             But to warrant power performance, not  
18      energy performance but power performance so that  
19      you would capture the equipment degradation and  
20      downtime. So, no more than a 10 percent reduction  
21      in the performance of the equipment, but not  
22      necessarily the energy.

23             Those are my comments, and comments of  
24      the Association, and I appreciate the opportunity;  
25      would be happy to answer any questions.

1           PRESIDING MEMBER GEESMAN: Thank you,  
2 Mike. Are there questions? One quick one.

3           MR. MASRI: Mike, were you suggesting  
4 that the cost is going up on small wind? You said  
5 maybe we based the rebate level on earlier system  
6 costs.

7           MR. BERGEY: Yeah, and it definitely has  
8 gone up. I can see that in our paperwork. And  
9 it's mostly an artifact of the early heavy  
10 discounting to get the first systems in.  
11 Contractors learning that they were losing money,  
12 that costs were higher. And so raising the prices  
13 a little bit to make sure they made some money.

14           Shorter towers because, you know, we've  
15 been -- the streamlining of permitting process is  
16 allow this to progressively taller towers in  
17 without getting into these \$8 conditional use  
18 permit.

19           MR. MASRI: But that's not a trend.

20           MR. BERGEY: Yes.

21           MR. MASRI: Do you expect that at some  
22 point would see the -- trend in cost --

23           MR. BERGEY: Oh, absolutely.  
24 Absolutely. Yeah, we've also see, I should say,  
25 more and more California customers selecting the

1 non-guyed towers, which is a substantial cost  
2 increase.

3           And if it weren't for the rebates I  
4 think that, you know, if they had to pay the full  
5 freight on the more expensive towers they probably  
6 would be less interested in cutting, lowering --  
7 from four down to one. But we have seen more and  
8 more people -- Californians choosing the more  
9 expensive Eiffel Tower-type self-supporting  
10 towers.

11           PRESIDING MEMBER GEESMAN: Any other  
12 questions? Thanks, Mike.

13           (Applause.)

14           PRESIDING MEMBER GEESMAN: David Saul.

15           MR. SAUL: Good morning. My name is  
16 David Saul from Solel Solar Systems. We are a  
17 manufacturer in the solar thermal energy electric  
18 systems.

19           First of all I'd like to thank you for  
20 giving me this opportunity to comment. We will be  
21 filing our written comments in the next day or  
22 two.

23           First I want to say that we support  
24 Dan's comments from the CalSEIA organization, as  
25 well as, I believe, -- regarding the warranty on

1 the power performance. That would seem to make  
2 sense in terms of guaranteeing -- to the system,  
3 as opposed to the energy which is not within our  
4 control.

5 I have two specific comments regarding  
6 solar thermal energy. One deals with the change  
7 that's been made regarding the equipment. For  
8 some reason the turbine and the generator have  
9 previously been included within the recognizable  
10 costs for the solar thermal electric. And now  
11 have been excluded.

12 We don't understand why that change took  
13 place. From our point of view, certainly these  
14 are integral aspects of the system, both in terms  
15 of performance and cost, and certainly we would  
16 like to see symmetry between our systems and those  
17 of others, PV and wind.

18 So we really would respectfully request  
19 that they be included within the cost.

20 The second comment that we have relates  
21 to the performance based aspects for systems that  
22 are 30 kilowatts and above. And we firmly support  
23 the aspect of performance based incentives.

24 That's definitely a positive approach.

25 My comments relate to the actual

1 thresholds that have been proposed. I believe  
2 because of the lack of systems and solar thermal  
3 electric over the years, really the only systems  
4 that are operating are the very large SEGS fields,  
5 old electric generating systems that were  
6 installed in the '80s by Luz. Those systems are  
7 very very large. Perhaps those were the source of  
8 the data whereby the thresholds were made.

9 But how you're basing the data on those  
10 fields, I think has caused a big problem in that  
11 those fields are situated in Daggett, Harper Lake  
12 and Kramer, where the direct insolation, radiation  
13 is very very high. And those obviously are areas  
14 which are not highly populated.

15 Our systems, the generating systems  
16 would be installed in areas which are more  
17 populated, and certainly have far far lower direct  
18 radiation. And so therefore there is no way that  
19 we could ever get to those types of levels.

20 In fact, in the computations that we've  
21 done it would be very difficult for us to go  
22 qualify for any incentive on the basis of the  
23 thresholds that have been proposed in many areas  
24 that we would like to consider being able to put  
25 systems in.

1           The second point regarding that also  
2 deals with the symmetry between us and other  
3 technology. We'd like to see a symmetry between  
4 us and photovoltaic in terms of thresholds that  
5 are used.

6           However, to be fair, and we want to be  
7 absolutely fair, we do use up to 25 percent gas  
8 backup. And so what we feel is the fair thing to  
9 do is to use the same threshold, however make our  
10 threshold higher because of the gas backup that we  
11 use. So instead of incentive for the first  
12 thousand for what has been proposed for PV to be  
13 1000 to qualify for any incentive, we suggest that  
14 our threshold be 10333, which includes the  
15 contribution of the gas. And therefore we feel  
16 we're on the same playing field.

17           Those are my comments. Thank you.

18           PRESIDING MEMBER GEESMAN: Questions for  
19 David?

20           MR. BRAZIL: Just to respond to the  
21 turbine being dropped, that was simply a drafting  
22 error. So we'll put it back in.

23           MR. SAUL: Thank you.

24           PRESIDING MEMBER GEESMAN: Thank you,  
25 David.

1 Manuel Alvarez.

2 MR. ALVAREZ: Good morning,  
3 Commissioners. Manuel Alvarez, Southern  
4 California Edison.

5 I guess I'm here basically to have the  
6 Commission endorse what staff had proposed. We  
7 felt that most of our comments in the initial  
8 filing and workshop were taken into account.

9 We like the idea of the reductions, even  
10 though we had no position on the specific  
11 reduction, we think that's the only signal that  
12 the market sees for cost reductions for the  
13 systems. So we think that's a good policy to keep  
14 in place.

15 What I want to do right now so -- I  
16 basically would like you to endorse what you have  
17 before you today. But I do want to react to a  
18 couple of comments, and as I listen the rest of  
19 the morning and the afternoon, I'll be sending you  
20 some written comments on issues.

21 I want to bring two items up that I  
22 heard this morning that I think you need to  
23 consider. The first one dealt with the muni level  
24 of funding.

25 The proposal is to have the incentive

1 equal across the state. We think you should  
2 maintain that. The issue that the cost  
3 effectiveness of a system depends on the rates is,  
4 in fact, true. But when you look at the rate  
5 schedule of all the investor-owned utilities you  
6 will see a diverse rate schedule.

7 So depending on which market you're  
8 going into you're going to be looking at different  
9 cost effectiveness and rate of returns on all  
10 particular systems. So from my perspective that's  
11 not an argument for changing the incentives  
12 between the muni sector and the investor-owned  
13 sector.

14 The other issue I want to raise to you  
15 is this question of energy output. We had  
16 encouraged you to do that in our initial comments.  
17 I understand the complexities of a warranty and  
18 what that may mean on a legal basis.

19 But I think you have to deal with the  
20 question of consumer expectations. And if the  
21 state's going to mandate a 20 percent renewable  
22 standards, how are you going to account for that;  
23 how are you going to determine what that number  
24 becomes in the future. You need some credible  
25 piece of data on a continuous basis to say you're

1 generating that amount of information.

2 And that's about all I have today. If I  
3 hear anything that I want to present to you, I'll  
4 do that in writing by Monday.

5 Thank you.

6 PRESIDING MEMBER GEESMAN: Questions for  
7 Manuel? Thank you.

8 Michael Theroux.

9 MR. THEROUX: Good morning,  
10 Commissioners and staff members. Thank you for  
11 the long continuing wonderful effort that you have  
12 in the renewable resource program.

13 Today I'm representing first of all,  
14 myself, as a consultant working in the  
15 integrations field. And secondly, the U.S.  
16 Combined Heat and Power Association. Strange  
17 creature to bring into the emerging renewables  
18 picture.

19 If I may, I have four brief areas that  
20 I'll touch on. First of all, having to do with  
21 the incentives, themselves. We're primarily in a  
22 world of photovoltaics certainly, but the emerging  
23 program reaches beyond that.

24 We are at a time in the industry where I  
25 think that the issue of integration in multi-

1       scaler and multi-technologies is becoming more and  
2       more important. And it certainly is what is  
3       emerging, if you will, from the development of  
4       moving from large large systems down into smaller  
5       business and smaller industrial and then into the  
6       residential area.

7                 We're looking at multiple home systems  
8       and areas that we need to be concerned with the  
9       level of integration.

10                I think that there is therefore a reason  
11       perhaps not in dollars-and-cents incentives, but  
12       in perhaps weighting, as one considers which  
13       applications to pursue and to award to.

14                To look at the level of optimization of  
15       the systems and their integration into the home,  
16       into the business. And also to look at the level  
17       of the opportunities for multi-scaler and multi-  
18       technology optimization and integration.

19                From that basis, then, I'd step into the  
20       combined heat and power. We have very little that  
21       we can say within this arena the way that it is  
22       structured for this particular account.

23                We do have solar thermal and we do have  
24       an emphasis on the integration for fuel cells. I  
25       would ask even any arena of solar photovoltaic

1 that we have the opportunity to look at thermal  
2 utilization and optimization.

3 And for those kinds of systems and  
4 companies that are looking at things like the  
5 ability to chill down the back side of a PV  
6 system, the solar integration with the roof,  
7 itself, that aspect, that thermal control be  
8 critical in your assessment of what awards to  
9 present.

10 I think that it bears at least as much  
11 from the validity of the system as the actual  
12 prediction of electricity over time, is that  
13 thermal integration level.

14 PRESIDING MEMBER GEESMAN: How would you  
15 do that?

16 MR. THEROUX: Pardon?

17 PRESIDING MEMBER GEESMAN: How would you  
18 do that?

19 MR. THEROUX: Well, I've seen some nice  
20 examples on the panels -- an area I'm not  
21 specifically familiar with, chilling down the back  
22 side of the panel. We've had these discussions  
23 some time in the past.

24 I would love to see more of this on the  
25 utilization of both photovoltaic and solar thermal

1 in an integrated system. Anything that can move  
2 us in that direction. Anything that will focus  
3 some of the attention and the intent of this  
4 program on the emergence, if you will, again, of  
5 the idea that we can integrate multiple types of  
6 systems into the needs of the chilling and the  
7 heating of the home, itself. And into the actual  
8 fact that the therms involved in the process  
9 system, itself, and the generation are critical.  
10 They are important. They don't just get set off  
11 to the side.

12 There isn't an answer there. I'd just  
13 ask that the staff and the Commission consider, as  
14 we move into this next phase, that thermal  
15 management, if you will, be brought to the front  
16 of this issue. And that optimization for thermal  
17 utilization be considered.

18 I see a strong need, and it was  
19 mentioned by Vince early on, toward having a point  
20 person. I'd like to emphasize, particularly in  
21 the emerging program, but -- and I'll bring that  
22 again tomorrow, a little bit more pointedly, that  
23 perhaps we need something along the lines of an  
24 ombudsman's program so that we have a cleaner path  
25 for redress.

1           We have an industry in the world right  
2           now that's changing just this fast. We need the  
3           flexibility and the program that can respond to  
4           that. So that as the opportunities change, even  
5           during the course of one particular sales  
6           contract, the corporation that is working with the  
7           client can and must be responsive to the client.  
8           I would ask that the state be as responsive to the  
9           situation as the business must be to the client.

10           And that means watching very closely;  
11           having an open pathway for discussions. I love  
12           the idea of the roundtable and the forums. I  
13           think that is a constant process we need to work  
14           with.

15           And within each of the segments of the  
16           program, to clearly identify right from the start,  
17           look, if you've got something that changes, flag  
18           it, this is the person you talk to.

19           Not only for the business, but for the  
20           client, themselves. Any avenue that we can  
21           possible provide and improve on for redress, I  
22           think, is very important to the success of the  
23           overall program.

24           PRESIDING MEMBER GEESMAN: Let me  
25           comment on that. And I'm relatively new here to

1 the Commission. I've been here four months now,  
2 but I was here previously a little more than 20  
3 years ago.

4 I think what I would recommend to the  
5 industry is to make as much use of your trade  
6 associations as possible. I look at the  
7 Commission Staff in the renewables area; it's a  
8 much more talented, deeper and broader staff than  
9 I can recollect the last time the state made a  
10 push on renewable resources.

11 But I will tell you, they're not only  
12 stretched thin now, but going forward they'll be  
13 stretched a lot more thinly as the state scales up  
14 its programs and its expectations.

15 And I think that while we should all  
16 have pretty high expectations in terms of  
17 responsiveness, one of the more efficient ways to  
18 communicate with governmental bureaucracies is  
19 through trade associations.

20 MR. THEROUX: I would certainly agree.

21 PRESIDING MEMBER GEESMAN: And I would  
22 strongly encourage the various industries  
23 represented to focus on that going forward.

24 We'll do the best we can to improve our  
25 responsiveness, but I will tell you, we're going

1 through a scale-up of expectations and demands.  
2 We're not going through any scale-up at all of  
3 resources. In fact, we're going to be lucky to  
4 maintain a steady state in public sector staff  
5 resources over the next several years. And we  
6 just have to be more efficient.

7 MR. THEROUX: I would applaud the  
8 efforts of CalSEIA, for example, bringing in a  
9 whole new arena with U.S. Combined Heat and Power,  
10 and yet Mr. Tutt knows very well that some of us  
11 thrash about terribly trying to get to the point  
12 of the question.

13 And I guess that there is an efficiency  
14 then if you can identify a knowledgeable person so  
15 that it is funneled, the questions are funneled  
16 through a staff member. And I think that is  
17 important.

18 Otherwise the public's ability and the  
19 Association's ability to find the right individual  
20 for a gnarly problem. It's not the easy stuff,  
21 it's the, my goodness, this question seems to be  
22 right in between these two areas. And those are  
23 the ones that we're emerging into; that's what  
24 we're entering into right now.

25 So, if we can have a knowledgeable

1 person dedicated to answering those kinds of inane  
2 questions it would help those of us who humbly  
3 bring them to you.

4 PRESIDING MEMBER GEESMAN: Well, I think  
5 the answer probably is in your particular area I  
6 would expect a half a dozen different people  
7 scattered throughout this building in different  
8 offices and different divisions, and no single one  
9 individual best placed to respond.

10 MR. THEROUX: I would agree. I think  
11 Vince's comment early on was appropriate that  
12 there be an individual within each of the unique  
13 programs. And we've had that in the past. There  
14 are people that are involved.

15 Perhaps a little bit more emphasis as we  
16 go into the new program that this is the person  
17 that you follow things through --

18 PRESIDING MEMBER GEESMAN: Yeah.

19 MR. THEROUX: -- would help. One last  
20 comment and I'll leave you be.

21 It goes all the way back to the  
22 definition of what is renewable and where we've  
23 gone with the emerging program, itself. In the  
24 transition from SB-90 into AB-1890. I will always  
25 bring up the fact that we somehow lost the idea

1 that there might be biomass, bioenergy entered  
2 into the process of emerging.

