

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

| | | |
|-----------------------------------|---|------------|
| In the Matter of: |) | |
| |) | |
| 2008 Rulemaking on Appliance |) | Docket No. |
| Efficiency Regulations |) | 07-AAER-3 |
| |) | |
| Implementation of California |) | |
| Code of Regulations, Title 20, |) | |
| Section 1601 through Section 1608 |) | |
| _____ |) | |

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

THURSDAY, MAY 15, 2008

9:00 A.M.

ORIGINAL

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COMMISSIONERS PRESENT

Jackalyne Pfannenstiel, Presiding Member

Arthur H. Rosenfeld, Associate Member

ADVISORS PRESENT

Tim Tutt, Advisor to Commissioner Pfannenstiel

John Wilson, Advisor to Commissioner Rosenfeld

STAFF PRESENT

Betty Chrisman

Gary Flamm

Melinda Merritt

Bill Pennington

Harinder Singh

Peter Straight

ALSO PRESENT

Gary Fernstrom, Pacific Gas and Electric Company
(PG&E)

Dr. Paul Bendt, Ecos Consulting

Chris Calwell, Ecos Consulting

Leo Rainer, Davis Energy Group, Inc.

Mike Geremia, Geremia Pools

William E. Storm, Storm's Pool Care & Repair

Mike Gardner, Mike Gardner Pools

Celia Hugueley, Oasis Pool Service

ALSO PRESENT

Steve Barnes, Association of Pool and Spa Professionals

Jim Haynes, Uniden Engineering Services

Larry Albert, Power Test Institute and Black & Decker (via telephone)

Wayne Anderson, Motorola

Dave Klein, JVC

Wayne E. Morris, Association of Home Appliance Manufacturers (AHAM) and Power Tool Institute

Dain M. Hansen, National Electrical Manufacturers Association (NEMA)

John Green, National Electrical Manufacturers Association (NEMA)

Jean Baronas, Sony Electronics Inc.

Doug Johnson, Consumer Electronics Association

Rick Habben, Wahl Clipper Corporation

Pamela K. Horner, Osram Sylvania

Joseph G. Howley, GE Consumer and Industrial

Keith Cook, Philips Electronics North America Corporation

Michael O'Boyle, Lightolier

Dennis Swanson, American Lighting Association (ALA) and National Electrical Manufacturers Association (NEMA)

Michael Siminovitch, PhD, University of California, Davis, California Lighting Technology Institute

Ted Pope, Energy Solutions

ALSO PRESENT

Jennifer Thorne Amann, American Council for an
Energy-Efficient Economy

Richard C. Upton, American Lighting Association

Paul Pavletich, Premier Lighting and Home

Bob Erhardt, National Electrical Manufacturers
Association

Randall Higa, Southern California Edison

Howard L. Wolfman, Osram Sylvania

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P R O C E E D I N G S

9:17 a.m.

PRESIDING MEMBER PFANNENSTIEL: Good morning. This is the Energy Commission's Efficiency Committee Workshop on appliance efficiency standards.

ASSOCIATE MEMBER ROSENFELD: They can't hear you, Jackie.

PRESIDING MEMBER PFANNENSTIEL: You can't hear? It's on. Somebody grab Joe and find out what the problem is with the mics.

(Thereupon there was an off the record discussion regarding the microphones.)

PRESIDING MEMBER PFANNENSTIEL: We'll try this again. We apologize for multiple technical issues this morning but I think we are ready.

This is the Efficiency Committee's Workshop on appliance efficiency standards. I am Jackie Pfannenstiel. I am the Chair of the Energy Commission and the Presiding Commissioner on the Commission's Efficiency Committee. To my left is Commissioner Rosenfeld who is the Associate Member on the Efficiency Committee. To my right is Tim

1 Tutt, my advisor; and to Commissioner's
2 Rosenfeld's left is John Wilson, his advisor.

3 I think everybody is here understanding
4 this is one of the most important activities that
5 the Energy Commission undertakes on a regular
6 basis, to look at the efficiency of the appliances
7 that are sold in California.

8 We take this responsibility to do this
9 very seriously. We are going to hear today about
10 several appliances that have gone through the
11 process of looking at the efficiency standards
12 that are both technically feasible and cost-
13 effective for them.

14 Today will be largely spent in both
15 presentation and technical discussion back and
16 forth. We need and welcome the input of people
17 here and appreciate your participation in this
18 process.

19 Commissioner Rosenfeld, any opening
20 comments?

21 ASSOCIATE MEMBER ROSENFELD: No.

22 PRESIDING MEMBER PFANNENSTIEL: Well
23 with that let me turn it over to staff to get
24 going. Melinda.

25 MS. MERRITT: Okay. Good morning

1 everyone. I am Melinda Merritt with the Appliance
2 Efficiency Program. Before we start I have a few
3 housekeeping items I need to go over with you so I
4 am going to read my script here.

5 For those of you not familiar with the
6 building, the closest restrooms are located out
7 the door to the left. There is a snack bar on the
8 second floor under the white awning.

9 Lastly, in the event of an emergency and
10 the building is evacuated please follow our
11 employees to the appropriate exits. We would
12 reconvene at Roosevelt Park, which is located
13 diagonally across the street from this building.
14 Please proceed calmly and quickly, again,
15 following the employees with whom you are meeting
16 to safely exit the building.

17 Okay. There are copies of the workshop
18 agenda, the Committee notice and a limited number
19 of copies of various reports and other comments in
20 the foyer if you haven't already picked those up.

21 I would like to note that all comments
22 that we have received to date have been posted on
23 our website and we will be posting the slide packs
24 and any comments that we receive today in the
25 presentation. And any additional comments we

1 receive following this workshop will also be
2 posted on our website.

3 This workshop is being recorded and a
4 transcript will be provided within two weeks.

5 This meeting is also being broadcast
6 over the Internet and interested public wishing to
7 participate by phone had been invited to call in.
8 Regrettably we published the wrong call-in number
9 and are doing everything that we can to correct
10 that problem. The correct call-in number is
11 1-888-935-0258. The passcode is appliance, the
12 call leader is Melinda Merritt.

13 Also we have a sign-in sheet in the
14 foyer. If you haven't already please sign in.
15 There are blue cards for members of the public
16 wishing to speak. We will collect those at
17 intervals and make sure that you have the
18 opportunity to make your comments.

19 In its April 2 Scoping Order the
20 Efficiency Committee established the scope of
21 Phase I of this proceeding and the Committee's
22 Workshop Order for this workshop divided Phase I
23 into three parts. This workshop is concerned with
24 topics identified for consideration in Parts A and
25 B.

1 At this point I would like to emphasize
2 that we are in the pre-rulemaking stage of this
3 proceeding, with the intent to identify and
4 discuss all proposals for new standards and
5 amendments to the existing regulations that will
6 contribute to the realization of energy savings
7 for California to increase appliance efficiency.