3 I know why that occurred. I'll bring it  
4 to the front again. But, as a point I will say  
5 that this is the arena that we should be looking  
6 for the new stuff in. The new technologies; the  
7 front-edge applications and integrations and I  
8 would, please, I would encourage the Commission to  
9 continue to dedicate a certain amount of resources  
10 to watching what's next. And realize it may well  
11 take a change in the law in order for you to  
12 address that down the road a little ways. And I  
13 think you're at that point again.

14 Thank you.

15 PRESIDING MEMBER GEESMAN: Okay,  
16 questions for Michael?

17 COMMISSIONER BOYD: I might make a  
18 comment. You have a real fan here in biomass.  
19 I've been following it for several years, both in  
20 my short period of time here and in a previous  
21 job.

22 But all that Commissioner Geesman said  
23 about the stretched resources of the public sector  
24 certainly affect this area, as well as the lack of  
25 the kind of technological breakthroughs that you'd

1 like to see.

2 But we do the best we can to follow  
3 that. And I think all your comments, and the  
4 comments of others relative to point persons and  
5 what-have-you, I think Commissioner Geesman and I  
6 look down at the table. Staff there, and later --  
7 you know, I mean we'll try to see what we can do  
8 to focus the limited resources we have to get you  
9 the answers you want. And to give you as much  
10 feedback as you can.

11 All we can give you sometimes is just  
12 assurances that we're cognizant of the problems  
13 you bring to us. And the staff does the best they  
14 can. I'm very impressed with the staff here, as  
15 Commissioner Geesman said, and we'll just keep  
16 trying to respond to the issues as best we can.

17 We just turned a very bad corner here in  
18 California unfortunately, and we're going to be  
19 sorting out how much service we can give the  
20 public versus how much the public's willing to pay  
21 for. So just watch this space, I guess is all I  
22 have to say.

23 MR. THEROUX: Well, I think ask and you  
24 shall receive from the public side. I see huge  
25 emphasis from the trade associations and the

1 nonprofit associations. And from the Department  
2 of Energy and the EPA, actually, to bring forces  
3 to bear to assist these kinds of programs.

4 And I personally am working on that  
5 constantly. And I know that the Commission is  
6 aware that there are many groups as such.

7 I think that's the interface. I,  
8 perhaps the ombudsman's position is more toward  
9 individual projects and specific questions. We  
10 must keep the forum interface going with the  
11 groups such as this.

12 But as we delve into these projects, the  
13 whole world changes once you got the contract on  
14 the table. And it is at that point that we need  
15 the clear identification, and here's the person to  
16 go to.

17 There's John Q. that's out there trying  
18 to buy something for his large home. He doesn't  
19 know. He doesn't know even who CalSEIA is,  
20 perhaps. But, I think I would focus your  
21 attention, yes, we need this element of it. But,  
22 please, also provide a contact entry point for the  
23 specific contract, itself.

24 Thank you.

25 PRESIDING MEMBER GEESMAN: Ryan Park.

1           MR. PARK: Thank you. I'm Ryan Park;  
2 I'm representing Renewable Energy Concepts. Thank  
3 you for holding this meeting to accept comments.

4           If I could just start off by just kind  
5 of agreeing with both Todd and Dan about the 4.25  
6 and 5 percent rampdown. It just would be a little  
7 bit easier on our consumers, as well as the  
8 companies, so I'll voice my opinion on that.

9           Also I'm going to agree with Mike Bergey  
10 on that, the reduction in the cost is a bit steep.  
11 And I think as far as we install wind, as well as  
12 solar electric, and that sort of major cost  
13 production, and the rebate would be a little bit  
14 difficult.

15           Also I wanted to say I like the approach  
16 that you're kind of taking on a warranty --  
17 production. However, we are kind of stepping in  
18 this grounds where it's going to be difficult to  
19 look over.

20           There's unpredictable things that go on  
21 with warranty. Maybe you could do something with  
22 when the reservation is filled out, some very  
23 conservative number of where the production's  
24 going to be. That would be easier to enforce.

25           The main comment that I'm here to

1 comment on is the 75 percent affordable housing.  
2 On the surface it seems great. I mean we  
3 obviously want affordable housing with solar on  
4 it.

5 However, the problem we see with that is  
6 if the intent of this rebate is to put as much  
7 solar up as possible, it will do basically just  
8 the opposite.

9 Also, for many of the small companies  
10 that are out there, we won't be able to touch any  
11 of that. It'll be several large companies that  
12 will come in the large developments and take up  
13 large amounts of this rebate.

14 But completely recommending against  
15 affordable housing with solar is kind of against  
16 the grain. So what we would like to recommend is  
17 maybe some sort of a cap, some sort of a dollar  
18 amount that you would put aside for that program.  
19 Right now it's kind of wide open.

20 So, with that, thank you very much.

21 PRESIDING MEMBER GEESMAN: Thank you.

22 Questions for Ryan?

23 MR. BRAZIL: I just had one question.

24 You suggested that we have a performance number on  
25 the form?

1 MR. PARK: Right.

2 MR. BRAZIL: Who would provide the  
3 estimate? Would we develop the methodology for --

4 MR. PARK: I mean here's the thing.  
5 We're noticing a lot when we go up submitting some  
6 sort of a quote to a customer, we have a  
7 production number on there for a system.

8 You know, we're losing sales to other  
9 companies having literally the same size system  
10 and putting double amounts on there.

11 When we say on the rebate forms just  
12 something that will hold the company accountable.  
13 You know, there are standards out there for how  
14 much a system should produce. Drop it by 20  
15 percent, and have that on there.

16 If a company puts up there, puts a  
17 number that's significantly higher than what comes  
18 out at the end of the year, maybe we have an  
19 annual checkup. And ask the company to do one  
20 review on their past customers. It would be  
21 benefits for them because they'll be in contact  
22 with their customers. And then also hold them  
23 accountable.

24 So, maybe annual process, come back and  
25 let you know how it performed.

1           PRESIDING MEMBER GEESMAN: Any other  
2 questions? Thank you, Ryan.

3           Tom Starrs.

4           MR. STARRS: Good morning,  
5 Commissioners, Members of the Staff, my name is  
6 Tom Starrs; I'm the President of Schott Applied  
7 Power Corporation, in Rocklin, California, about a  
8 half an hour east of here.

9           We are a large systems integration  
10 company. We design and sell prepackaged pre-  
11 engineered systems for residential and commercial  
12 ongrid market and also for the offgrid, grid-  
13 independent market.

14           And we make those systems available both  
15 ourselves directly as turnkey systems, and through  
16 a network of dealers and installers.

17           Generally speaking, I support the  
18 testimony that Dan Shugar gave earlier on behalf  
19 of CalSEIA. We are an active CalSEIA member. And  
20 have worked closely with the Association to  
21 develop our positions on these topics.

22           I want to go through a half dozen points  
23 and take perhaps five minutes in doing so.

24           First, the proposed rebate levels, \$4 a  
25 watt with a decline of 25 cents a watt every six

1 months. It's too big a cut. And too steep  
2 continuing decline.

3 This will cause a significant decrease  
4 in our business, and will cause a major disruption  
5 in the market that has developed in the last two  
6 years. And it's just precisely that kind of  
7 disruption that I think we need to avoid.

8 CalSEIA's proposal is \$4.25 a watt  
9 rebate with a 5 percent per year decline. I think  
10 this is much better and more in line with what's  
11 necessary and appropriate under the circumstances.

12 I will say I think the ideal number  
13 might be tied to the historical cost production in  
14 PV system prices, which I think is a little higher  
15 than 5 percent. I don't think there's any  
16 consensus figure, but I think -- consensus figure  
17 is probably closer to 7 or 8 percent per year.

18 With respect to the rebate levels I  
19 think the single most important thing is  
20 predictability and availability of the funds. And  
21 so I'd strongly support having the Commission lay  
22 out well in advance what the rebate level is.  
23 What the changes are going to be over time.

24 I do not support the idea of revisiting  
25 this every six months, because I think that lack

1 of predictability will cause additional problem,  
2 rather than be part of a solution.

3 The obvious dilemma is the total funding  
4 levels that we have. Because if you look at the  
5 total funding that's expected, we're going to run  
6 through that, at anything like current rebate  
7 levels, quite quickly. And in a way that's the  
8 right kind of problem to have, but I think we need  
9 to look for solutions for that that, again, try to  
10 avoid disruptions in the market by not having  
11 adequate buydown money available.

12 And I support what CalSEIA is proposing,  
13 which is to take money, I think in particular the  
14 most compelling argument to me is to allocate  
15 funding from the customer credit account. Which  
16 was designed to support customers who make green  
17 power investments.

18 As we know, the green power markets  
19 have, in effect, been decimated by the changes in  
20 the electricity market in California over the last  
21 couple of years. And it seems to me that this is  
22 a great proxy for that. If we want to encourage  
23 customers who want to give them money to buy green  
24 power, then let's give them money to buy their own  
25 green power. So it seems to me that that's not

1       only an adequate justification, but a darn good  
2       idea.

3                 With respect to the allocation of the  
4       total funding levels, I support what Dan Shugar  
5       mentioned earlier. I think the 90/10 percent is  
6       too much. I don't think we should be putting all  
7       our eggs in the PUC-administered programs basket,  
8       if you'll excuse the metaphor, for an ongoing  
9       basis.

10                I personally think that this program is  
11       looked to by the other states, and even other  
12       countries around the world, as an archetype of  
13       what people should do. And I think that we need  
14       to continue to have the CEC involved in  
15       implementing and administering commercial funding  
16       opportunities.

17                Moving on to the performance based  
18       incentive proposal. Great concept, bad plan.  
19       This approach would flatly devastate our  
20       commercial business as soon as it went into  
21       effect.

22                I did just a little bit of number  
23       crunching while I was here and from the numbers  
24       that were in the guidebook, in the draft  
25       guidebook, it looked to me like the proposed

1 maximum buydown funding for 100 kilowatt system  
2 would be 172,500. That's based on the highest  
3 tier of funding that would be provided.

4 And that's 38 percent of the rebate that  
5 would be available under the current program at  
6 4.50 a watt. And 43 percent of what the  
7 Commission's proposed for systems under 30  
8 kilowatts. That is to say at \$4 a watt.

9 I don't see any explanation in the  
10 proposed plan for why you're actually moving  
11 towards a, in effect slashing the commercial scale  
12 rebate by 40 to 60 percent by shifting to a  
13 performance based incentive.

14 So, again, I very much support the  
15 concept of moving towards a performance based  
16 incentive. But if you implement what you're  
17 proposed here, you will absolutely devastate the  
18 commercial scale market in California.

19 My proposal would be for the Commission  
20 to spend a year doing a much more systematic and  
21 careful assessment of what that plan should be;  
22 what it should look like; how it should be  
23 structured. And then roll it out a year from now.

24 And in the meantime have the commercial  
25 scale systems operate under the same principles as

1 the under 30 kilowatt systems.

2 I don't pretend to have done a year's  
3 worth of analysis on this topic. But I will give  
4 you two what I think of as sort of operating  
5 principles on how such a performance based  
6 incentive should be designed.

7 The first is that the payments should be  
8 front loaded, heavily front loaded. I think you  
9 at the Commission are extremely well aware of the  
10 high discount rates demonstrated by customers in  
11 making energy efficiency investments, for example.

12 And so it really doesn't work unless the  
13 payment is very high and continues to be very  
14 high, then I think there is a need to front load  
15 the payments. Now the proposal does do that by  
16 providing the payment over three years.

17 But, again, the total payment levels are  
18 vastly inadequate to be commensurate with the  
19 current level of support.

20 So payments should be front loaded. And  
21 the second premise or principle is that the  
22 discounted present value of the sum of the  
23 payments I think honestly should be higher than  
24 the equivalent of the current buydown program.

25 And the reason I say that is because

1 both to take into account the time value when  
2 you're paying out the incentive over a period of  
3 years, rather than all at once, up front. And  
4 second of all, because you're transferring some of  
5 the risk to the customer. And I think you should  
6 reward the customer for agreeing to make that  
7 shift, to getting paid out over time based on the  
8 actual performance of the system.

9 So, those are the two sort of principles  
10 that I would consider initially in trying to move  
11 forward with the development of a reasonable  
12 performance based program.

13 In terms of system performance  
14 monitoring, I agree with CalSEIA's position  
15 specifically with respect to the location of the  
16 meter that could in any way be considered a  
17 utility meter. But I think that -- I also agree  
18 with CalSEIA in support of the fundamental  
19 principle the customer should know how much energy  
20 their systems are producing.

21 We at Schott Applied Power currently  
22 provide that capability with every one of our  
23 prepackaged systems, whether it's our smallest  
24 residential systems, or our largest commercial  
25 systems. We include a meter, in fact we have

1       redundant metering because we include both the  
2       inverter with the display and a separate utility  
3       revenue grade meter with every residential system  
4       we sell.

5                   On the larger commercial scales it seems  
6       like we do the same thing that PowerLight does,  
7       which is include a very sophisticated  
8       instrumentation and monitoring system, data  
9       acquisition system, with every commercial scale  
10      system we sell.

11                   PRESIDING MEMBER GEESMAN:  And do you  
12      provide a warranty of any particular performance  
13      level?

14                   MR. STARRS:  No, we don't.

15                   PRESIDING MEMBER GEESMAN:  You provide a  
16      projection?

17                   MR. STARRS:  We do.

18                   PRESIDING MEMBER GEESMAN:  In writing?

19                   MR. STARRS:  We do.  And speaking to  
20      that point, which is my last point, the warranted  
21      output.  I'm frankly less troubled by some of the  
22      other speakers by this, at least for commercial  
23      scale systems.

24                   I think that I agree with some of the  
25      concerns that have been raised.  Dan Shugar, in

1 particular, raised a legitimate concern regarding  
2 the establishment of the contingent liability. We  
3 already do that for warranty service. And we're  
4 basically upping the ante in doing so in a way  
5 that creates significant uncertainty.

6 So my biggest caution and concern is I  
7 frankly don't know what the economic implications  
8 would be for us in offering such a warranty for  
9 the larger commercial scale systems.

10 But I think the concept is the right  
11 concept. And I think the uncertainties are  
12 manageable. And I think the efforts that were  
13 mentioned in the guidebook about, you know, the  
14 appropriate caveats for, you know, you need to  
15 have customers making sure that they monitoring  
16 soiling and agree to clean the array.

17 We need to make customers responsible  
18 for not building or planting trees that will shade  
19 the system. And we shouldn't be responsible for  
20 Acts of God, with reference to Dan's Mount  
21 Pinatubo example.

22 But all those things are covered, I  
23 think, adequately in there. So I'm less troubled  
24 by that than some of my colleagues.

25 I think that's it. Any questions?

1                   PRESIDING MEMBER GEESMAN: Questions for  
2 Tom?

3                   MR. MASRI: I have one.

4                   PRESIDING MEMBER GEESMAN: Marwan.

5                   MR. MASRI: Tom, do you supply a range  
6 of system sizes, small, as well as large?

7                   MR. STARRS: Yes.

8                   MR. MASRI: And large ones would get to  
9 be lower cost?

10                  MR. STARRS: Yes.

11                  MR. MASRI: Per watt?

12                  MR. STARRS: Per watt, yes.

13                  MR. MASRI: Roughly what's the  
14 difference say between a 10 kilowatt and 100  
15 kilowatt system?

16                  MR. STARRS: I'd have to -- I can't tell  
17 you right offhand.

18                  MR. MASRI: Okay.

19                  MR. STARRS: I can find out, though, and  
20 give you a sense --

21                  MR. MASRI: Okay, thank you.

22                  MR. STARRS: Any other questions?

23                  MR. TUTT: I just want to reassure you,  
24 Tom, that we didn't intend to slash the rebate  
25 levels for performance based by as much as you're

1 suggesting.

2 The idea there, I guess, doesn't come  
3 clearly out in the guidebook, is that by providing  
4 performance based incentives there would be a  
5 greater amount of tax credit and other incentives  
6 that would offset the reduction in cost of part of  
7 the rebate that we're responsible for.

8 We're trying to work that level out so  
9 that it's roughly equivalent. But we'll work with  
10 you on how those -- what those amounts are.

11 MR. STARRS: Well, again, I think my  
12 biggest concern is rolling this out immediately  
13 with the uncertainty that I think we have. I mean  
14 I fully support the idea, but I think we need more  
15 time to figure out how best to do it. And I  
16 personally will agree to work with you in doing  
17 it.

18 MR. TUTT: Thank you.

19 PRESIDING MEMBER GEESMAN: Thank you,  
20 Tom.

21 Brad Smith.

22 MR. SMITH: Good morning. Thanks for  
23 the opportunity to address you. My name's Brad  
24 Smith; I'm with Power Top Solar. We are a  
25 retailer and installer of photovoltaic systems.

1 And I should point out we'll also be presenting  
2 written comments, so I'll just hit on a couple of  
3 points that we think are pretty key here, and that  
4 haven't been, I think we can add something to it,  
5 in previous discussions.

6 I'm going to address the idea of the  
7 warranted output estimate. And I would have to  
8 say that I disagree with Tom's position that it  
9 won't be impactful. In larger systems I agree  
10 that that's the case.

11 In large commercial systems you're going  
12 to have detailed monitoring systems. You're going  
13 to have people -- you're going to have individual  
14 people doing pretty regular monitoring. And  
15 you'll be alert to systems to potential problems  
16 such as dirt, shading and so forth.

17 But in the residential environment I  
18 think this approach really puts the retailers and  
19 installers on the hook for a lot of issues that  
20 are completely beyond their control.

21 At the same time I want to say that I  
22 recognize the need to get some consistency in the  
23 output estimates that are provided to, again to  
24 consumers out there, or actual consumers out  
25 there.

1           We've seen some things that are just in  
2           the marketplace, that have come from other  
3           suppliers and retailers that are just absolutely  
4           ridiculous. Just completely unreasonable.

5           But, I think there's really an approach  
6           out there that's actually used on the Energy  
7           Commission's own website right now that reflects  
8           pretty broadly accepted, and it's what, in our  
9           understanding, is a pretty good means of -- pretty  
10          good model of estimating output.

11          And that's the clean power estimator.  
12          It really uses -- it uses National Renewable  
13          Energy Laboratories based approach. It  
14          corresponds to some of the software products out  
15          there.

16          And more importantly, it provides an  
17          avenue that's currently available to every  
18          retailer and every consumer free. And would  
19          provide apples-to-apples comparisons across the  
20          entire marketplace.

21          So, it wouldn't increase the cost basis,  
22          which I think is one of the critical elements here  
23          in moving forward and addressing the long-term  
24          goals of this program. That's bringing system  
25          costs down.

1           So we would strongly advocate using an  
2           approach more along those lines, rather than  
3           providing a warranted, a warranted output estimate  
4           is really going to force, I think, a lot of  
5           retailers to low-ball those numbers. Or if  
6           subsequent changes prevent low-balling those  
7           numbers, then they still have to incur an  
8           additional liability. And that will ultimately  
9           increase costs.

10           With respect to the rebate amount, I  
11           want to say that we largely agree with some of the  
12           views presented. Most of the other people  
13           speaking for CalSEIA earlier, but a couple of  
14           specific points. One, I think it should be  
15           highlighted that changing the inverter efficiency  
16           rating used in the rebate calculations from peak  
17           efficiency level to 75 percent efficiency level is  
18           going to reduce the rebate amount a couple of  
19           percentage points right off the bat.

20           So I think that represents a de facto  
21           decrease in the ongoing rebate amount that's  
22           already in there and should be considered in the  
23           context of other rebate reductions.

24           Also want to add additional emphasis  
25           that reviewing the rebate amount every six months

1 really adds a great deal of instability which we  
2 all know is anathema to business.

3 One additional point with respect to the  
4 rebate amount is that we think it would be wise to  
5 take into account the needs, the situation with  
6 very small residential systems, say under 4  
7 kilowatts. Because of the impacts of some of the  
8 things like permitting costs, transportation  
9 design and various other factors that by no means  
10 vary linearly according to system size.

11 And it's very difficult right now to  
12 make a positive cost/benefit rationale for a  
13 system under 3 kilowatts.

14 With the proposed changes here we see it  
15 as having the effect of really largely eliminating  
16 sales of systems, you know, certainly around 3  
17 kilowatts, and eventually 4 kilowatts and 5  
18 kilowatt systems, I think will be largely  
19 eliminated because of the fact that they just  
20 simply won't be able to be cost effective anymore.

21 In our experience it's the type of  
22 consumers that tend to adopt those systems tend to  
23 be early adopters. They largely tend to be people  
24 with a bit of a green bent, who have already  
25 worked down their own electricity consumption, and

1       thus don't require a large system.

2               But, they're predisposed to move toward  
3       the technology and help to espouse its utility and  
4       generating future more widespread acceptance in  
5       the marketplace.

6               And I think we need to recognize the  
7       importance of continuing to serve these early  
8       adopters who require very small systems in  
9       reaching the long-term goals of the program.

10              And the last point I wanted to add was  
11       again a re-emphasis on the need to be cognizant in  
12       any of these changes of the impact it will have on  
13       the overall cost of the system.

14              No matter how small, anything that  
15       increases the cost basis of the system is really  
16       working against the long-term objectives.

17              I think one of the examples is  
18       performance monitoring systems on very small  
19       systems. Say a 3 kilowatt residential system, I  
20       can tell you when presented with a choice, most  
21       consumers, the choice of purchasing a modern  
22       system as an option, most consumers say no. I  
23       have a pretty good idea what my electricity  
24       utilization is and I don't want to pay an  
25       additional \$200, \$300, \$400, \$500 for that. So,

1 imposing that requirement across the board  
2 increases the cost just a bit.

3 And lastly on the point of cost is it's  
4 our view that we could make considerable  
5 improvements in the timeliness of the overall  
6 cycle here.

7 Some of the changes that have taken  
8 place over time include providing evidence that  
9 the customer has paid 100 percent of their  
10 obligation prior to submitting for a rebate.  
11 That's something that if you're still waiting  
12 around to collect on the last invoice for the  
13 customer's purchase, and that sets back your  
14 rebate application confirmation by 30 days, that,  
15 again, it's a cost of capital. There's a direct  
16 expense associated with that.

17 And, additional changes such as  
18 providing evidence of interconnection could  
19 further delay that. Again, providing -- cost of  
20 capital that increases the cost basis of the  
21 systems.

22 And those were the extent of my  
23 comments.

24 PRESIDING MEMBER GEESMAN: Questions for  
25 Brad?

1           MR. TUTT: I have one question. Talking  
2 about the instability of changing rebate levels or  
3 revisiting what they're going to be every six  
4 months.

5           MR. SMITH: Um-hum.

6           MR. TUTT: I guess we're proposing a  
7 decline in rebate levels similar in a sense to a 5  
8 percent decline a year. Not at the same kind of  
9 decline, we're also proposing a system where we  
10 could avoid that decline, if we wanted to.

11           Is it the uncertainty of avoiding the  
12 decline that's a problem? I mean if we just have  
13 25 cents a year, or 5 percent a year decline, with  
14 no opportunity to change it, would that be better  
15 in your mind?

16           MR. SMITH: You were saying would  
17 reviewing annually be better?

18           MR. TUTT: No, --

19           MR. SMITH: -- timeframe or just setting  
20 it in stone?

21           MR. TUTT: -- would a set decline set in  
22 stone reduce the instability for you?

23           MR. SMITH: Yes, I think that would to  
24 some degree. The flip side of that is, you know,  
25 I think even if the process is set in stone like

1 that, with the frequency of those changes it  
2 creates confusion for the consumer.

3 I don't recall who mentioned it earlier,  
4 but I think in talking about a six-month sales  
5 cycle is really quite legitimate. And from a  
6 consumer perspective, they get a price quote with  
7 an anticipated rebate amount.

8 And when they finally make their  
9 purchase decision they find out that, oh, it's  
10 going to cost you more. I think that's very  
11 detrimental to future sales. A lot of those  
12 people are going to walk away. Increase the sales  
13 of marketing costs for the industry, SG and E  
14 increases, the cost basis increases.

15 So, there are going to be direct  
16 penalties associated with that.

17 And it's, just right now, the two  
18 alternatives for the rebate calculation, 50  
19 percent and \$4.50 a watt, is beyond most  
20 consumers. It confuses the heck out of them.

21 MR. TUTT: I understand.

22 MR. TRENSCHEL: You said that you pretty  
23 much agreed with the CalSEIA proposal, but then  
24 you mentioned that for small systems you thought  
25 the cost was higher.

1           But did you have a specific  
2           recommendation on what you thought the rebate  
3           levels should be for small systems, these under 3  
4           kilowatts?

5           MR. SMITH: Well, I would say that the  
6           existing level of \$4.50 a watt is good enough  
7           for -- well, it's good enough for us to sell 3  
8           kilowatt systems relatively successfully.

9           I think if it -- but 3 kilowatts is  
10          really, in our experience, the cutoff at this  
11          point. So, if that figure decreases from \$4.50 I  
12          think it will -- we'll find the bottom of the  
13          market being more like 4 kilowatt systems. The 3  
14          kilowatt systems won't be practical from a cost/  
15          benefit perspective.

16          You'll still have some people that will  
17          say I'll pay a lot more because I'm a diehard  
18          environmentalist, but they'll be few and far  
19          between.

20          So I guess I was saying that the current  
21          level would be pretty appropriate at this time for  
22          systems in that size range, say under 4 kilowatts.

23          COMMISSIONER GEESMAN: Okay, thank you,  
24          Brad.

25          MR. SMITH: Thanks very much.

1 COMMISSIONER GEESMAN: Darryl Conklin.

2 MR. CONKLIN: Good morning,  
3 Commissioners. I would first like to say thank  
4 you for the opportunity to speak to you. The  
5 comments that I've prepared will be submitted in  
6 written content to the docket for the record.

7 I'd also like to say hello to the  
8 members of the CEC Staff and the distinguished  
9 guests. There's been so much material presented  
10 here that I think a lot of it is being echoed.  
11 And I would echo a lot of the same comments. So I  
12 think the boiling down of the information that you  
13 received, even though there's been some  
14 redundancy, there are still minute differences in  
15 what each of us perceive as important aspects of  
16 the CEC's program.

17 Our company and other companies such as  
18 RTI have increased staff and added employees to  
19 meet the industry's growth driven by CEC programs  
20 and the CPU self generation program. And  
21 hopefully the California Power Authority's  
22 program, if it should come into effect here.

23 The things that we have seen during this  
24 time, the effects of the buydowns, price per watt  
25 rebate, and a decrease of that funding from the

1 current level of 4.50 to a level of \$3, as was  
2 first put out, would have an effect similar to  
3 that of Chairman Alan Greenspan of the Federal  
4 Reserve announcing an interest rates increasing  
5 dramatically from 4.5 percent to 5.5, an increase  
6 of almost 22 percent.

7 The shockwave of this impact will cause  
8 the market to react, my prediction, in an  
9 unfavorable manner. Dan Shugar's comments are  
10 pretty close to where I think a lot of people have  
11 been saying, but then the last speaker addressed  
12 the smaller system.

13 It costs the same amount to channel and  
14 put together the paperwork and go through the  
15 process for a small system as it does one of the  
16 larger ones, less than 30 kW.

17 I base this prediction upon the  
18 program's past history of initial implementation  
19 levels of \$3 per watt; and the same responsive  
20 customers to first find out about the program, and  
21 to second, to cost justification or economic  
22 feasibility for them to find the reason in their  
23 mind to make this investment, other than as early  
24 adopted or feel good about something they've done  
25 with their capital.

1           The initial program also left the  
2           lingering feeling with customers that were the  
3           first ones in at the \$3 level when it was raised  
4           to 4.50, as what did I do wrong by embracing your  
5           program early on. And that stigmatism was felt  
6           when we were marketing and talking to people and  
7           looking for customer references. And they'd say,  
8           what, you're getting 4.50, I only got 3. So you  
9           could see how that didn't play out real well with  
10          our track record and prior experiences.

11          I'm going to move to the next. There's  
12          a lot of discussion with the self generation  
13          program now coming up and starting to have some  
14          awareness. And the reallocations of funds. This  
15          is where I probably differ apart with my  
16          colleagues in the industry here.

17          The reallocation of funds and  
18          elimination of large scale systems buydown rebates  
19          above 30 kW from the CEC program, fairness in  
20          spending, due to the available funding for these  
21          systems under California's PUC self generation  
22          program, I'd like to see the funds moved from the  
23          above 30 kW into the lower brackets. Fairness in  
24          spending these smaller system sizes funding levels  
25          at 60/40 of each of the 10 through 30 kW funding

1 levels which had been done in the past.

2 The next area I believe that we could  
3 see some movement of funding is under the CEC  
4 consumer education funding. Suggested 1 percent  
5 of the funding up to a maximum of 6,750,000 over  
6 the next five years.

7 Assuming the funding levels stayed at  
8 4.50 per watt, then the following calculation can  
9 be made. The 6.75 million, divided by 5 years, is  
10 1.35 million per year of educational contracts for  
11 public outreach activities.

12 If this amount was reallocated to the  
13 emerging renewable program, then the following  
14 could occur. You'd take the 1.35 million; divide  
15 that by 4.50 a watt. You'd end up with 300,000  
16 watts. Divide that by 1000 to convert it to  
17 kilowatts. You end up with 300 more kilowatts of  
18 installed PV capacity.

19 You divide that by an average system  
20 size of 2.5, which would be the smaller  
21 residentials that you've now focused your market  
22 at. And you'd reach 120 more people and systems  
23 and neighborhoods directly with this clean energy  
24 technology.

25 Further extending this idea, if you take

1 the 120 systems over the next five years, you'll  
2 get 120 times 5, 600 more systems in homes. Which  
3 using the old philosophy that if you tell a  
4 friend, then he tells a friend, eventually  
5 everyone knows your secret.