8 This is still early in the process and
9 there will be additional opportunity to discuss
10 the various proposals and the proposed draft
11 language put forward to date. Over the past three
12 months the staff has worked to actively engage the
13 respective industry and advocacy stakeholders in a
14 collaborative process conducting several meetings,
15 phone conferences, e-mail dialogues with lighting
16 industry representatives, battery charger system
17 manufacturers and trade associations in
18 particular.

19 The Phase I topics are identified on the
20 slide and Part A and Part B of these topics
21 identified as well.

22 I guess at this point I would also like
23 to express my appreciation for PG&E and their
24 consultants, for all of the excellent work and the
25 long hours that they have already devoted to this

1 project. And to all the participants that staff
2 has been working with for the congenial quality of
3 the interactions that we have experienced so far
4 and we truly hope that that continues as we move
5 through the proceeding.

6 To move on I guess I will simply note
7 the staff reports and introduce the staff that
8 will be presenting brief overviews of the various
9 topics. We have tried to keep our overviews
10 utterly brief so as to allow time for the many
11 presenters at today's workshop. And we request
12 that everyone try and keep attention to the time
13 that we have allocated for each of the subject
14 matter that we have to cover.

15 So briefly, the staff has published two
16 documents, the Staff Report: Phase I, Parts A and
17 B, provides background information and discussion
18 and puts forward draft regulations for the various
19 topics that have been identified. The Part A
20 topics are lighting-related only; the Part B
21 topics cover a variety of subjects.

22 And then the Draft Regulations: Part B -
23 Draft Amendments to the Appliance Efficiency
24 Regulations. This is a voluminous document that
25 you may or may not have downloaded. But it

1 provides the non-substantive changes. Those are
2 changes without regulatory effect for both Parts A
3 and B.

4 The amendments or the draft language
5 with respect to Part A that is found in the Draft
6 Regulations document only pertain to definitions
7 for consistency with current federal law and Betty
8 Chrisman will be explaining this in more detail
9 here shortly.

10 The changes with regulatory effect,
11 which would be the equivalent of expressed terms
12 when we get further along in this proceeding, are
13 for the Part B topics only. So you will not find
14 expressed terms for the two lighting-related
15 topics that are included in Part A.

16 We have tried to provide somewhat of a
17 road map working through these two documents.
18 There's quite a volume of changes, as you might
19 have noticed, and we will definitely need your
20 help in reviewing that document in particular.

21 ASSOCIATE MEMBER ROSENFELD: Melinda,
22 can you talk a little bit more into the mic.

23 MS. MERRITT: Yes. Is there anything I
24 need to repeat?

25 ASSOCIATE MEMBER ROSENFELD: That's all

1 right.

2 MS. MERRITT: Okay. Well actually I'm
3 done.

4 ASSOCIATE MEMBER ROSENFELD: Thank you.

5 MS. MERRITT: So with that I'll
6 introduce Betty Chrisman.

7 MS. CHRISMAN: Thanks, Melinda. My name
8 is Betty Chrisman and I am Program Manager of the
9 Energy Commission's Appliance Efficiency
10 Compliance Program. I am just going to discuss a
11 couple of the items on the agenda today.

12 First related to the non-substantive
13 changes that are shown in the draft regulations
14 with blue highlight, either struck-out or
15 underlined text. These changes reflect current
16 federal law, both 10 CFR Sections 430 and 431 as
17 well as the Energy Independence and Security Act
18 that was signed last December. There are other
19 clarifications as well.

20 And when appropriate changes have been
21 made also to Section 1602 definitions. There's a
22 lot of changes in that section as well as 1604,
23 Test Methods.

24 MR. STRAIGHT: Commissioners, we're not
25 able to pick up her voice over the mic at the

1 moment.

2 PRESIDING MEMBER PFANNENSTIEL: Betty,
3 please speak right into the mic, close to it.

4 MS. CHRISMAN: Can you hear me now?

5 PRESIDING MEMBER PFANNENSTIEL: Yes.

6 ASSOCIATE MEMBER ROSENFELD: Yes.

7 MS. CHRISMAN: Okay. Do you need me to
8 repeat what I said?

9 ASSOCIATE MEMBER ROSENFELD: No.

10 MS. CHRISMAN: Okay.

11 And then related to the draft regs we
12 welcome stakeholder review and comments.

13 These next two slides reflect federal
14 standards that have been updated or added and are
15 now included in the draft regs in 1605.1. We have
16 been asked to clarify the walk-in cooler and walk-
17 in freezer standards that we have incorporated
18 into these draft regulations.

19 EISA specifically excluded products
20 designed and marketed exclusively for medical,
21 scientific or research purposes. We did not
22 include this exclusion because our definition for
23 refrigerators and freezers specifies that they are
24 designed for the storage of food, beverages or
25 ice. However, we can consider including the

1 federal exclusion to provide specific clarity
2 included in EISA.

3 And then this is the second page of
4 changes that are included in 1605.1.

5 Other clarifications included, where
6 appropriate, the Energy Commission standards and
7 1605.3 have either been removed, shown as struck
8 out, or federal standards are already in effect.
9 Or they have had an end-date incorporated, where
10 federal standards take effect in the future.

11 The appliances that have been removed
12 where federal standards are already in effect
13 include ceiling fans, illuminated exit signs,
14 traffic signal modules for vehicle control, the
15 modules for pedestrian control have standards in
16 both 1605.1 and 1605.3. Commercial clothes
17 washers and distribution transformers.

18 The appliances that have an end-date
19 incorporated include walk-in coolers and freezers,
20 commercial refrigerators and freezers, commercial
21 ice-makers, extra-large, unitary air conditioners,
22 unit heaters and power supplies. Commercial spray
23 valves have had the flow rate standard moved to
24 the federal standards in 1605.1 and the
25 cleanability standard remains in 1605.3.

1 The changes with regulatory effect are
2 shown in the draft regulations, highlighted in
3 red, either struck out or underlined. And these
4 are for Part B topics that are not found in the
5 federal regulations. These include battery
6 chargers, metal halide luminaires, residential
7 pool pumps and portable electric spas, all of
8 which will be addressed later in the workshop.

9 We have also incorporated changes to
10 data collection requirements in Table V due to
11 changes both with and without regulatory effect.
12 Some of these include, but they are not limited
13 to: adding a pull-down commercial refrigerator
14 type for federal standards that take effect in
15 2010, providing additional clarification for
16 cooling capacity of water dispensers, adding a
17 field to specify whether a central air conditioner
18 is a vertical, single package model, since federal
19 standards take effect in 2010, expanding the small
20 air conditioner and heat pump space constraint
21 field to reflect different types of these
22 appliances, whether they are space-constrained or
23 through the wall or small ductile velocity,
24 incorporating requirements for federal design
25 standards for ceiling fans, adding data collection

1 for ceiling fan light kits and dehumidifiers,
2 amending the power venting or automatic flue
3 damper reporting requirements to apply to all duct
4 furnaces and unit heaters, not just natural gas
5 models, as our regulations had. Adding a field to
6 small, hot water boilers for determining if the
7 model is equipped with automatic means for
8 adjusting water temperature.