6 The CEC workshop in November revealed  
7 that the contract for educating the public which  
8 conducted surveys had actually been working on  
9 teaching us, as retailers, how to market our  
10 product better.

11 And while I shared this openly at that  
12 workshop, I was -- basically brought to my  
13 attention that I was criticizing the CEC's  
14 program. I think that sometimes a dissenting  
15 voice in public, like those that say "no war", can  
16 sometimes be a good thing. Especially if I'm a  
17 man that served for 21 years in the Air Force.  
18 We have to have some people that look and play the  
19 devil's advocate.

20 The next area of grave concern for our  
21 industry is the CEC warranty requirements.  
22 Included in the emerging renewable resource  
23 program guideline, all warranty compliance  
24 requirements and those who assume these  
25 liabilities for these issues include -- should

1 have included example in the document and  
2 definitions that meet the State of California  
3 Office of the Attorney General's Office. Implied  
4 warranty coverage requirements.

5 We were provided an example at some  
6 point several years ago. I think Renewable  
7 Technologies was one of the first companies to  
8 openly, in 1997, have a five-year warranty on  
9 workmanship.

10 The State Contractors License Board only  
11 requires a one-year workmanship warranty. So,  
12 we've had our first customers come out from  
13 underneath that warranty. We've learned a lot.

14 Some of the things that we've learned is  
15 the cost of the CEC warranty compliance to  
16 installers versus manufacturers. For instance,  
17 the inverters and charge controllers that fail,  
18 and I'm not afraid of saying names. Because --  
19 loss of UL listings was a very black eye to  
20 appease an industry of over power quality issues  
21 and lightning strike anti-eye-wounding protection.

22 The further manufacturing problems  
23 occurred when out of the box failures from the  
24 SunTide product due to -- ware configurations that  
25 existed in it caused additional black eyes to us

1 in front of the customers.

2 Followed by a C40 SuperVision failure  
3 for the charge controller to maintain proper  
4 operation and functionality.

5 The SMA problems; again, another  
6 inverter manufacturer. The derating due to  
7 operating temperatures and thermocouple ratings  
8 allowed by UL recognition process. ISO, high out  
9 of the box failures that were not -- the  
10 manufacturers not having any public disclosure to  
11 us on what their past records.

12 My recommendation. Should the CEC  
13 implement manufacturer's product reporting under  
14 the nonsubstantive changes guidelines to track and  
15 bring to light publicly on the ongoing problems  
16 with the use of emerging technologies and the  
17 infancy mortality rates that occur with loss of  
18 power production tied to customer payback for  
19 system.

20 In January I was one of the members at  
21 the San Francisco PV Roundtable Forum. It was  
22 when I brought up the performance based contracts.  
23 We have been, as other industry players,  
24 instituting data acquisition systems to see just  
25 how economic it would be if we had performance

1 based contracts and leasing options for our  
2 customers.

3 This is putting your money where your  
4 mouth is, and saying to your customers, we're not  
5 just there until the subsidies run out. We're  
6 there for the long haul.

7 Again, what is a warranty, it's written  
8 on a piece of paper and says it's good for five  
9 years, if you're out of business in four.

10 COMMISSIONER GEESMAN: And what's your  
11 experience with the leasing model, then?

12 MR. CONKLIN: We have two that are  
13 currently up. We've run into some problems and  
14 we're trying to work through it with staff.  
15 Again, we're engineers at our corporation. We're  
16 engineers, C10s and C46s. What I've found now is  
17 I need patent attorneys, lawyers to deal with  
18 these other outside issues. It's a whole  
19 different realm.

20 And then you have the State Board of  
21 Equalization that's looking at the use tax that,  
22 hey, technically you're now becoming an energy  
23 service provider, and you fall in that realm of  
24 the use tax for energy production that you've  
25 generated on someone else's facility.

1           So, there's so much meat in your  
2           guidebook and your program that I don't want to  
3           belabor, and I respect the time that you've given  
4           us to talk. I'll try to address my comments on  
5           the surface, and then submit the other details in  
6           writing.

7           COMMISSIONER GEESMAN: Very good.

8           MR. CONKLIN: This was mentioned but I'd  
9           like to again hit it. Increased burden of CEC  
10          paperwork requirements. And I compare this with  
11          the self gen program. And turn-around time of  
12          signed confirmation forms and rebate checks.

13          Strong businesses without the outside  
14          funding, which are successful, and are showing  
15          profits, without giving up control and bringing in  
16          shareholders and/or taking your company public or  
17          subservient to a large oil company are faced with  
18          the lack of being able to produce the same amount  
19          of cash flow.

20          So, it's critical. And Marwan's staff  
21          has been very good about turning paperwork around.  
22          I know they've been inundated since the increase  
23          in the awareness of the program and people saying  
24          I want to get in now.

25          But now the requirement for signed

1 interconnection agreements brings up the point  
2 that you're waiting on the utility, who we've  
3 found in the past, that we have to send a  
4 registered certified letter to make sure that  
5 someone doesn't say, well, the chairman ate, the  
6 vice president ate that form, and we're looking  
7 for it. So that we know when they received, who  
8 received it and can get it back.

9           Now means there will be closer to a 60-  
10 day turnaround from the final sign-off of the  
11 building inspection that occurred so that  
12 technically we've already got a contract. It may  
13 be new service, I can understand some of these.  
14 But we've got a signed contract, we have the  
15 utility customer in a qualifying area, and we're  
16 using qualified equipment that has been approved  
17 by the building inspector and finalized.

18           We're looking at a delay of another 30  
19 to 60 days for sometimes the preparallel -- we  
20 have preparallels, another horror story, that are  
21 being brought up that should have occurred in  
22 March. And somehow the host utility has let them  
23 fall through the cracks. Which, again, burdensome  
24 for our staff to do all this massive tracking, as  
25 we move into doing -- we're up to probably around

1 300 systems that we've done now.

2 So, it's -- and they vary from 2.5  
3 kilowatts all the way to 563 kilowatts. It's much  
4 easier for us to focus on a 563 kilowatt system --

5 COMMISSIONER GEESMAN: Sure.

6 MR. CONKLIN: -- than it is a 2.5. So  
7 what do I do? Do I deny those customers? A  
8 salesman's attitude would be, yeah, look at the  
9 commission level.

10 In closing, at one time there was a  
11 suggestion that we put forth to the CEC about  
12 multiple meters. There is a provision in the  
13 guidebooks that limits multiple meter clients with  
14 one APN, assessors parcel number.

15 If you have a commercial client that may  
16 want to put clean technologies and provide the  
17 power to his tenants, he's limited to just one  
18 system. And where the opportunity may be to put  
19 in three or four.

20 That is another area. Again, there's a  
21 lot here to go over. And to discuss. I'll submit  
22 it in writing to you so that it can be looked at  
23 and reviewed --

24 COMMISSIONER GEESMAN: Good.

25 MR. CONKLIN: -- in the docket. Thank

1 you for your time.

2 COMMISSIONER GEESMAN: Questions for  
3 Darryl? Thank you very much.

4 (Applause.)

5 COMMISSIONER GEESMAN: Mark Liffman.

6 MR. LIFFMAN: I'm Mark Liffman from  
7 Solar Depot. And -- regrets that he could not be  
8 here today.

9 I'd like to begin by -- we will submit  
10 written comments tomorrow. I'd like to begin by  
11 thanking the CEC and those associated with  
12 emerging renewables program in particular for  
13 drafting revised guidebook that is sensible and  
14 carefully drafted and reflects most of the  
15 thoughts and opinions that were provided by the  
16 industry participants at the previous hearing.

17 We have relatively few points of  
18 commentary. First we'd like to commend the CEC  
19 and the very sensible path of predictable phase-  
20 out of the buydown program. This gives us the  
21 ability to plan ahead and predict the phase-out  
22 for our customers.

23 We'd like to echo the comments of Dan  
24 and CalSEIA that the phase-out is probably too  
25 rapid. If the CEC had the power to phase out the

1 many subsidies for fossil fuel at the federal and  
2 state level over the same timeframe, we would  
3 fully support --

4 (Applause.)

5 MR. LIFFMAN: -- the path of the  
6 reduction. But given the CEC's inability to do  
7 that, we think it's too rapid.

8 COMMISSIONER GEESMAN: Maybe we should  
9 work together in Congress to --

10 MR. LIFFMAN: We do look forward to the  
11 continuing challenge to reduce the price of solar  
12 over the coming years. And we believe that  
13 eventually we will be able to compete with  
14 subsidized fossil fuel prices.

15 We also commend the CEC promoting the 50  
16 percent limit on the buydown program. This had  
17 the effect of putting an artificial floor on  
18 prices. In order for producers to have the  
19 correct incentives, the marginal benefits of price  
20 reductions should flow entirely to the consumer.

21 Second major point. We'd like to  
22 challenge the grid interconnection requirement, or  
23 the requirement of having a grid interconnection  
24 for inverters. CEC funded systems should displace  
25 electricity and reduce demand from the grid. But

1 it's not required necessarily to be grid  
2 connected.

3 This requirement will have perverse  
4 effects. For example, we sell a photovoltaic  
5 powered pool pumping system that does not require  
6 connection to the grid. Pool pumping is a  
7 uniquely well suited application for solar power.  
8 The demands of the pool pump and the amount that  
9 you're pumping are fairly well correlated to the  
10 solar insolation. So these systems are primarily  
11 not grid connected systems.

12 The effect of causing us to be grid  
13 connected is we'll make these systems grid  
14 connected, they'd be most expensive. The real  
15 costs will be higher. But the costs to the end  
16 consumer will be lower because they can grid  
17 connect that costs less than \$4 a watt.

18 So you're creating a perverse incentive  
19 for consumers to spend extra on these types of  
20 systems.

21 COMMISSIONER GEESMAN: Wouldn't the  
22 state, though, prefer to see them grid connected,  
23 just from the standpoint of the state evaluating  
24 the overall benefits from its subsidy dollar?

25 MR. LIFFMAN: I don't quite understand

1 the question. Is the question that if they're  
2 grid connected it's easier to -- the results? Or  
3 that we are -- or that the results are actually  
4 better if --

5 COMMISSIONER GEESMAN: If the results  
6 are potentially better.

7 MR. LIFFMAN: I'm not sure that that's  
8 true. Because we -- by putting an expensive  
9 inverter and grid connect in, we're saving money  
10 on the system cost and the actual use of the pool  
11 pump is fairly well correlated to the solar  
12 insulation, so we would not, even if we do connect  
13 them to the grid, it wouldn't necessarily be  
14 sending electricity back to the grid.

15 COMMISSIONER GEESMAN: Okay.

16 MR. LIFFMAN: So, it's almost adding a  
17 useless interconnect.

18 COMMISSIONER GEESMAN: Okay.

19 MR. LIFFMAN: Third point, while we  
20 wholeheartedly support the effort to encourage  
21 guarantees of system out, we feel that the market  
22 is not yet ready for this requirement. We'll echo  
23 the comments made previously. Not enough  
24 information is available concerning the  
25 microclimates in California, particularly in the

1 Bay Area.

2 The solar dealers installs to be able to  
3 predict -- guarantee system output to within 10  
4 percent. Further, system output is partially  
5 determined by the actions of the consumer. The  
6 warranty requirement does not adequately deal with  
7 these problems of contributory negligence.

8 We believe that the warranty system  
9 makes sense over the long haul, and the market  
10 will probably demand it over the longer term. We  
11 would encourage a delay in the implementation of  
12 this system for at least one year to allow further  
13 dialogue with the industry about the  
14 implementation of the system.

15 Finally, we'd like to make a brief  
16 comment on the solar schools initiative. While we  
17 fully support solar on schools, we believe the  
18 program is somewhat poorly designed. The money  
19 from the Attorney General's Office is fairly  
20 limited, and it gets snapped up very quickly.

21 The money would probably be fully  
22 committed if the program only paid for 65 or 70  
23 percent of the costs of the installation. It  
24 would still save schools substantial amounts of  
25 money by putting solar on their roofs. And if the

1 money from the Attorney General's Office was  
2 lower, it would allow for many more school systems  
3 to be installed.

4 Those are our comments for today.  
5 Thanks for the time and consideration. It's clear  
6 that the CEC takes the emerging renewables program  
7 very seriously and takes the program design very  
8 seriously.

9 Thank you.

10 COMMISSIONER GEESMAN: Marwan, you had a  
11 question

12 MR. MASRI: Okay, Mark, what percent of  
13 your business are those nongrid interactive  
14 systems?

15 MR. LIFFMAN: It is a fairly small  
16 percentage; probably, if you took all nongrid  
17 interactive it's probably 10 or 15 percent of our  
18 business. If you took just the nongrid  
19 interactive that are installed in places where we  
20 do have grid connection, it would probably be  
21 somewhere closer to 5 or 10.

22 MR. MASRI: Are some of those like in  
23 RVs and boats and things like that? Or --

24 MR. LIFFMAN: Primarily pool systems.  
25 It's primarily these sorts of systems where you

1 just don't need the grid interconnect because the  
2 demand of whatever resource you're connecting it  
3 to is fairly closely tied to the solar insulation.

4 MR. TUTT: One question on the  
5 guaranteeing a system output, the warranty  
6 requirement. Understand that we don't have much  
7 data on microclimates and things of that sort.  
8 But one way to handle that is to guarantee a  
9 minimum amount, you know, so that you're pretty  
10 much assured to be above that.

11 Would you comment on that possibility?

12 MR. LIFFMAN: That is a possibility.

13 We -- I mean it would probably drive  
14 down sales if we were guaranteeing 1200 kilowatt  
15 hours per peak kilowatt because we know we could  
16 hit the -- and we think with delay we could  
17 implement a more sensible system where we could  
18 actually better predict, where we'd have better  
19 data on solar insulation.

20 We think waiting a year, considering we  
21 haven't had this requirement in the past, is not a  
22 substantial burden. It would allow a lot better  
23 data collection.

24 COMMISSIONER GEESMAN: Thanks, Mark.

25 (Applause.)

1 COMMISSIONER GEESMAN: Rick Lavezzo.

2 MR. LAVEZZO: Thank you very much.

3 Rick Lavezzo from TeamSolar here in Sacramento,  
4 California. And we're a small contracting company  
5 that moved to solar about four and a half years  
6 ago. And we currently install solar right here in  
7 the Sacramento area.

8 Some of the -- we're a CalSEIA member;  
9 we support CalSEIA. So I don't really need to go  
10 into that aspect too much. Pretty much everything  
11 they have said we're behind them extensively.

12 I did have a couple issues as far as  
13 your knapsack, as far as I guess about making --  
14 we have a contractors license which does pretty  
15 much that already. I'm not saying that we  
16 shouldn't, you know, cross that bridge, but as far  
17 as making it a, you know, thing to be able to get  
18 the rebate, I don't think right now it should be  
19 addressed.

20 I am, myself, a B license and a C46  
21 license. The other thing I'd like to kind of  
22 comment on as far as the B license, the C46  
23 license, the A license, I don't think those should  
24 be taken out.