9 And there's additional changes for
10 residential pool pumps and water and energy use
11 requirements for dishwashers to show compliance
12 with federal standards that are taking effect in
13 2010 as well as distribution transformers, two
14 different types that are taking effect in federal
15 standards in 2010.

16 And we expect to include data collection
17 for federally regulated lamps and we are still
18 determining what those data parameters will be.

19 That's the end of this section.

20 PRESIDING MEMBER PFANNENSTIEL: Thank
21 you, Betty. Are there questions or discussion on
22 this part? Otherwise why don't we move on to the
23 next section.

24 MS. CHRISMAN: Residential pool pumps,
25 the clarification, and portable electric spas, the

1 clarification to the test method.

2 We received a proposal from Pacific Gas
3 and Electric Company recommending clarification of
4 the residential pool pump standards and of the
5 test method for portable electric spas. This
6 proposal was narrowed to specifically address
7 certain deficiencies and PG&E will submit a
8 revised template later this month.

9 For the residential pool pumps, the
10 clarification of the standards is the proposed
11 regulatory language will do the three things that
12 are shown here. Regarding clarification of
13 replacement motors and testing and data
14 certification or Curve C to show compliance with
15 the recently adopted building standards and to
16 correct an oversight regarding adding a data
17 collection point to enable manufacturers to show
18 compliance with the pump control requirements.

19 Related to portable electric spas. It
20 is currently the test method shows, requires a --
21 specifies a minimum water temperature and a
22 maximum ambient air temperature. The proposed
23 regulatory language will insert a two-sided
24 temperature tolerance for both and remove the spa
25 insulation R-value and spa cover R-value from the

1 data reporting requirements.

2 And to provide more detail for both of
3 these proposals we have Gary Fernstrom from PG&E.

4 MR. FERNSTROM: Well good morning,
5 Chairperson Pfannenstiel, Commissioner Rosenfeld,
6 assistants, staff and interested parties. I would
7 like to make a couple of generalized comments and
8 then move on to our pool and spa-related
9 recommendations. To introduce myself, I am Gary
10 Fernstrom, Senior Program Engineer with the
11 Pacific Gas and Electric Company and PG&E's
12 project manager for the appliance standards
13 program.

14 As you know, PG&E and the other state's
15 investor-owned utilities are charged by the
16 California Public Utilities Commission to make
17 energy efficiency the first priority in the
18 loading order. As a consequence we are looking at
19 all opportunities, both through voluntary
20 information education and rebate programs as well
21 as with codes and standards advocacy to improve
22 energy efficiency in the state.

23 The program is supported by all the
24 investor-owned utilities so not just PG&E is
25 present here today. There are representatives

1 from the Southern California Edison Company, the
2 San Diego Gas and Electric Company and the
3 Southern California Gas Company.

4 We have been here many times before to
5 make these recommendations for you but somehow
6 this time seems different. There are serious,
7 global climate change issues that the country is
8 becoming increasingly aware of. California has
9 set very ambitious strategic air quality and
10 energy efficiency goals through the Governor's
11 Office and the Legislature. And our team has
12 assessed what we think we need to do tactically to
13 realize these goals through both voluntary
14 programs and through codes and standards
15 improvement advocacy.

16 As a consequence our recommendations
17 this time are perhaps more aggressive than they
18 have been in the past and this has resulted in
19 more concern from affected stakeholder groups. We
20 at the utility have no particular vested interest
21 in this other than to get to the efficiency goals
22 that the state has set and indeed follow the
23 CPUC's directive to make energy efficiency the
24 first item in the loading order.

25 So we believe that our recommendations

1 are objective, correct and fully merited.

2 However, in our process we solicit input from
3 everyone and there are other stakeholders in the
4 room today who are certainly going to present
5 opposing views or opposite views. So ultimately
6 it is up to you the Commissioners to decide what,
7 in fact, is going to be turned into rules and that
8 will largely determine whether or not we can meet
9 the State of California goals.

10 So with that brief introduction I would
11 like to introduce one of our consultants from the
12 consultant team, Leo Rainer from the Davis Energy
13 Group, who will talk about our pool pump and spa
14 proposal. And then I am expecting that there will
15 be several individuals from the trade to talk
16 about their views.

17 The pool industry is a very diverse
18 industry. All one has to do is go to one of the
19 contractor trade group meetings and you can
20 immediately see that there are a high diversity of
21 opinions about what to do and how to do it among
22 all of the contractors there. So in that spirit I
23 think we will see quite a diversity of opinions
24 presented here today. Leo.

25 MR. RAINER: Thank you, Gary. My name

1 is Leo Rainer, I am with Davis Energy Group, I am
2 here on behalf of PG&E and I would like to thank
3 the Commission for allowing us to provide our
4 input to the proposed amendments. I am going to
5 talk about both the clarification of --

6 ASSOCIATE MEMBER ROSENFELD: Leo, talk
7 into the mic a little.

8 MR. RAINER: There we go, a little
9 closer.

10 ASSOCIATE MEMBER ROSENFELD: You're too
11 tall.

12 MR. RAINER: You have to line people up
13 in order so that they don't keep going back and
14 forth.

15 I am going to talk about both pools and
16 spas. I am going to talk about spas first and
17 then I'll talk about pools and I think we can take
18 -- I don't know, do we want to take discussion
19 separately or together on those?

20 So spas. Spas were first covered in the
21 2005 standard. We are talking about portable
22 electric spas. These are portable devices that
23 are either 120 or 240 volt. They are called
24 portable because they can be moved, not because
25 they typically are moved, but they are not a

1 permanently installed hot tub or in-ground spa.

2 During the 2005 process PG&E submitted a
3 codes and standards enhancements report
4 recommending two items. One was a test method for
5 determining the standby load of spas and
6 requesting that they be tested and listed; and
7 then secondly, setting a maximum standby power
8 level that is based on the volume of the spa.

9 The standby level is calculated as five
10 times the volume to the two-thirds. And the
11 standby power, the test is a 72 hour, basically
12 maintaining the spa at 102 degrees in a 60 degree
13 ambient condition with a cover on and just the
14 controls running, no actual use of the spa. So
15 it's a standby level test. And the output of the
16 test is watts and the standard level is a wattage,
17 an average wattage.

18 All the recommendations were
19 incorporated in the standards and became effective
20 January 1, 2006. Since then some manufacturers
21 have expressed concern that they have had
22 difficulty meeting the standard with some of their
23 spas, specifically smaller spas, and there has
24 been some question as to the accuracy or
25 repeatability of the test method.

1 PG&E has been in discussions with the
2 Association of Pool and Spa Professionals and also
3 spa manufacturers. They had a number of meetings
4 discussing how best to address this. Currently
5 the APSP has been developing an ANSI test method
6 based on the CEC test method. There is ongoing
7 testing being done at Cal Poly San Luis Obispo
8 where they have built a test facility and have a
9 number of spas that they are going to test to
10 determine how well they can recreate the test
11 method.

12 To give you a little more background on
13 the current, how the test method works. This
14 graph, the bottom is the volume of the spa in
15 gallons. The vertical axis is the standby energy
16 use in wattage. And the black line you see is the
17 standard level, five times the volume to the two-
18 thirds.

19 The blue triangles are the currently
20 listed spas that meet the standard. This shows
21 140. There are actually now 190, I haven't
22 updated the list. Currently there's 190 spas that
23 meet the standard.

24 The red boxes are the test, the spas
25 tested in development of the standard, and the

1 green circles are a sample that the APSP submitted
2 to us of 40 spas, some of which met the standard
3 and some of which did not. And just to give you
4 an idea of the breadth of both volume and standby
5 power that you see in current spas.

6 Comments on the current amendments. We
7 agreed with all of the proposed CEC
8 clarifications. We think that what is currently
9 in there we completely agree with. We would like
10 to see future refinements to the spa test method
11 that come out of the APSP and Cal Poly testing
12 incorporated as appropriate in future time. I
13 don't know if that will be done in time in this
14 standards process. And in addition to the
15 standards I would like to discuss two additional
16 proposals, one dealing with the definition of spa
17 volume and the other is the elimination of the
18 reporting of relative humidity.

19 Spa volume is a critical value. The
20 standard level is based on the spa volume.
21 However, there is no standard industry definition
22 of spa volume. It is listed on -- the
23 manufacturer always lists the spa volume but how
24 that is determined is up to the manufacturer. It
25 is typically rounded to a nice number. You know,

1 300, 200 gallons. And the troubling problem is
2 there are incentives to overstate this volume,
3 both from a marketing perspective, a larger spa is
4 better, and also from a regulatory perspective a
5 larger spa has a larger budget.

6 So we would like to see a more definite
7 definition of spa volume developed. A couple of
8 options. One, what we would really like to see is
9 the actual or operating spa volume. What is used
10 when it is operated. That can be difficult to
11 define, however.

12 An easily defined definition is the
13 maximum volume. You simply fill the spa until it
14 overflows. That is very easy to define, however
15 that is not how the spa is operated and that is
16 not how it is tested.

17 One option that we have come up with,
18 which is probably as close as you can get to the
19 actual is to get the maximum fill volume and then
20 subtract 10.6 times the rated capacity. The rated
21 capacity is the number of people. Ten-point-six
22 is gallons, that's half of the volume of a person.
23 So if you assume half of the person is in the spa
24 and half is out then there's 10.6 gallons for each
25 person. So you assume all those people are in

1 there and when they're in hopefully the water
2 doesn't spill over so that's probably about where
3 you would want to fill the spa.

4 MR. FERNSTROM: Leo, this is Gary,
5 excuse me for interrupting. Now is that a typical
6 person or? (Laughter)

7 MR. RAINER: I knew we were going to get
8 into the obesity question here and what is the
9 average American. (Laughter) This is, I got this
10 from the latest -- That is an average of women and
11 men but we can argue that later if you really want
12 to. It's more the concept. So I think this is a
13 definition that could be worked with but we would
14 like work with industry to come up with a good
15 definition.

16 Secondly is more of just a reporting
17 manner. In the current test method it is required
18 that the average humidity during the test be
19 reported. That was put in there originally
20 because relative humidity can have a large effect
21 on energy use of pools and spas. However, the
22 test is done with a cover on for the entire time
23 and the relative humidity has a very minor effect
24 and it is an added burden to the test method
25 because you don't need a relative humidity for

1 anything else. So we are proposing that that be
2 eliminated from the requirement.

3 That's it for spas. Do you want to take
4 discussion on spas first?

5 MR. FERNSTROM: Just one quick question,
6 Leo. Did you want to address the cover R-value
7 issue?

8 MR. RAINER: Yes. The reason we
9 proposed striking also the cover R-value from the
10 reporting is we feel that the cover R-value
11 shouldn't be used as a marketing tool. We really
12 should be using the standard, the standby wattage,
13 that really tells you how well the spa performs.
14 The cover R-value has an effect but it depends on
15 how the cover is built and how it is sealed. It
16 has almost a larger effect than the obviously R-
17 value of the spa. So we feel that the R-value
18 being reported is more confusing than it is worth.
19 Does that cover it, Gary?

20 PRESIDING MEMBER PFANNENSTIEL: Are
21 there questions or discussion on spas? Otherwise
22 we'll move on to swimming pools. Go ahead.

23 MR. RAINER: Swimming pools. Similarly,
24 pool pumps --

25 MR. PENNINGTON: Is there a question in

1 the back there, sir?

2 MR. GEREMIA: I was just going to --

3 PRESIDING MEMBER PFANNENSTIEL: Excuse
4 me, if you have a question you need to come to a
5 microphone.

6 MR. GEREMIA: I was just going to ask,
7 is there a requirement to make sure that the cover
8 that is supplied with the spa in normal sales is
9 the one that is actually going to be used for the
10 test? Mike Geremia with Geremia Pools.

11 MR. RAINER: That's a very good
12 question. That is the requirement. How that gets
13 enforced I do not know. But it should be the
14 cover that is provided with the spa. Obviously
15 there are replacement covers and there are
16 different covers.

17 MR. FERNSTROM: Gary Fernstrom, PG&E.
18 Also Mike, the spas are tested, set up as they
19 originally come from the factory. So whatever the
20 default control settings are, are the ones that
21 are required to be utilized.

22 MR. RAINER: So pool pumps. Similarly,
23 pool pump motors were first covered -- Pool pumps
24 and pool pump motors were first covered in the
25 2005 standards. PG&E provided a case report that

1 recommended testing and listing of the pool pump
2 efficiency and flows at various system curves.
3 The elimination of low-efficiency motors,
4 specifically split phase and capacitor start
5 induction run motors, and the requiring that new
6 pool pumps use two-speed motors for pool pumps of
7 greater than one horsepower.

8 All of these requirements were
9 incorporated into the standards. The testing and
10 listing and the efficiency requirements became
11 effective January 1 of 2006. The two-speed motor
12 requirement became effective at the beginning of
13 this year.

14 In addition, last month the Title 24
15 building standards were adopted that have pool
16 design requirements that are closely linked to
17 Title 20 pool pumps. They require a minimum
18 turnover time and a maximum flow velocity,
19 effectively requiring a maximum pool pump size and
20 a minimum piping size. And the way that that is
21 determined is based on pool pump tests from the
22 testing and listing in Title 20.

23 So some of the issues that have come up
24 with pool pumps. Currently the scope of the
25 standards includes only residential pool pumps.