25 As a general contractor, myself, I used

1 to build homes. And so a lot of people look to  
2 us, if you're building a home why not install the  
3 solar system.

4 As a B license holder we're able to pick  
5 a C10 person to do the work if we feel they're  
6 qualified to do it, or ourselves are qualified to  
7 do it.

8 The building department is enforcing the  
9 inspection department for that. So I don't think  
10 that you guys can mandate the fact that, you know,  
11 those situations.

12 As far as the warranties, we, right now  
13 in our sales in Sacramento and SMUD, PG&E  
14 territory, we give an estimated warranty at 10  
15 percent. I don't think that right now it should  
16 be mandated. I really believe what Solar Depot  
17 and Dan Shugar and everybody else has said, we  
18 should wait a little bit and see what these  
19 warranties issues should, you know, come in.  
20 There's a lot of outside factors.

21 As far as some of the interconnection  
22 agreements, I don't think, as a small contractor,  
23 we really work on a tight cash flow.  
24 Unfortunately, this is probably the most expensive  
25 business I've ever been into, as far as buying

1 material.

2           And we, ourselves, with eight employees  
3 and having to float some of these rebates for our  
4 clients, we have to sell the product, a 60-day  
5 wait for an intervention agreement is just, it's  
6 too hard, it's too -- so then what I have to do is  
7 borrow the money. And that, in turn, cuts into my  
8 overall percentage. And then, in turn, I don't  
9 grow.

10           So, I have a customer in point in PG&E's  
11 territory that I installed a system, and it took  
12 almost 120 days to get the interconnection  
13 agreement with PG&E. That was a fact that it was  
14 done through a development, and it was just a  
15 bunch of paperwork. And somebody dropped the  
16 ball. And if that would have been a customer  
17 that, you know, -- I mean I had to wait. If I'd  
18 had more of those customers, I just don't know if  
19 I could stay in business.

20           And the last point basically is I just  
21 wanted to thank you guys very much for all the  
22 work you have done. That's just -- all I have to  
23 say.

24           COMMISSIONER GEESMAN: Questions for  
25 Rick?

1           MR. TUTT: Just a general question.  
2           What is the typical time for a utility  
3           interconnection agreement?

4           MR. LAVEZZO: Typically about 45 days,  
5           we would say.

6           COMMISSIONER GEESMAN: You know, I guess  
7           I would ask anybody still in the process of  
8           drafting their written comments, if there are any  
9           constructive suggestions as to what we might do to  
10          work better with the utilities in shortening that  
11          time, or making that a more reliably predictable  
12          time, I think we'd be willing to entertain that.

13          Jonathan Hill.

14          MR. HILL: Good morning, Commissioners,  
15          Energy Commission Staff. I'm Jonathan Hill, owner  
16          of Sierra Solar Systems. We've been doing  
17          photovoltaic now for 22 years.

18          And as a CalSEIA member firstly I'd like  
19          to support their proposal for a \$4.25 a watt  
20          rebate additionally, to be reduced by 5 percent a  
21          year. I feel like dropping it any faster than  
22          that is certainly going to lose us a lot of  
23          business. We've already had customers say, well,  
24          you know, if it's going to drop that fast, I'm  
25          going to have to rethink my plans, and I may or

1 may not do it.

2 I'd like to agree with Tom Starrs  
3 regarding performance based rebates for commercial  
4 systems. I believe that a comprehensive study  
5 really is required perhaps over the next year.  
6 Meanwhile the rebate should remain the same as the  
7 lower than 30 kW systems.

8 I believe that what's proposed really  
9 does drop the rebate very very rapidly, and I'm  
10 sure that we're going to lose a lot of the  
11 commercial business that we've been recently  
12 cultivating. And I'd hate to see that, I think  
13 that's going to be bad for the solar industry.  
14 Since that's obviously where the big jobs are  
15 coming from.

16 Regarding warranties, system warranties,  
17 I think it's a really good idea. But because of  
18 all the uncertainties, you know, that have been  
19 mentioned, and mentioned before, such as weather  
20 and dust on panels and Acts of God and so on, I  
21 believe the system initially should be warranted  
22 to within 20 percent performance, rather than 10.  
23 And then during the first year we could evaluate  
24 how that's working. And then perhaps might drop  
25 it to 10 percent the year later. But kind of

1 phase it in rather than all at once 10 percent.

2 Also, back in October we were informed  
3 by the Commission that no more reservation  
4 applications would be accepted after October 31st.  
5 We hurried and got a few applications in just the  
6 last few days of October.

7 And now it's our understanding that many  
8 of the applications received by the Commission on  
9 or before that date are now going to be returned  
10 to the companies and asked to reapply at the lower  
11 rates, causing both a delay and a decrease in  
12 rebates for the customers.

13 I ask that those applications submitted  
14 by October 31st still receive the original \$4.50 a  
15 watt. While it's clear the rebates must be  
16 reduced, this will be a very very minimal effect,  
17 have a very minimal effect on the amount of funds  
18 that remain.

19 Also, I'd like to agree with someone who  
20 was just up here recently talking about offgrid  
21 pumping systems. Not necessarily offgrid, but not  
22 utility connected pumping systems.

23 We sell quite a few pumping systems,  
24 submersible pumping, service pumping and also pool  
25 pumping systems. And we have received several

1 rebates for those systems already. They are  
2 certainly replacing power that would ordinarily be  
3 supplied by the utility. And serving a very  
4 useful purpose.

5 And I think that those pumping systems  
6 should be exempted from the grid interconnection  
7 requirements.

8 And lastly, as far as the utility  
9 interconnection agreements, I feel that it really  
10 is going to slow things up a lot if this is  
11 required, if the interconnection must be completed  
12 before the rebate can be issued.

13 And it's going to add another, probably  
14 another 30 to 60 days onto the timeframe. And  
15 it's up to the PV dealers to float that money.  
16 And it's going to cause undue hardship on our cash  
17 flow.

18 So, as an alternative I propose that the  
19 utility interconnection agreement merely be signed  
20 and submitted to the utility, and a copy of it  
21 submitted with the rebate application paperwork.  
22 That's showing that we are going to interconnect.  
23 And then perhaps further down the line, maybe  
24 another 60 days later, or 90 days later, we can  
25 show proof that the utility interconnection has

1       been completed. But I don't feel like it should  
2       hold up the funding process.

3               That's about all I have to say. Thank  
4       you very much.

5               COMMISSIONER GEESMAN: Questions?

6               MS. SHAPIRO: I have a question. Mr.  
7       Hill, and then after 60 days if you still didn't  
8       have an interconnection, then what would the  
9       Commission do? Start proceedings to get the  
10      rebate back?

11              MR. HILL: No, I think the Commission  
12      could ask for an audit. Basically that would  
13      cause the PV supplier enough trouble so they're  
14      going to have to push and make it happen.

15              In fact, I've been doing these systems,  
16      like I said, for 22 years. And I've done well  
17      over 100 systems since the rebates have been in  
18      effect.

19              I've really only done one system that I  
20      can recall where we didn't interconnect with the  
21      utility, other than the pumping systems that I  
22      mentioned. So I think you've got to be crazy to  
23      go to all this trouble and then not interconnect.  
24      It doesn't make any sense at all.

25              MS. SHAPIRO: Thank you.

1           MR. MASRI: But do you interconnect  
2 sometimes before we get the agreement, to the  
3 grid?

4           MR. HILL: No.

5           MR. MASRI: No. Okay.

6           COMMISSIONER GEESMAN: Other questions  
7 for Jonathan? Yeah. Thank you.

8           MR. HILL: Thank you.

9           COMMISSIONER GEESMAN: Thank you very  
10 much.

11           (Applause.)

12           COMMISSIONER GEESMAN: Tor Allen.

13           MR. ALLEN: My name's Tor Allen and I'm  
14 President of The Rarus Institute. We're a  
15 nonprofit organization that is dedicated to the  
16 promotion of renewable energy. We're also the --  
17 maintain a website called the California Solar  
18 Center, and put out a biweekly newsletter called  
19 "Solar Eclipse." And with support from the Energy  
20 Commission's consumer education program, we've  
21 been developing the solar school house program  
22 that is working with schools.

23           My comments today, and I'll provide them  
24 in writing, as well, will touch a little bit upon  
25 municipal electric component of the guidebook.

1 Also on the schools program. And a little bit  
2 about the performance based concepts that you're  
3 introducing.

4 On the municipal electric utilities, we  
5 work directly with the City of Palo Alto  
6 utilities. And these comments reflect some of  
7 their concerns, as well.

8 The AB-29X money, which is limited to 10  
9 kilowatt systems, and initially had \$8 million in  
10 it, the electric utility would like to be able to  
11 offer customers that have greater than 10 kilowatt  
12 systems money from their funds. And the current  
13 language doesn't really allow for that.

14 So if a customer puts in a 20 kilowatt  
15 system in their service territory, they can apply  
16 for whatever's available through the CEC buydown,  
17 but then offer a complimentary for the additional  
18 amount, as well.

19 So there's some language here that we've  
20 proposed to introduce into the -- that addresses  
21 that.

22 Related also, when it relates to the  
23 schools program, there's been a change that allows  
24 schools and municipal electric utility territories  
25 to get an equivalent amount basically from the --

1 school program.

2           And there's a number of municipal  
3 electric programs that are looking at exploring  
4 green pricing programs where customers can put in  
5 additional money towards things like solar on  
6 schools. And so there's some language  
7 improvements that would allow the local utilities  
8 to continue to foster those programs, but also  
9 allow schools in their district to take advantage  
10 of the current program as we're proposing it.

11           Also there's a question of clarity with  
12 the solar school program going from a 20 kilowatt  
13 cap to now a 30 kilowatt cap. Those schools that  
14 have already applied and received -- approval --  
15 preliminary approval, would they then be eligible  
16 to apply for another 10 kilowatts? Have you  
17 figured that out? We would suggest they could or  
18 should.

19           And then related to that, where there  
20 are municipal electric utilities, or school  
21 districts that overlap, a municipal electric  
22 utility in and IOU territory that combined they  
23 can apply up to 30 kilowatts.

24           Does that make sense? Between the two  
25 programs. It's a little complexity, but minor

1 details.

2 Okay. Question of clarity also is that  
3 the program has been collecting money for the 2002  
4 to 2006 period. Does this mean that we actually  
5 are starting this new year program with 24 million  
6 in the -- we actually have more money up front --  
7 out of four years, or is the program going forward  
8 five years from now?

9 MR. MASRI: Collections began January 1,  
10 2002, of the money.

11 MR. ALLEN: Okay.

12 MR. MASRI: So, --

13 MR. ALLEN: So it's a five-year point,  
14 at the end of 2006, or has it been pushed back  
15 another year?

16 MR. MASRI: Well, --

17 MR. TUTT: There's no real five-year  
18 point for the program, Tor. It's --

19 MR. ALLEN: Okay.

20 MR. TUTT: If the funding says 2002-  
21 2006, the money lasts as long as it lasts. It  
22 could be three years, it could be ten years.

23 MR. ALLEN: Okay. Let's see, question  
24 of clarity on the system performance meter for  
25 systems. That I strongly support having a system

1 meter requirement. It's almost like would you buy  
2 a car without a speedometer. I don't think so.

3 It doesn't cost that much more. And  
4 it's important feedback. Now, there is a  
5 suggestion in the language that says the inverter  
6 that has these capabilities could qualify as that  
7 meter.

8 The one thing you may consider is that  
9 sometimes that inverter gets replaced or repaired,  
10 what happens to the data. So, something to  
11 consider.

12 Also with the schools program, at 8.50  
13 watt there's a lot of, most installers that have  
14 not worked with schools do not realize the extra  
15 engineering costs that are required. And the  
16 approval process through the Division of State  
17 Architect.

18 That does add a little bit more money  
19 than your typical commercial or residential  
20 system. And I would propose, perhaps looking at  
21 setting aside a set of funds to allow for that  
22 extra cost. At 8.50 a watt, most of the systems  
23 that go in at schools will be 30 kilowatts because  
24 they are the most economic to do. The one  
25 transaction.

1           And from our point of view as a teaching  
2 tool, photovoltaics, one big system at one school  
3 in the district versus smaller segments at  
4 multiple schools, as a teaching perspective, it's  
5 better to have smaller systems with the limited  
6 number of kilowatts at more schools.

7           So, facilitating the means to encourage  
8 that, or providing the incentive to be able to do  
9 that would be a good thing.

10           Also along those lines setting aside --  
11 this doesn't come out of the current budget as  
12 it's proposed in the guidebook, but from the --  
13 I'm not sure what you're calling it, the Attorney  
14 General Fund for alternative energy schools  
15 program. As that money continues to flow in, set  
16 aside a portion of that for conducting  
17 professional development programs and teaching for  
18 teachers.

19           Those solar school programs that have  
20 been implemented across the country where they've  
21 solely focused on installing a PV system and left  
22 the teaching aspect alone have basically had  
23 systems on roofs that are forgotten. And not part  
24 of the teaching aspect.

25           So, PV systems don't teach, teachers do.

1 You have to encourage that more and provide, we're  
2 suggesting providing a set-aside funds to help do  
3 that.

4 On your comments before about working  
5 with the utilities more closely to accelerate some  
6 of the process, we have conducted a number of  
7 solar forums in the past, and we are planning a  
8 meeting with the managers of all HOs in California  
9 that are operating PV programs to help share  
10 information on interconnection implementation. So  
11 we go to you to help push that along, that effort.

12 Then, again, on the -- lastly, on the  
13 portfolio -- or, I'm mixing up the words --  
14 performance standards, as some of you know, I'm a  
15 big fan of performance standards, performance  
16 based incentives.

17 There are challenges with that. It's  
18 something that my initial reaction to, the over 30  
19 kilowatt program was that no one would apply.  
20 Especially when you have the self generation  
21 program with ample funds available for the next  
22 two years, why would you do this program.

23 So whether it's a disaster or not, it's  
24 really a question would anybody apply in this next  
25 two years. So, think about that.

1 I would echo Tom's comments on taking  
2 some time, perhaps this year, to really learn from  
3 the German experience. I have some data; I can  
4 share that with you.

5 They have had a lot of success. Their  
6 one is creating innovation of which we're a  
7 benefit to, namely the SMA inverter, which has  
8 basically saved the California market due to that  
9 program.

10 So there's a lot of things to learn.  
11 It's a little premature, I would say, to implement  
12 it at the beginning of this year. And I fear that  
13 it would go unsubscribed as it's currently  
14 outlined.

15 Some of the differences, though, you  
16 have to take into consideration with the German  
17 market is that they have a single meter that they  
18 read, whereas we have net metering. And there are  
19 some subtle differences, but I believe it's  
20 something that's worth looking at. And delaying  
21 that judgment for a year, allowing yourself the  
22 time to fully research that.

23 And then I think it would be good at  
24 some point to have, describe a scenario or a  
25 vision for where do we want to be in ten years,

1 2010. You know, one, we can divvy up by markets.  
2 Do we want to have every home be a zero energy  
3 home; or every home have solar on it. Or every  
4 new building have a percentage of it. Where does  
5 that vision come from.