1 Motors are not explicitly mentioned in the scope.
2 It is the interpretation of the CEC currently that
3 the standards do not cover replacement pool pump
4 motors. This means that if a consumer has a pool
5 pump, which is a pump/motor combination, if the
6 motor fails they can buy a single-speed motor to
7 replace that. The intent of the standards was
8 that all new motors would be two-speed.

9 Since the implementation manufacturers
10 also brought out a number of new products that are
11 not only two speed but variable or multi-speed
12 pumps. These have significant benefits, both for
13 energy savings and operation but their efficiency
14 is more difficult to characterize and the current
15 test and listing does not cover that.

16 Also as I have mentioned, the Title 24
17 building standards rely on the testing and listing
18 data for the pool pumps. However, they use a
19 Curve C, which is a third curve that was
20 recommended by stakeholders, which represents a
21 very low loss, well-designed pool and that data
22 would be very useful to have in the testing and
23 listing.

24 Let me explain a little bit about the
25 pool curves. This is a head and flow curve the

1 axis on the bottom is the flow rate in gallons per
2 minute and the vertical axis is the head or
3 pressure drop in feet of water and the yellow, red
4 and light blue lines that you see are what we call
5 a system curve for different pools.

6 Curve A and Curve B, the red and yellow
7 curves were the two curves that were developed for
8 the 2005 Title 20 standards. The red represents a
9 typical pool that we feel is built currently with
10 one and one-half inch PVC pipe. The yellow is
11 supposed to represent an older pool with smaller
12 copper piping.

13 The horizontal lines, the dark blue and
14 the green, represent pump curves. This is how a
15 pump reacts to the system. And where the pump
16 curve crosses the system curve is where the pump
17 operates. If you have a pump curve and a system
18 curve you can find out where your flow rates are.
19 And this is how the testing is done. The pump is
20 tested and the intersection of the various system
21 curves is reported in terms of flow rate and
22 efficiency and power use.

23 Responses to draft amendments. Again we
24 agree with all the proposed amendments the
25 Commission has -- especially the inclusion of

1 replacement pool pump motors. Not including
2 replacement pool pump motors would forgo a
3 majority of the energy savings that were
4 attributed to pool pump standards and were part of
5 the 2005 standards.

6 And replacing a single-speed pool pump
7 motor with a two-speed motor, either in new
8 construction or existing is highly cost-effective,
9 both from a societal and a consumer perspective.
10 Typical motors are expected to have a ten year
11 life. Annual savings from putting in a two-speed
12 pool pump motor in a typical one and a half
13 horsepower pool pump is about 880 kilowatt hours a
14 year. That represents about \$800 in present value
15 savings over the ten year life of the motor.

16 We estimate the cost of installing a
17 two-speed motor in an existing pool pump to be
18 \$400. That includes about \$200 of incremental
19 cost for the pool pump itself, another \$160 for a
20 two-speed controller, which is required for a two-
21 speed pool pump, and added labor for installing
22 that controller. Even with that \$400 cost you
23 still have a \$400 net customer present value and
24 almost a two benefit to cost ratio. And that is
25 in an existing pool. In new construction it is

1 even better because you really don't have any cost
2 for the controller or the labor.

3 So I am going to come back to this curve
4 again just to show you how a two-speed pool pump
5 saves energy. If we look at the red system curve
6 the blue pump curve represents a one and a half
7 horse, single-speed motor, so it would operate at
8 that higher crossing point. It would take five
9 hours to circulate the pool of water and it would
10 use during that five hours about 1100 watts.

11 If you put in a two-speed pool pump
12 motor that runs at a low speed, in other words
13 that lower green line, you move down the system
14 curve. You do move less water but you move it at
15 a much lower power use. So it takes you longer,
16 it takes you seven and a half hours to move that
17 same amount of water, but you only use 400 watts
18 to do that and you save -- Well, let's see. I
19 didn't put that on there. You'd save 800 kilowatt
20 hours a year doing this.

21 The two-speed pool pump allows you to
22 still have the high speed when needed for other
23 pool operations. Also you can see there's
24 significant demand savings. Over 800 watts of
25 demand if this pool pump is operated on peak.

1 Finally to kind of cover the suggested
2 next steps for both pools and spas. We would like
3 to settle on a standard spa volume definition. We
4 would like to work with APSP and Cal Poly to
5 resolve any testing issues on the test method. We
6 want to ensure that replacement pool pump motors
7 are included in the scope of the standards as now
8 proposed.

9 We would like to work with industry to
10 educate pool service firms on the benefit of
11 multi-speed pumps and good pool design. We feel
12 that the real difficulty here is getting the
13 industry to understand the benefits and therefore
14 allow consumers to obtain those benefits. And we
15 would like to investigate how to best test the
16 newer variable speed and multi-speed pumps.

17 So I can take any questions on pools.

18 MR. FERNSTROM: If I could just add one
19 thing. This is Gary Fernstrom from PG&E.

20 Leo's presentation and estimates here,
21 by our view, are quite conservative. The
22 California DEER estimate, Database of Energy
23 Efficient Resources, shows the two-speed savings
24 to be 1400 kilowatt hours a year, which is
25 substantially more than the very conservative

1 estimate that we have made here. So on to
2 questions.

3 PRESIDING MEMBER PFANNENSTIEL: Thank
4 you, Gary. Are there questions or discussion, any
5 remaining questions on the spas? Please come up
6 to the microphone and identify yourself for the
7 record, please.

8 MR. STORM: My name is William Storm, I
9 am the owner of Storm's Pool Care and Repair in
10 Sacramento, California.

11 ASSOCIATE MEMBER ROSENFELD: Do you have
12 your mic on? Is the green light on?

13 MR. STORM: All right. Is that better
14 now?

15 ASSOCIATE MEMBER ROSENFELD: Yes.

16 MR. STORM: Okay, thank you. My name is
17 William Storm. I am the owner of Storm's Pool
18 Care and Repair in Sacramento, California. I am a
19 licensed contractor. I have been in the swimming
20 pool service business since 1962 and I completed
21 one of the first college accredited pool
22 technician courses in the United States. In
23 talking with my colleagues, it is the only
24 accredited pool technician course and it was done
25 with Sacramento City College.

1 I have been installing and promoting
2 two-speed pumps since 1990 with success. My
3 failure rate I would say is zero because I have
4 not had call-backs on them.

5 There are definitely different needs for
6 different pools. But on a pool technician basis
7 and on an educated level these problems can be
8 addressed and solved and performance can remain
9 excellent and see improvements.

10 Contrary to some opinions, two speeds
11 offer an immediate economic stimulus to the
12 economy, even though the individuals make an
13 expense, and there is an immediate economic
14 stimulus to the personal budget. That is
15 immediate from the day that the pump is turned on.

16 The upgrade cost to a two-speed system
17 can be recovered in five months. You are talking
18 to somebody that has had a motor fail so they have
19 one level expense. What you are going to do to
20 increase that is less than \$200, comfortably.

21 The program for upgrading pool systems
22 should really be given -- should really give
23 people in the pool cleaning service business a
24 boost to become a certified technician and a
25 reason to become a licensed contractor in the

1 state of California. Do you have any questions
2 for me?

3 PRESIDING MEMBER PFANNENSTIEL: None,
4 thank you, sir.

5 MR. STORM: Thank you.

6 PRESIDING MEMBER PFANNENSTIEL: I have
7 some blue cards from people who have asked to
8 speak on this so why don't we go through them
9 first. Mike Gardner, Independent Pool and Spa
10 Association -- Service Association, I'm sorry.

11 MR. GARDNER: My name is Mike Gardner.
12 I am here today representing the 3700 small
13 business owners of the Independent Pool and Spa
14 Service Association. I am the regional director
15 for Region I, which is here in Northern California
16 and includes Sacramento. I hold a California
17 State Contractor's C-53 license and have been in
18 the pool and spa industry for 29 years, both in
19 Southern California and Northern California.

20 We believe that the provisions presented
21 in Title 20 will work great for new construction
22 and for remodels where underground plumbing can be
23 changed, including Title 24. However, we feel
24 that the imposition of the regulation on direct
25 replacement motors would create a problem that

1 would be contrary to the goals in Title 20.

2 Most existing pools are not plumbed with
3 multi-speed pumps in mind and many have multiple
4 skimmers, which are rendered useless for surface
5 cleaning at low speed, thereby encouraging the
6 homeowner to go out and turn the pump to high.
7 Many pool cleaners will not function at low speed
8 and diatomaceous earth filters need to run at high
9 speed to be most effective. Sand filters would
10 need to be replaced completely as low speed will
11 not flow through the media.

12 We as an association have been the link
13 between the pool that the builders have built and
14 the consumers' budget. We work with homeowners to
15 arrive at the most efficient way to run their pool
16 and give them the most enjoyable experience for
17 the lowest cost. We have for years downsized
18 pumps for our clients as newer pumps have gotten
19 more efficient. With the current language we will
20 continue to be allowed to perform this cost and
21 energy saving function.

22 Also it may encourage the upsizing of
23 pumps to get higher flow rates at low speed. PG&E
24 has requested the exemption from the efficiency
25 standards for low speed because they are not as

1 efficient at low speed.

2 We are concerned that the regulation
3 will return us to the days of rebuilding old, very
4 inefficient motors, which may not be energy
5 efficient but will be cheaper to rebuild than to
6 install a new controller and multi-speed motor.

7 We have participated in the rebate
8 programs and have carved large numbers from our
9 customers' utility bills. We wish to be able to
10 use our expertise to make the decision as to when
11 it is appropriate to install a two-speed motor
12 based on the individual existing pool, not a
13 regulation that will create the appearance of
14 energy savings only to be thwarted by a homeowner
15 who knows how to program his pump.

16 Thank you for your time and
17 consideration and for hearing us.

18 PRESIDING MEMBER PFANNENSTIEL: Thank
19 you, Mr. Gardner, for your comments.

20 MR. FERNSTROM: This is Gary Fernstrom,
21 PG&E. I have just one question of Mike. And that
22 is, to what extent this position is representative
23 of the 3200 member IPSSA organization? Has this
24 been voted on and a resolution passed?

25 MR. GARDNER: This has been discussed at

1 our board level, which is ten regions being
2 represented by ten members of the Independent Pool
3 and Spa Service Association. And it is the
4 consensus that this is where we stand.

5 MR. FERNSTROM: Is there a resolution
6 supporting that or was there a vote taken? Is it
7 on the record in the IPSSA records?

8 MR. GARDNER: No it is not.

9 MR. FERNSTROM: Thank you.

10 PRESIDING MEMBER PFANNENSTIEL:
11 Commissioner Rosenfeld, did you have a question?

12 ASSOCIATE MEMBER ROSENFELD: No, I was
13 going to ask the same sort of thing.

14 PRESIDING MEMBER PFANNENSTIEL: Thank
15 you. Celia Hugueley, I'm not sure I have that
16 right, Oasis Pool Service.

17 MS. HUGUELEY: Hello, my name is Celia
18 Hugueley. My sister and I have operated Oasis
19 Pool Service in Nevada County for 20 years. We
20 are licensed C-61 D-35 swimming pool service and
21 repair contractors and hold many technical
22 certifications in our field. I also attended the
23 class at City College that Mr. Storm referred to.

24 I assume that PG&E is pushing the
25 inclusion of replacement motors in this

1 clarification because the current and past rebate
2 programs have not yielded the desired results with
3 respect to the installation of two- and variable-
4 speed pumps. A more thorough examination should
5 be made as to why even with a tireless
6 demonstration program by PG&E the pool industry
7 has not been moved to enthusiastically embrace
8 these retrofits.

9 As service professionals it is our job
10 to protect and advise our clients. To repair and
11 improve a swimming pool system requires knowledge
12 of many disciplines, including electrical,
13 hydraulics, plumbing and venting, to name a few.
14 We attend many meetings, classes and
15 demonstrations to stay current and informed on the
16 many issues affecting swimming pools, including
17 energy conservation. We use this acquired
18 expertise to make recommendations to our clients.
19 Many times those recommendations include two- or
20 multi-speed upgrades.

21 It is, however, an impossible task to
22 standardize existing field conditions to conform
23 to one solution. To mandate that single solution
24 will backfire in the many ways outlined in my
25 written comments and those of others. To achieve

1 the desired increase in electrical efficiency our
2 industry needs to retain the flexibility to make
3 informed choices as to the most efficient way to
4 upgrade our clients' systems.

5 Thank you for allowing me to address you
6 on this matter.

7 PRESIDING MEMBER PFANNENSTIEL: Thank
8 you for coming here to do so, appreciate it.
9 Wayne Morris from AHAM. He is not here?

10 MR. FERNSTROM: While Wayne is coming up
11 -- this is Gary from PG&E. I would just like to
12 say that these speakers from the pool industry are
13 allies and very respected individuals so far as
14 PG&E is concerned.

15 PRESIDING MEMBER PFANNENSTIEL: I'm
16 sorry, Gary, I missed the end of what you said.

17 MR. FERNSTROM: I just wanted to
18 indicate that the contractor speakers, all of
19 them, are allies of our company and very respected
20 individuals with regard to what they do.

21 PRESIDING MEMBER PFANNENSTIEL: Thank
22 you.

23 MR. FERNSTROM: We don't have a blue
24 card but we actually have one more person on our
25 side that wants to speak about the pool issue.