6 We're working to try to foster those  
7 discussions. But as we go forward it's more than  
8 just making a sustainable PV market. It's really  
9 what do we want from this market. And I think  
10 it's best, the results will be best achieved by  
11 combining efficiency side of the house here, and  
12 these kind of things.

13 So, more work in that area would be  
14 recommended. Again, I don't know where it goes in  
15 the guidebook at this point, but something to  
16 consider.

17 That's all I have at this point.

18 COMMISSIONER GEESMAN: Questions for  
19 Tor?

20 MR. ALLEN: No? Okay.

21 COMMISSIONER GEESMAN: Thank you very  
22 much.

23 (Applause.)

24 COMMISSIONER GEESMAN: Is there anyone  
25 else that wishes to address the Commission now?

1 Sir, could you come up and identify yourself.

2 MR. HUFF: My name is Jerry Huff and I'm  
3 with C.J. Solar in Vacaville.

4 And a couple things I'd like to point  
5 out is back in October we put in all these  
6 applications; and we're a new company, we're  
7 starting up; we're really hard pressed to get  
8 going. And we worked hard to get these  
9 applications in, and now if you drop these rebates  
10 back to 4 or 4.25, whatever it is, we're going to  
11 lose several of those contacts.

12 And the other thing is we're in an area  
13 where we've got a great deal of wind, and there's  
14 not much wind going on over there right now  
15 because people see all these dead windmills  
16 standing out there. And I think we need a little  
17 extra incentive for these people to take a chance  
18 and put some wind up.

19 And right now, I mean we've got some  
20 areas over there in the vineyards and stuff,  
21 people are being hard hit with the economics and  
22 one thing and another. A lot of my customers work  
23 for United, and we know what happened there.

24 If these incentives are cut back those  
25 guys are going to go away. And we have been

1 working very hard to develop these.

2 And on the performance based thing, a  
3 way that you might be able to address some of this  
4 is if your customer had to sign an acknowledgement  
5 of how much power they expect. If an array is  
6 facing south they're going to get a much better  
7 performance than if it's facing east or west. And  
8 so that they know when we go out and sign a  
9 contract, the guy says, why are you charging me  
10 the same amount this guy over here's charging me,  
11 and yet he's giving me all this extra power.

12 Well, they're writing it off with the  
13 manufacturers and not of off real numbers. So if  
14 they were to sign a piece of paper that was signed  
15 by both the dealer and the individuals, and the  
16 state knows that these people realize when the job  
17 is completed they're going to be getting 60  
18 percent of what the thing is actually rated at by  
19 the manufacturer and not the full rating.

20 And that's about all I have to say.

21 COMMISSIONER GEESMAN: Any questions for  
22 Jerry? Thank you very much.

23 Is there anyone else?

24 (Applause.)

25 MR. OWEN: Hi, my name's Graham Owen.

1 I'm with GO Solar Company. And also represent  
2 CalSEIA's Policy Board, as a small contractor.

3 And really just want to echo the -- the  
4 4.25 with the 5 percent reduction, the trend in  
5 the industry is the rate of decline of solar  
6 modules, the biggest expense is about 5 percent  
7 annually. I would like to hire more people,  
8 create more jobs in the State of California, but I  
9 need a long-term business plan. And for having  
10 this ramp down in a set of little cliffs makes  
11 that a lot easier.

12 I also want to say with the SB-1038  
13 funds I'm in agreement with 70 percent  
14 residential, 25 commercial, and only 5 percent for  
15 new pilot plan.

16 And my reasoning behind the increase for  
17 the larger commercial jobs is big jobs get a lot  
18 of press, a lot of fanfare, it generates interest  
19 for homeowners. And I get more phone calls.

20 And I have had homeowners ask why  
21 aren't, especially a couple of years ago, why  
22 aren't more businesses putting these on. And I  
23 think -- and the larger systems demonstrate that  
24 solar is a sound viable technology. And it helps  
25 the industry as a whole.

1           Now with performance meters, it really  
2 leaves me vulnerable to conditions beyond my  
3 control. You can have smoke from forest fires,  
4 soiling, bird dropping, volcanic activity,  
5 vegetation growth and different weather conditions  
6 annually. If we get an el niño year, a lot of  
7 clouds.

8           And who's going to monitor these meters.  
9 And also adding these meters, and it's a little  
10 bit of expense, but I think it makes it easier for  
11 the utilities to impose their exit fees. And I  
12 know homeowners have expressed the concern that  
13 will my energy production be taxed in the future.  
14 And this leaves the door open for that mechanism.

15           I think that's about all I have to say.  
16 I agree with CalSEIA's points. Thank you.

17           COMMISSIONER GEESMAN: Any questions?  
18 Thank you. Other speakers?

19           MR. McCALMONT: My name is Tom  
20 McCalmont. I'm the President of ReGrid Power.  
21 We're a solar retailer in San Jose, California.

22           I want to start by thanking the  
23 Commission and the staff for their work on the  
24 draft guidebook. I think that you've done an  
25 extremely good job of considering the input from

1 the public and the various constituencies,  
2 including retailers such as us, installers,  
3 builders, manufacturers and customers.

4 While you might not have achieved the  
5 objective of pleasing everyone, you've probably  
6 achieved the objective of displeasing everyone  
7 proportionately.

8 (Laughter.)

9 COMMISSIONER GEESMAN: Comes with the  
10 job.

11 MR. McCALMONT: I wanted to address just  
12 one specific area which relates to utility  
13 interconnection requirement, the requirement for a  
14 signed agreement.

15 We also want to add our voice to those  
16 that find this requirement to be difficult to deal  
17 with. It adds a 45- or 60-day delay to payment.  
18 For small companies such as ours, that are highly  
19 dependent on these payments for cash flow, that's  
20 a difficult situation for us to deal with.

21 We would propose as an alternative that  
22 you simply require us to submit a signed  
23 agreement, signed by the customer, that indicates  
24 their intent to move ahead with an  
25 interconnection.

1           And then subsequently -- go ahead with  
2           payment. And then subsequently, require retailers  
3           such as us to submit the final signed agreement  
4           when that comes through, however long that may  
5           take.

6           We don't think it's particularly in the  
7           utilities' best interests to expedite these; nor  
8           do we think it's likely that they will make  
9           efforts to do so, because when these systems go  
10          online it results in a drop in revenue for them.

11          So, I think it's difficult to really  
12          expedite the process.

13          So I just wanted to add my voice to  
14          that, and ask that you reconsider that issue.

15          Thank you very much.

16          COMMISSIONER GEESMAN: Any questions?

17          Thank you. Sir.

18          (Applause.)

19          MR. FLEEMAN: Good morning,  
20          Commissioners, Members of the Agency, my name's  
21          Doby Fleeman; I represent Davis Ace Hardware. And  
22          I feel that -- well, first of all, our company has  
23          really gotten involved in the solar electric  
24          system in the past year or so.

25          The learning curve has been phenomenal

1 and I'd have to say that I would like to thank all  
2 members of the community here, the manufacturers,  
3 for the support that they've provided to us in  
4 learning.

5 My comments are directed specifically to  
6 the issue of the warranty requirements. And I've  
7 communicated that to the Commission previously.

8 Maybe the concern is because we're a  
9 true traditional retailer, and we have actually  
10 lifetime warranties on a lot of the tools that we  
11 sell, for instance.

12 I realize that there's warranties  
13 available on the equipment from the various  
14 manufacturers, some of whom are very large  
15 multinational companies.

16 But, the issue of warranties on an  
17 installation came to my attention as we looked  
18 further into the existing guidebook, and the  
19 warranty requirements that are imposed for  
20 representations of system power output. As it's  
21 currently worded it's not something new. The  
22 issue of measuring the amount of power at the  
23 meter is a variation on it.

24 But the question started coming up as to  
25 how is that currently being determined. And

1 dealing with consumers on a regular basis, the  
2 consumer's always right, or it seems to end up  
3 that way.

4 And I can envision that the consumer is  
5 usually going to be going out to their power meter  
6 to see how much power their system is producing  
7 over the course of the year. And regardless of  
8 what we might have told them about STC and PTC and  
9 whatnot, they're going to be looking at their  
10 meter and saying, this isn't producing what that  
11 salesman told me it was going to produce.

12 And at some point possibly filing some  
13 type of a complaint with the Commission. And then  
14 that could develop its own momentum, which would  
15 be very unfortunate.

16 So, in my comments that I've directed to  
17 date to the Commission I realize how much work  
18 they've put into it, and I appreciate the comments  
19 that have been incorporated into this revised  
20 draft.

21 And not that I'm a big advocate of  
22 trying to come up with a guarantee of how much  
23 power a system is going to put out, but I feel  
24 that there's this inherent conflict. And, again,  
25 if one takes the position that the consumer is

1 always correct, you know, how do we get down to a  
2 basis for representation that, as one of the  
3 speakers said, that we could both sign off on.

4 And, again, they have responsibilities  
5 to keep it clean, and to not let trees grow and  
6 whatnot. There's solar path finder technology out  
7 there that if that's deemed to be a useful tool  
8 that could be incorporated as a mandatory product,  
9 as DWP has recently, for parts of the survey. It  
10 could be a part of the documentation that the  
11 Commission could require to help support the idea  
12 that either the retailer or the contractor has  
13 gone out there and really diligently looked at  
14 that site, gave a realistic assessment of the  
15 power potential for the site.

16 And I think that would be a win/win  
17 situation for the long-term future of solar. Not  
18 that I particularly after a year have any real  
19 answers for it, but I appreciate all the  
20 consideration.

21 Thank you.

22 COMMISSIONER GEESMAN: Questions for  
23 Doby? Thank you very much.

24 Sir.

25 MR. OLDHAM: Hello, I'm Jeff Oldham with

1 Real Goods Training Corporation. I'd like to also  
2 support CalSEIA's proposals in a most general way.

3 I think, again, the warranty  
4 performance, we're hearing about this over and  
5 over again. This is obviously an issue here.

6 I definitely support an earlier proposal  
7 that we warrant performance, but not the energy.  
8 This industry is much too immature right now to be  
9 warranting that sort of thing. And frankly, our  
10 equipment, for the most part, is still in  
11 prototype stage.

12 We're afraid what we're going to find is  
13 we're going to have a circle of finger-pointing  
14 here between the manufacturers, us and the CEC.  
15 And the only winners are going to be the lawyers.

16 COMMISSIONER GEESMAN: I resemble that  
17 remark.

18 (Laughter.)

19 MR. OLDHAM: Also, I heard a comment  
20 earlier that part of the justification for the  
21 drastically reduced incentives for the greater  
22 than 30 kilowatt systems is they would reap the  
23 benefits instead from tax incentive.

24 I caution you to put too much weight on  
25 that. A lot of the people we work with cannot

1 utilize the tax credits. Work a lot with the  
2 farming community. It sees an immense opportunity  
3 to do offpeak water pumping and time-of-use  
4 metering with the solar electric system.

5 And frankly, most of these farmers laugh  
6 when I start talking about tax credits. But we  
7 would love to be paying enough taxes to use these  
8 credits.

9 Also, we're seeing an emergence of the  
10 nonprofit community adopting these technologies  
11 we're selling. Particularly the churches. And  
12 they cannot utilize these credits. They really  
13 need the help from the Energy Commission.

14 So, be careful about putting a lot of  
15 weight on that one.

16 I'm also worried about the rapid decline  
17 of the incentive program. I'm sure what this is  
18 going to do is start degenerating flippant  
19 reservations. And that gold rush to get  
20 reservations and every time your phone call, just  
21 so you can lock in the current reservation level.

22 What we're going to find is that we're  
23 going to lock up all the money right away with  
24 reservations that have an intention of going  
25 nowhere. And it's going to create a lot of undue

1 paperwork for the Commission, as well.

2 And we're going to see ourselves running  
3 out of funds that we really haven't run out of.  
4 It's fictitious reservations.

5 I'm also concerned about decreasing the  
6 consumer education account. I've always felt that  
7 that was grossly underfunded. \$1.3 million is a  
8 disgrace for trying to promote the program. And I  
9 think we saw the first few years of this program  
10 being a delay because people just didn't know  
11 about it. It was left up to the industry to  
12 spread the word.

13 And finally, the point person. I think  
14 this is very important. We've heard a lot about  
15 it, the beginning stages of this program, when the  
16 foundations were being firmed. It was a very open  
17 roundtable forum that was extremely constructive.  
18 We had the industry, for the most part, creating  
19 this program with the help of the CEC. It went  
20 well, and I think it worked well.

21 I suspect that most of us in this room  
22 would support taking 1 percent of the money we  
23 have per year for this program and putting it into  
24 two or three more salaries for staff people to  
25 help us coordinate this program.

1           That's about all I have to say. Thanks.

2           (Applause.)

3           MR. TUTT: My question is in reference  
4 to working performance, not energy. Can you  
5 explain more what that means to us?

6           MR. OLDHAM: Yeah, I think what I  
7 visualize in that is that basically we are taking  
8 the numbers stated by the inverters efficiency,  
9 the nameplate on the modules, and are realistic,  
10 real world deration of this equipment and say,  
11 look it, this equipment is going to do this. This  
12 inverter is going to continuing be this efficient.  
13 These modules will continue producing their 80  
14 percent for the 25 years.

15           We'll stand behind the equipment and  
16 their performances there. But to stand behind all  
17 these externalities that we've talked about all  
18 day long here, is crazy. It is a huge burden on  
19 our books. I think this is the major point that I  
20 heard today, that carrying this on our books is  
21 going to be disastrous. I know our company is not  
22 going to even go for it.

23           And the incentive levels that we're  
24 looking at right now for over the 30 kilowatts  
25 will definitely put us out of business on those

1 size systems.

2 COMMISSIONER GEESMAN: Okay, thank you.

3 We're venturing into the hunger hour now. And I  
4 sense we're pretty close to being done.

5 So my intent is to continue until  
6 everybody that wants to speak has spoken. But I  
7 really warn you, repetition is of diminishing  
8 benefit.

9 (Laughter.)

10 COMMISSIONER GEESMAN: Who's next?

11 MS. BROWN: Thank you. I did turn in my  
12 blue card, but apparently it must have gotten  
13 lost. Anyway, my name is Leslie Brown. I'm with  
14 Silicon Valley Power. We're the electric utility  
15 for the City of Santa Clara. And I'm here to  
16 speak primarily to the changes, the proposed  
17 changes affecting the municipal utility customers,  
18 specifically the \$4 a watt cap proposed for  
19 combined funds from utility incentive programs and  
20 the CEC.

21 I don't believe the \$4 a watt cap is  
22 appropriate for municipal utility customers. I  
23 know specifically our customers are paying a  
24 baseline rate of 6.5 cents a kilowatt hour, 7.5  
25 cents over baseline. \$4 a watt is not enough of

1 an incentive to encourage solar installations in  
2 our utility districts.

3 I know this because we had a \$4 a watt  
4 program for two years with exactly zero  
5 applications for the \$4 a watt incentive. We did  
6 not receive applications until we offered a  
7 special \$6 a watt rebate to some of our customers,  
8 and gave some systems away for free.

9 COMMISSIONER GEESMAN: When was the  
10 change made?

11 MS. BROWN: That was in -- we had a  
12 contest to give away two free systems in 2001.  
13 And it as 2001 that we had the two free systems  
14 given away, plus a special buydown of \$6 a watt to  
15 the other finalists in the contest.

16 COMMISSIONER GEESMAN: So it was '01  
17 when you went from \$4 to 6?

18 MS. BROWN: Yeah, there were a couple of  
19 homeowners that did take advantage of the \$4 a  
20 watt incentive, but they were homeowners that  
21 installed their own systems. And their overall  
22 effective cost was about \$6 or \$7 a watt for the  
23 installation. We didn't have a percentage cap on  
24 the rebate, so they were able to take the full \$4  
25 on a \$6 or \$7 a watt installation.

1           Since the CEC has provided the incentive  
2           for our customers to take advantage of, I believe  
3           we've had two customers take advantage of the 4.50  
4           a watt rebate. But I don't see much more activity  
5           amongst our customer base out of 4.50 a watt, or  
6           even a \$4 a watt incentive from our customers.

7           I would like to have the opportunity to  
8           propose a program for our utility that would  
9           provide maybe a \$1 or \$2 a watt addition to the  
10          CEC rebate.

11          And in fact you have a very nice formula  
12          in section 3, page 6, paragraph (b) that  
13          effectively lowers the rebate that the CEC  
14          contributes to a customer who is also receiving  
15          outside incentive.

16          And I think that that probably would  
17          early capture your goal, which I think is in  
18          having the \$4 a watt cap of not excessively over-  
19          incentivizing systems in the utility district.

20          If you do feel you need to have a cap on  
21          the rebate I do think a \$6 a watt cap would be  
22          more appropriate for those customers.

23          And then I also wanted to echo support  
24          for Tor's comments for possibly combining the  
25          funds. I haven't read his language that he's

1 written up, but combining funds for the solar  
2 schools program with utility incentives.

3 We actually have already started a  
4 program where we've been collecting additional  
5 money from our customers to support solar  
6 installations for school districts in Santa Clara.  
7 And we would be able to install many more systems  
8 much more quickly if we were able to allow a  
9 combination of those funds with some money from  
10 the CEC to move those systems ahead.

11 That's all, thank you.

12 COMMISSIONER GEESMAN: Questions? Thank  
13 you.

14 (Applause.)

15 COMMISSIONER GEESMAN: Sir.

16 MR. HUTCHINGS: Hi, my name is Daryl  
17 Hutchings. I'm the owner of Harmony Solar in Los  
18 Gatos.

19 The interconnect agreements will  
20 definitely create problems for every installer and  
21 distributor. The 4.50 I definitely believe should  
22 stay the same. The 4.25 that's close. The 5  
23 percent each year.

24 I think solar energy is the way of the  
25 future. You know, our wars are fought over oil

1 and religion. Those two, we need to get away from  
2 the oil, definitely. And we need renewable  
3 energy.

4 One question I have for the staff here.  
5 On the rebates, if we take the PTC rating times  
6 the modules, then are we going to times it by .75  
7 now for the inverter?

8 MR. BRAZIL: No.

9 MR. HUTCHINGS: It's going to still be  
10 at --

11 MR. BRAZIL: Well, it would be the  
12 efficiency of the inverter at 75 percent load. So  
13 it will be, as somebody suggested, some percentage  
14 points probably lower than the peak, but it won't  
15 be --

16 (Parties speaking simultaneously.)

17 MR. BRAZIL: -- lower, no.

18 MR. HUTCHINGS: So it will be more like  
19 around 90 percent?

20 MR. BRAZIL: Right, somewhere in that  
21 range.

22 MR. HUTCHINGS: Okay. I thank you guys  
23 for all the work.

24 Now, I do have some reservations also in  
25 that were in at the 29th and I've actually tried

1 to get ahold of -- I think you're, Tony?

2 MR. BRAZIL: Yes.

3 MR. HUTCHINGS: And I've tried to get  
4 ahold of you a few times, and it's hard to reach  
5 you.

6 (Laughter.)

7 MR. HUTCHINGS: And, you know, I've got  
8 a couple --

9 MR. TRENSCHEL: That's because he's here  
10 right now.

11 (Laughter.)

12 MR. HUTCHINGS: I know -- right now.  
13 I've got some reservations, I had three that went  
14 in the same day, two of them were approved, the  
15 other one is 400 back. And I'm being told that it  
16 may not get funded.

17 MR. TUTT: We'll have Tony get back to  
18 you on that, how's that?

19 (Laughter.)

20 MR. HUTCHINGS: Thank you. That's all I  
21 have.

22 (Applause.)

23 COMMISSIONER GEESMAN: Who hasn't spoken  
24 yet?

25 MS. SHAPIRO: You spoke.

1                   COMMISSIONER GEESMAN: Well, is there  
2 anybody that hasn't spoken yet, because I want to  
3 make certain that they get a first crack.

4                   MR. SPEAKER: I just missed one point.  
5 I'll go after these guys.

6                   COMMISSIONER GEESMAN: Okay. Sir.

7                   MR. GERBER: My name's Gary Gerber; I'm  
8 President of Sun Light and Power Company. We're  
9 in Berkeley. We have been in business 27 years in  
10 solar.

11                   In the interest of brevity and lunch, I  
12 am going to mostly reiterate what's been said, but  
13 I do need to add my voice to a couple of items  
14 that I've heard.

15                   Again, I have several clients that are  
16 expecting the 4.50; as of October 31st we rushed  
17 them in, also, and this could be a very  
18 significant loss of revenue to us if these people  
19 don't get the 4.50. And also, a breach of our  
20 promise to them essentially.

21                   I'm going to skip a couple of the other  
22 things. Mostly I could just say whatever Jeff  
23 Oldham said I say ditto to what he said. Had some  
24 great points. Want to thank him for that.

25                   And about the utility grid connection,

1 again that's a serious problem. The utilities are  
2 not very quick to getting back to us. I would  
3 reiterate that, as well.

4 And I do believe in performance based  
5 incentives definitely, but I'd like to see it done  
6 on a very selective basis. When it said pilot  
7 program I was encouraged. I thought, okay, that'd  
8 be a small program that will be developed. You'll  
9 learn from it; you'll develop this program.

10 Instead of turning the entire over-30 kW  
11 over to this pilot program, I suggest you come up  
12 with a smaller incentive program. Right now it  
13 doesn't make any sense to install tilt racks. You  
14 know, modules are going up flat on roofs when they  
15 could be getting 20 percent more performance, 15  
16 percent more performance if they were tilted.

17 We're really under-utilizing the  
18 potential there strictly because of the way the  
19 rebates system is set up. Doesn't make sense to  
20 spend money on racks and trackers and things that  
21 cost you money, but don't get you any extra  
22 rebate.

23 We're working on a reflector system now.  
24 It doesn't make any sense at all to do anything  
25 like this to innovate when the rebate is basically

1 saying don't do that, put up more kilowatts on the  
2 roof, you get more rebate that way.

3 So, I'd like to see some kind of a  
4 performance system like that.

5 That's all I have, thank you.

6 COMMISSIONER GEESMAN: Thank you.

7 I think we have somebody over on this  
8 side that hasn't spoken yet. Sir.

9 (Applause.)

10 MR. WORCESTER: Hi, I'm Chris Worcester  
11 with Solar Wind Works. I'm down here from  
12 Truckee. And I'm in a muni.

13 There's a few things that I want to  
14 address, although I've heard most everything  
15 addressed.

16 The wind is an issue where I'm working  
17 that I really wanted to echo what Mike Bergey said  
18 from Bergey Wind Power. And I'm a member of AWEA  
19 and his comments there on the changes to the  
20 proposal here are very viable. At 1.50 a watt for  
21 a 5kW system and above, I'm marketing proven wind  
22 turbines which I've been told from Scotland they  
23 have now submitted the paperwork to the staff for  
24 review of their wind turbines, a 2.5 kilowatt and  
25 a 6 kilowatt turbine.

1           And our 6 kilowatt turbine, to install  
2           it is going to be a 40- to \$50,000 project. And  
3           at a buck-fifty a watt, that's a \$9000 rebate. I  
4           mean how many people am I going to get interested  
5           in, or my dealers in the State of California, for  
6           putting up these wind turbines.

7           It's not going to happen. Incentives  
8           like 15, 20 percent. So you've gone from a 50  
9           percent incentive, just pulling the bottom right  
10          out, shutting down the business before we've even  
11          had a chance to introduce this great technology.

12          So, anyway, that's what I wanted to echo  
13          what Mike said here.

14          The other thing on the munis, we're with  
15          Sierra Pacific Power -- Sierra Pacific Power is  
16          around us. The Truckee/Donner Public Utilities  
17          District is the one that I've managed to get a  
18          couple of systems in with the CEC buydown program.

19          And it's really like difficult. We  
20          don't have tier based metering programs. People  
21          are looking at it right now paying 10 cents a  
22          kilowatt hour, when they're, why am I really doing  
23          this, you know, it's just a lot cheaper to pay  
24          that monthly bill.

25          I heard it's going to 13 cents a

1 kilowatt hour after the 1st. I'm looking forward  
2 to that, so maybe we can sell another system or  
3 two.

4 But, the woman from Santa Clara, I'd  
5 like to echo her and to be able to get systems  
6 rolling in the Truckee-Donner PUD, I'd like to  
7 have you really consider what she said about doing  
8 the raising the incentive base for the small PUDs.

9 It's really helped open the doors to my  
10 business. I've done a lot of offgrid systems.  
11 I'm not here to say let's sign up offgrid,  
12 although that would be sweet.

13 But, anyway, thanks for your time.

14 COMMISSIONER GEESMAN: Thank you. Any  
15 questions? Thank you very much.

16 (Applause.)

17 COMMISSIONER GEESMAN: In the very back.  
18 I'm sorry, our blue card system has broken down,  
19 but we'll be better prepared tomorrow.

20 MR. FILLINGER: -- but that's okay. My  
21 name's Mark Fillinger. I'm with Heliotron  
22 Development Company in southern California,  
23 developing low-temperature solar thermal projects.

24 And I understand how the program works  
25 relative to the retail sector. We are looking at

1 some projects that we would be connecting in and  
2 selling the output directly to the utilities,  
3 without an electric-paying customer.

4 And all I have really today is a  
5 question for the staff or for the Commissioners in  
6 terms of how does that fit into the renewable  
7 program? Or does it fit in?

8 MR. MASRI: Well, it does fit into the  
9 program, not in the emerging; in the new part of  
10 the program. It's really designed by the  
11 incentives for exactly those kinds of systems that  
12 sell directly to --

13 MR. FILLINGER: And that's what's not  
14 yet been rolled out?

15 MR. MASRI: Not yet been rolled out,  
16 exactly.

17 MR. FILLINGER: Is that going to be  
18 discussed tomorrow at all, or --

19 MR. MASRI: No, that is actually --

20 MR. FILLINGER: -- later today?

21 MR. MASRI: -- will be discussed in the  
22 future. It's tied to the renewable portfolio  
23 standard proceedings. So, in the near future we  
24 will put something out how we're going to proceed  
25 with that.

1           MR. FILLINGER: Okay, but there's not a  
2 way to shoehorn into the emerging renewables  
3 program system that's hooked, but does not have an  
4 electric customer associated with it?

5           MR. MASRI: That is correct.

6           MR. FILLINGER: Okay. Thank you.

7           COMMISSIONER GEESMAN: Thank you. One  
8 more gentleman over here.

9           MR. SCHAEFFER: Hi, I'm John Schaeffer  
10 with Real Goods in Hopland, and we sell quite a  
11 few photovoltaic systems.

12           I'd like to endorse one more time the  
13 CalSEIA program that Dan presented, pretty much in  
14 its entirety. And just be an advocate a little  
15 bit for consistency on the part of the program.

16           For us what happened in August and then  
17 again in October really played havoc with our  
18 customer base and the programs we had going. We  
19 had probably 30 or 40 applications in in August  
20 when the program came to a halt. And then we had  
21 probably 15 or 20 in between October 20th and  
22 October 31st, as a lot of other people did.

23           And it did a lot to destroy customer  
24 credibility and we've been told pretty much that  
25 systems for the last ten days there will not get

1 funding this year.

2 So, I'd really like to advocate for more  
3 staff responsiveness and more consistency here,  
4 and maybe go into the program that we talked about  
5 earlier of having a web-based applications program  
6 so that we can get instant access at anytime to  
7 plug in a customer's name and find out the status  
8 of that application at any given time. It would  
9 help, I think, all of us quite a bit.

10 I'd also like to strongly advocate for  
11 adding back those green power funds into the  
12 program.

13 And a question for staff. I heard a  
14 little about it earlier, but of the 120 million  
15 that's available for the under 30 kilowatt  
16 program, is that all available in year one, or  
17 does it have to be spread out over the four-year  
18 program? How does that work?

19 MR. TUTT: It's all available in year  
20 one. We're not doing annual allocations, at least  
21 not proposing that at this point in time. It's  
22 all available in year one. Hopefully it won't be  
23 all used in year one.

24 MR. SCHAEFFER: But I mean just this  
25 year most people expected the demand would be

1        somewhere from 15 to 20 million, and it ended up  
2        something like 40 million.

3                But what we're finding with the 30 or 40  
4        applications that we had in at 4.50 and going back  
5        to those customers, we're seeing that many of them  
6        are not hesitating to go forward with the \$4 a  
7        watt. So, we're not sure how much that going down  
8        to \$4 a watt is really going shrink demand. So my  
9        fear is that the money's going to evaporate in six  
10       to 12 months, even at the \$4 level. And i would  
11       just urge the CEC to be a little bit more flexible  
12       with that program with, you know, the Greenspan  
13       approach someone said earlier, that you could come  
14       out and say, if we find the \$50 million worth of  
15       the funds are gone in the first six months,  
16       obviously you're going to have to go down more  
17       than a quarter a watt if you want to make that  
18       last.

19                And for us, most of our customers are,  
20        we find are probably 80 percent environmentally  
21        motivated and maybe 20 percent financially  
22        motivated. And we may be in an anomaly out here,  
23        listening to other people, but if that's the case  
24        with many customers then the rebate doesn't make  
25        that much of a difference.

1 I would just urge you to be a little  
2 more flexible going forward. And also I think  
3 that the warranty idea needs a lot more -- needs  
4 to be thought out a lot more, because as Jeff was  
5 saying earlier, since we merged with a larger  
6 company, the CFO of this new company is not going  
7 to buy into a program of taking large reserves on  
8 this warranty program. And I'm sure we're not the  
9 only ones out there. And I think it puts a  
10 serious damper on funds going forward.

11 Thank you.

12 COMMISSIONER GEESMAN: Any questions  
13 from staff? Okay, one more over here. Let me get  
14 the guy in the back because he's had his hand up  
15 previously. Every time I say one more, it seems  
16 like we grow a couple more, but that's fine.

17 (Laughter.)