1 PRESIDING MEMBER PFANNENSTIEL: Fine.

2 MR. BARNES: Hello. My name is Steve
3 Barnes, I am the Chairman of the APSP, Association
4 of Pool and Spa Professionals, Technical
5 Committee, and I am also the Chairman of the APSP
6 Ten, which is a pump standard that we are working
7 on. We have been working with PG&E, the Davis
8 Energy Group on this specific issue with Title 20
9 for upwards of two years now I guess.

10 I just officially want to say that the
11 Association of Pool and Spa Professionals is in
12 full support of this new language. We absolutely
13 support it to the point we have been active and
14 Florida and other states. We intend to use this
15 as a model to go across the country. We believe
16 that saving energy by reducing the power we are
17 using to filter water is a tremendous benefit to
18 not only us as a society in saving electricity and
19 energy costs but also to those homeowners.

20 And from an industry-selfish point of
21 view, we believe that saving energy and reducing
22 electric bills in the order of 30 to 60 dollars a
23 month across the country, that is money that is
24 better spent on a bigger pool. (Laughter) We are
25 selfish in this, we think it is the right thing to

1 do to save energy.

2 I would also like to say there is
3 concern from manufacturers, of which I represent
4 one, Pentair Water Pool and Spa. And that is,
5 when we start replacing motors to wet ends, that
6 whole system is tested from safety and electrical
7 and fire hazard as a single unit. And so while we
8 endorse this language we express caution that we
9 don't just willy-nilly put any motor on any pump.
10 They really do have to be sized correctly.

11 That is one of the primary focuses of
12 what we will be doing with the APSP-Ten standard,
13 so that we can give guidance on the equipment on
14 how to replace what those components are. I thank
15 you for your time.

16 PRESIDING MEMBER PFANNENSTIEL: Thank
17 you.

18 MR. FERNSTROM: So Steve, the same
19 question of you that I asked of Mike. To what
20 extent has the APSP officially taken this
21 position?

22 MR. BARNES: I think we had no less than
23 six or seven meetings, of which we appreciate you
24 participating, over the course of two years. It
25 was ultimately after a lot of wordsmithing and

1 consternation a unanimous position of the APSP-Ten
2 Writing Committee. That then went to the APSP
3 Technical Committee and became the official policy
4 of the APSP. So it is a very formal process that
5 we go through.

6 PRESIDING MEMBER PFANNENSTIEL: Thank
7 you. Bill, did you have a comment or a question?

8 MR. PENNINGTON: Yes, thank you. Could
9 you explain the relationship of the organization
10 you represent to the organization that Mr. Gardner
11 represents.

12 MR. FERNSTROM: The APSP versus IPSSA.

13 MR. BARNES: Yes. I don't know. They
14 are independent organizations. The Association of
15 Pool and Spa Professionals is a member
16 organization at the national level. It has got
17 regional affiliations in the Northeast and Florida
18 and other places. But I don't know that there --
19 I don't believe there is a formal relationship
20 between the two organizations.

21 MR. PENNINGTON: Is one a technical
22 organization and another is a trade association?
23 I'm not -- That's the level of question.

24 MR. FERNSTROM: The question is about
25 who each organization in the industry really

1 represent and how they divide. My answer would
2 be, they are different organizations within the
3 pool and spa industry to which manufacturers,
4 builders and contractors have affiliated.

5 To some extent both of these
6 organizations have manufacturer, builder,
7 distributor, trades person affiliation. However,
8 IPSSA tends to be predominately the field service
9 people. And unless I am mistaken, APSP tends to
10 be predominately the builders and the
11 manufacturers. Do Steve or Mike, either of you
12 have further thoughts on that?

13 MR. BARNES: I know there is a
14 tremendous amount of overlap between the
15 organizations. Within the Association of Pool and
16 Spa professionals there is a very service
17 contingent but as Gary points out it is much
18 broader, there's manufacturers, builders,
19 distributors.

20 And the other aspect, I think the big
21 difference between the two organizations, is the
22 APSP is American National Standards Institute-
23 accredited to create standards. So we have
24 standards for portable spas and pools. The full
25 gamut of ANSI-approved standards. So there is

1 that very technical side and then there's the
2 trade association side of promoting the industry.

3 PRESIDING MEMBER PFANNENSTIEL: Thank
4 you, sir. Somebody would like to speak, come on
5 up.

6 MS. HUGUELEY: This is Celia Hugueley.
7 As a member of both APSP and IPSSA I think I might
8 be able to shed a little bit more light. APSP is
9 much larger, nationwide. They don't have
10 meetings, mandatory meetings to attend, it's done
11 a lot through e-mails and paper. And they set
12 standards and it is primarily -- I have been a
13 member for about 18 years and it is primarily
14 focused on the manufacturing and standards.

15 And IPSSA is the hands-on people
16 installing the equipment. And we have monthly
17 meetings. We are much more integrated together as
18 a membership. You know, field technicians.

19 PRESIDING MEMBER PFANNENSTIEL: Thank
20 you. Any further discussion on pool pumps and
21 spas? Please come forward.

22 MR. GEREMIA: Hi, I'm Mike Geremia. I
23 am the president of Geremia Pools and Geremia Pool
24 Service. We have been building swimming pools in
25 the Sacramento region for over 60 years.

1 I am also the secretary and founder, or
2 one of the founders, of the Foundation for Pool
3 and Spa Industry Education, FPSIE for short. It's
4 a local trade school designed to educate all
5 members of our industry.

6 I am here to speak against the
7 requirement that all swimming pool replacement
8 motors be variable speed motors. I have been in
9 agreement with most of the changes in Title 20, in
10 Title 24, and the need to reduce energy
11 consumption of our products.

12 But the service side of these Titles is
13 a little less obvious. Rebates are great but they
14 don't go enough to offset the costs when the
15 installation gets to be \$1,000 to \$3,500 to
16 upgrade controls and meet the needs of the various
17 pools. Many times these are unplanned purchases
18 that come on all of a sudden. Consumers aren't
19 prepared to make that kind of an expenditure.

20 Two-speed pumps are effective in saving
21 energy, however, they don't fit all pools' needs.
22 Low speed may not skim properly for that
23 particular pool. There are still induction-style
24 motors. And we have seen in the industry shorter
25 lifetimes for that type of motor as opposed to the

1 single-speed. Or of course the new variable
2 speeds we don't really have a long enough track
3 record, they have only been on the market for a
4 couple of years.

5 Many servicemen that are in the industry
6 are not trained properly to make certain upgrades
7 to fit the hydraulic needs of the pools.
8 Manufacturers such as Steve and his company are
9 working very hard to overcome that but we have a
10 long ways to go.

11 FPSIE has developed an energy audit
12 course, which we are promoting now to train
13 servicemen within the industry to show the
14 consumers the advantages of variable speed motors.
15 But again that too is in its infancy.

16 Warranty issues will develop when these
17 products are installed by untrained installers.
18 As Steve mentioned, the pumps and motors have to
19 be matched properly to be effective.