18 COMMISSIONER GEESMAN: And while you're  
19 coming up, let me say, Leslie Brown, we did find  
20 your blue card.

21 (Laughter.)

22 MR. HARRIS: Good morning, Commissioners  
23 and staff. My name's Glenn Harris; I'm the  
24 General Manager of a renewable energy company in  
25 Grants Pass, Oregon. It's been a good supplier to

1 the California market for the last 12 years.

2 We're a growing distributor and we're  
3 benefitting from California's installation of PV,  
4 as I know you are.

5 We are finding it's increasingly our  
6 responsibility to provide financing to the  
7 installers and the dealers in California. And  
8 typically, and I'm speaking directly, a 60- or a  
9 90-day reimbursement for their expenses is  
10 entirely too long.

11 We're talking with our banks about  
12 arranging lines of credit so that we can advance  
13 the installers the funds that they need to keep  
14 operating. But typically we're finding the  
15 industry is under-capitalized.

16 As an example, if an installer does two  
17 installations a month and has an average of an  
18 \$8000 rebate, and we service 20 installers, in a  
19 month we would be having \$320,000 of deferred  
20 income for 60 or 90 days.

21 Our only way of seeing to improve this  
22 is to add staff. It's the most streamlined, it's  
23 the least expensive of all the scenarios that we  
24 can envision. And it would probably be the best  
25 on increasing satisfaction of the installers, and

1 keep the cash flowing so that the program could be  
2 most efficiently run.

3 And that's our comment. Thank you.

4 (Applause.)

5 COMMISSIONER GEESMAN: Questions? Okay,  
6 we're going to take who I think is the last  
7 gentleman on this side.

8 MR. RAGSDALE: Thank you for giving me  
9 just a moment, and I'll be brief. My name's Scott  
10 Ragsdale. I'm with Cooperative Community Energy;  
11 and we're based in San Rafael. We have offices  
12 all over California.

13 And I really just want to reiterate the  
14 comments about the utility metering that would  
15 really slow things down. That's not a good idea.

16 But then I do want to also make another  
17 comment. It's no coincidence that a lot of the  
18 folks you've heard from are from the northern  
19 portion of the state. I encourage you to reach  
20 out to those interested parties in the southern  
21 portion of the state where a lot more energy is  
22 used. And a lot of rebates are applied, et  
23 cetera.

24 We do have dealers there. They're  
25 dealing with much much larger system requirements

1 per residential system. And I think you need to  
2 pay attention to that, as well, because when  
3 there's hiccoughs here, they're bigger there.  
4 Just no question about it.

5 So, as you consider your policies, such  
6 as the rebate program, in terms of how much you  
7 pay, or for what period of time, and how you  
8 announce those kinds of decisions, consider what  
9 that's doing to really the bulk of the industry,  
10 which is mostly represented by southern  
11 California.

12 Thank you.

13 (Applause.)

14 COMMISSIONER GEESMAN: Thank you. Now  
15 did the gentleman standing in the aisle want to  
16 speak?

17 MR. BUNAS: Thanks for the opportunity.  
18 I hope I'm the last person. My name is Chris  
19 Bunas. I'm with Solarcraft Services,  
20 Incorporated.

21 The first thing I want to talk about is,  
22 I just have a few things here, I'll be brief.  
23 Just to reiterate on the interconnection agreement  
24 in order to qualify for rebates, or to get paid  
25 for the rebate, I would give an idea that maybe

1 systems under 10 kilowatt to qualify for E-net be  
2 not required to submit interconnection  
3 documentation to receive our funds.

4 Just because we haven't had any problems  
5 since the new E-net program has started with  
6 interconnection. As a matter of fact, I have PG&E  
7 calling me three times sometimes on the same job  
8 asking me when we're going to show up to do the  
9 inspection now. I mean their systems are coming  
10 along well on the 10 kilowatts and under. And we  
11 haven't had any problems with interconnection.

12 And maybe just that we fill out an  
13 application and send that in with our request for  
14 funds, is an idea. And then anything you guys  
15 want to do for the over 10 kilowatt systems, I  
16 guess you can think about doing that. I just  
17 wouldn't put the blame on PG&E for 10 kilowatts  
18 and under at this point. We just don't have those  
19 problems any more.

20 Also i agree with the rebate amount  
21 being a 4.25 a watt. But I do also agree with  
22 systems around the 3 or 4 kilowatt range to be, to  
23 stay at the higher levels at least initially.  
24 Because our cost of sale on those are very high.  
25 And the overall cost of implementation is much

1 higher than a 5 kilowatt system. And especially a  
2 10 kilowatt system. I think they're completely in  
3 different categories.

4 Also the other thing, too, I agree with  
5 the systems, or the applications submitted before  
6 the October 31st deadline. It's really imperative  
7 that we get those at the 4.50 a watt. If we go  
8 back, there's going to be hundreds of thousands of  
9 dollars in losses there, if we go back to those  
10 applications that we submitted industrywide for  
11 all of our installers there. And have to go and  
12 reapply.

13 And even if the fact is that we are  
14 forced to reapply, we'd like to know that as soon  
15 as possible.

16 Also, I'd like to see an improved  
17 process from the California Energy Commission  
18 Staff, although it's by lack of staff and manpower  
19 that any problems are -- any issues have arisen,  
20 I'm sure. I'm not ready to go and hang anyone  
21 there, because they've done such a great job doing  
22 what they are doing with the manpower that they  
23 can.

24 But there are a lot of ways to improve  
25 processes, and I agree that we should use a

1 percentage of our funds to go back and approve  
2 that.

3 And number one, yes, you need more  
4 people, more heads over there. Number two,  
5 automated application system that generates  
6 application numbers right there. Also has a  
7 general forms to fill out on there that the  
8 contractors, themselves, can print out and send in  
9 to the Energy Commission. Something that  
10 generates automated forms so that everyone has the  
11 exact same numbers on their form and everything.

12 The contractor will sit there and fill  
13 in, you know, or even a dropdown box in an  
14 automated form that you can select the inverter,  
15 the panels, everything. Everything else that's  
16 automatically generated. And generates me an  
17 application number so I know exactly what it is.

18 Anyone who qualifies as a contractor  
19 should have to sign up for this. And have a  
20 security to get into this. And you don't have to  
21 do this will all monitors, it can just be  
22 contractors to help smooth out a lot of the  
23 process.

24 We can go back and get information from  
25 that any time just by signing on online. And

1 after we fill out that information we can have a  
2 checklist that we also fill out before it prints  
3 out our documents, that we have to send in. We  
4 can fill out that checklist that says, do you have  
5 your electricity utility bill, do you have this  
6 and that. You go through and actually check all  
7 those.

8 It's kind of like doing your taxes  
9 online. You check boxes, you check the thing that  
10 says you sign it. And then you process that  
11 information and it can happen online. It's not a  
12 very expensive system to put into action.

13 Also the last thing I think I have to  
14 say here is as far as warranty performance, my  
15 company, in its ethical ways of doing business, we  
16 produce or we actually put out numbers  
17 associated -- we give a customer numbers that we  
18 think are estimated power output.

19 The way that we go about warranting  
20 those or checking those is because there's so many  
21 factors involved out of our control, such as  
22 everyone else has mentioned, we are able to go  
23 back and just -- we can test a system for an hour.  
24 We can tell you what that system will put out for  
25 an hour.

1           To make it something that the whole  
2 industry can use, we need micro climate data in  
3 certain areas, and data associated with the  
4 calendar days of the year, as far as insulation  
5 ratings.

6           If I have those two things I can go in  
7 there and basically tell you how much any system  
8 is going to put out for an hour at a certain time  
9 of day. And I'll be able to test it and warranty  
10 it. And if it's not putting out the right amount  
11 of power then we know there's a problem with the  
12 equipment or the installation.

13           And then it goes back on me, my  
14 liability to go back and fix. Other than that, I  
15 don't know how else we could guarantee system  
16 output as far as kilowatt hours.

17           But I do that now. I've had customers  
18 that I use as references, as a matter of fact,  
19 that will tell you that I've gone back and added  
20 panels because their system wasn't putting out as  
21 much as I told them it was going to put out.

22           In the beginning when we all started  
23 doing this we were using PTT ratings, which is way  
24 off. So, you know, I mean now it's basically  
25 going back and saying 70 percent of the STC

1 rating, or 70 to 75 percent of STC rating is more  
2 reality.

3 But it doesn't work in every area. You  
4 have Noe Valley down in Marin County that it's  
5 foggy half the day and half the year. So the same  
6 type system's not going to work there. We need  
7 micro climate data in order to warranty these  
8 systems to system output. And we also need  
9 insulation data for time of date of year.

10 And if I could get that information I  
11 can do a warranty based on output.

12 That's it, thank you.

13 COMMISSIONER GEESMAN: Questions from  
14 the staff?

15 MR. BRAZIL: Yeah, I have just one  
16 question. As far as the E-net customers, how long  
17 does it usually take to get interconnected after  
18 getting a permit?

19 MR. BUNAS: After getting a permit,  
20 well, there's so many factors involved in that,  
21 too. But after signing and sending in the final  
22 building permit, the process is that if you've  
23 done your paperwork already, you've done your one-  
24 line drawings, put your package together, sent it  
25 in to them, the process is less than ten days,

1 which is what they say.

2 I usually get a call at least a week  
3 later. And that's on E-net systems. If I have a  
4 problem with that I call down there, or I have a  
5 contact down there that I contact. And since,  
6 maybe in the last year, they've improved the  
7 process enough for me not to have problems with  
8 it. I've actually -- they've had more problems  
9 with me getting there on time to be -- and meet  
10 the inspectors.

11 So, on E-net systems, if we can kind of  
12 somehow pass that whole deal with having to submit  
13 those documents, and maybe just submit an  
14 application that shows that we filled it out, and  
15 the customers sign the application agreement. I  
16 agree with that.

17 And in systems over and above that,  
18 which we do, too. I'd like to see it not happen  
19 on anything, but if we have to make it happen, you  
20 know, 10 kilowatts and over, just because of E-  
21 net. We've just had less problems with E-net.

22 MR. SPEAKER: Have you had PG&E lose  
23 your paperwork yet?

24 (Laughter.)

25 (Parties speaking simultaneously.)

1 MR. BUNAS: Yeah, we've had everything  
2 happen --

3  
4 (Parties speaking simultaneously.)

5 MS. SHAPIRO: We need to put this on the  
6 record. Excuse me.

7 MR. BUNAS: No, we --

8 MS. SHAPIRO: Excuse me, could you come  
9 up and --

10 MR. BUNAS: -- we've picked up on the  
11 differences. Thank you.

12 COMMISSIONER GEESMAN: All right, thank  
13 you very much.

14 Now, is there anybody else in the right  
15 field pavilion here who would like to speak? I'm  
16 going to call on the fellow in the back and then  
17 I'm going to call on the gentleman with the tie.  
18 And then I think we're going to be done.

19 MR. NELLON: Tommie Nellon from  
20 Unlimited Energy in Fresno. I wanted to be last  
21 so this would stick in your mind.

22 For all the applications that go in you  
23 should charge a non refundable fee of about 50  
24 bucks. And that will eliminate a lot of that when  
25 the phone rings we put in an application.

1                   And that money could be used for -- you  
2                   can use it for extra staff or whatever. Okay?

3                   COMMISSIONER GEESMAN: That's a good  
4                   observation.

5                   MR. NELLON: That's it.

6                   (Applause.)

7                   MR. McKEARN: Very interesting comment.  
8                   I'm here to sort of address the same issue. Sorry  
9                   I didn't cover this point earlier --

10                  COMMISSIONER GEESMAN: You need to tell  
11                  us your name again for --

12                  MR. McKEARN: Jack McKearn with Allied  
13                  Sun Technologies.

14                  COMMISSIONER GEESMAN: Thank you.

15                  MR. McKEARN: I think one of two main  
16                  reasons that we're all here is that the program  
17                  ran out of funds. Well, that's partially correct.

18                  If my information is correct we ran out  
19                  of reservable funds. And as I understand, my  
20                  information could be wrong, but as I understand,  
21                  every year there's a good portion of the funds  
22                  that go unspent. They get reserved, but not  
23                  spent, because people put in applications but they  
24                  never end up installing the system.

25                  One of our suggestions is that we could

1       reduce the time period for the reservation to  
2       maybe 90 days, maybe four and a half months, with  
3       a three-month extension period available that you  
4       might have to show a purchase order or something  
5       like that, to get that extension.

6                 What this would do is it would, after  
7       three months, or four and a half months, or six  
8       months, or whatever we set that time period at,  
9       would release those funds that are now unspent.  
10      And allow us to install more systems. And  
11      effectively solve our problem.

12                Sort of related to this, and I think  
13      this is what the Commission was trying to do at  
14      this point, I didn't hear anyone else talk about  
15      it, but I notice that they're now requiring a  
16      purchase order rather than a letter of intent to  
17      get a reservation.

18                And we feel that this would be very  
19      detrimental, at least to the way we've been doing  
20      sales, to the program.

21                Let me just illustrate a couple points  
22      on that. Number one, a customer, especially  
23      residential customer, is very hesitant to sign a  
24      purchase order, a binding purchase order, without  
25      a guarantee of this amount of money -- an

1 availability saying, okay, this amount of money is  
2 available to me; and at what incentive level.

3 Secondly, it is impossible to get  
4 financing on a system that may or may not happen  
5 for three to six months. And let me illustrate  
6 that.

7 Let's say a homeowner goes and applies  
8 for a loan. And the loan origination is on a  
9 certain date. Well, if the system gets installed  
10 and finished right then, fine. Oftentimes that's  
11 not the case. It's maybe three months later. And  
12 so that money has been -- I'm not a loan expert,  
13 but basically they've already gotten the loan,  
14 they're now incurring fees on it, but they haven't  
15 really spent that money yet. And it creates a  
16 financing challenge with the typical avenues of  
17 finance when you have to have a purchase order.  
18 And that customer has to get financing before  
19 they're willing to sign a purchase order.

20 It's just a whole chasing-your-tail kind  
21 of a situation that we don't want to get into.

22 So I would encourage the Commission to  
23 look at the length of the reservation period, and  
24 also really look back at the letter of intent  
25 idea. We think that's a very good process.

1           But also the recommendation the  
2 gentleman had for a small application fee is also  
3 something that might be very good.

4           COMMISSIONER GEESMAN: Questions from  
5 staff?

6           Okay, I believe that concludes the  
7 hearing. I want to thank everyone for their  
8 patience and their participation. And encourage  
9 those of you who have not already filed written  
10 comments, to get those to us by Monday. We'll  
11 keep the docket open until the close of business  
12 on Monday.

13           But, again, I thank you all for your  
14 participation.

15           COMMISSIONER BOYD: Yes, indeed, thank  
16 you. I learned a lot.

17           (Whereupon, at 1:35 p.m., the hearing  
18 was adjourned.)

19   --o0o--

20

21

22

23

24

25

## 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 Hearing; 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  
hearing, nor in any way interested in outcome of  
said hearing.

IN WITNESS WHEREOF, I have hereunto set  
my hand this 18th day of December, 2002.

PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345