20 Licensing. Only about ten to twenty
21 percent of the service industry carries the proper
22 kind of license to pull a permit to do the work
23 that is necessary in many of these upgrades. The
24 current law requires that any contract over \$500
25 requires a license to do the work. Replacement

1 motors often fall just underneath that threshold.
2 And those small pool service companies rely on
3 that income in order to be able to maintain their
4 profitability.

5 I am concerned about the enforceability
6 of a regulation such as this and I think the
7 reality is that many consumers will find a way to
8 get around the need to install a variable speed
9 motor by finding somebody else to do it, and thus
10 take a customer away from somebody who is trying
11 to follow the spirit of the regulation.

12 Our industry was just introduced to
13 these products in the last couple of years. I
14 think we need to let the marketing campaigns of
15 PG&E and SMUD and all the utilities, plus the
16 marketing campaigns of us within the industry,
17 take hold. We are just really getting out there
18 with these products.

19 We have now developed a program that is
20 available on-line as well as in our classroom at
21 FPSIE to train people to do an audit and properly
22 present the savings to a consumer. I think the
23 utilities as well as the Energy Commission would
24 be investing very well in our industry by
25 supporting that goal.

1 I feel this requirement is jumping the
2 gun and would prefer to see something like this
3 down the road if those campaigns fail. Our
4 industry is just going to come up, is starting to
5 come up to speed, we have a little ways to go.
6 Thank you.

7 PRESIDING MEMBER PFANNENSTIEL: Thank
8 you, sir. I'm sorry, Commissioner Rosenfeld has a
9 question. Sir?

10 ASSOCIATE MEMBER ROSENFELD: I should
11 know this but this is a question for Bill
12 Pennington. When would this become effective,
13 Bill? I might can ask Mike whether he would think
14 that there was some advantage for delaying a few
15 months. But can you comment, Bill?

16 MR. PENNINGTON: I am wondering what the
17 staff's expectation is about effective date.

18 MS. MERRITT: Well assuming that the
19 proposed amendments are adopted in December of
20 this year --

21 SPEAKER FROM THE AUDIENCE: Speak up,
22 please.

23 MS. MERRITT: This is Melinda Merritt
24 with the Energy Commission. Assuming that
25 proposed amendments would be adopted in December

1 of this year that would put the earliest effective
2 date for regulations January of 2010. That would
3 be the earliest. We have not posited any precise
4 effective dates for these measures at this time.

5 MR. FERNSTROM: I have a thought on that
6 if I could make it, Gary Fernstrom from PG&E. The
7 advocates of the pool measure actually thought
8 this was going to be affective January 1, 2008,
9 this year. It was only through an oversight that
10 that did not happen.

11 Two-speed pumps and motors have been in
12 the market for years. This is not a relatively
13 new product, their availability goes back 20
14 years, as Bill Storm noted. And much energy
15 saving would be left on the table if this is
16 delayed.

17 Also, any integral pump motor product,
18 whether it is for new pool construction or
19 replacement, currently must be two-speed. So if
20 someone needs to replace the entire thing, the
21 pump and the motor and it is one horsepower or
22 over, the regulation requires it to be two-speed.

23 So we are only talking about the
24 electric motor only replacement portion of this.
25 And we originally thought that was required but

1 through an oversight in the scope it turned out
2 that the CEC's attorney's opinion was that that
3 could not be regulated since it was left out of
4 the scope.

5 PRESIDING MEMBER PFANNENSTIEL: So what
6 is the energy savings? How many kilowatt hours a
7 year do we save per year if we delay it a year?

8 MR. FERNSTROM: It would be the number
9 of pumps estimated to be replaced annually, motor
10 only replacement, times the estimated annual
11 energy use. I believe Leo estimated that at about
12 800 kilowatt hours a year. The DEER estimate is
13 1400 kilowatt hours a year. We estimate that
14 100,000 pumps are replaced annually.

15 Some fraction of those are integral
16 units that would be covered by the regulation. My
17 estimate would be 20 percent and the other 80
18 percent would be motor only. So short of doing
19 the math, 80 percent times 100,000 pumps times
20 1400 kilowatt hours a year.

21 PRESIDING MEMBER PFANNENSTIEL: I think
22 somebody should put this on the record more
23 precisely. I think that is going to be important
24 for us in making this decision.

25 MR. FERNSTROM: The issue in my mind,

1 however, isn't the absolute savings, it is the
2 savings versus the cost. And we have put on the
3 record very objective statements of what we think
4 the cost-effectiveness of this measure is.

5 PRESIDING MEMBER PFANNENSTIEL: Right,
6 we understand that. I think the question is, how
7 much do we lose if we delay it for awhile? That's
8 the question I had.

9 MR. FERNSTROM: So we'll respond to that
10 in writing.

11 PRESIDING MEMBER PFANNENSTIEL: Thank
12 you. Yes, the last comment on this subject, I
13 think.

14 MR. STORM: My name is Bill Storm,
15 Storm's Pool Care, Sacramento.

16 One of the issues that has been brought
17 up here is the education part of this. It is
18 without exception the largest obstacle to this.
19 As stated, a number of people that are unskilled
20 in the application of the technical, the very
21 simple, basic technical education that they need
22 to have to do this is all important.

23 In my experience when I took the course
24 in 1987 after being introduced to the water flow
25 dynamics of the system, the next day I went out

1 with a customer, just changed the impeller for \$25
2 and that customer started saving \$30 a month with
3 just an impeller change.

4 ASSOCIATE MEMBER ROSENFELD: Just
5 changed what? I didn't hear you. You went out
6 with the customer and just changed?

7 MR. STORM: Just changed the impeller on
8 the pump.

9 ASSOCIATE MEMBER ROSENFELD: Okay.

10 MR. STORM: And we reduced the energy, I
11 think it was like 30 percent of usage. And that
12 is measured, that is not guessed.

13 When a serviceman looks at the cost of
14 this course we're of the educational level and of
15 the employment stature that we don't really
16 recognize the value of spending, what is it, about
17 \$400. Around \$400 and the amount of time to take
18 it. It doesn't settle in. In my second job in
19 the course of taking this course I paid for the
20 course in one job.

21 So it is the education that we need to
22 find out -- To come to my educational level and my
23 learning we need to find a marketing that is going
24 to make this program successful. The economics
25 are just empirically presented to be real. There

1 is no guess about it, there is no pie in the sky.
2 What you are seeing in empirical analysis is real.

3 MR. FERNSTROM: On this point I think
4 all of the state's investor-owned utilities agree
5 with the speakers that education and training is
6 an important opportunity for us with respect to
7 codes and standards and we are strategically
8 planning to increase our efforts in that area in
9 the next three years.

10 MR. STORM: Thank you.

11 PRESIDING MEMBER PFANNENSTIEL: Thank
12 you. Any other comments on swimming pool pumps
13 and spas? If not let's move on to the test
14 procedure on battery chargers.

15 MR. SINGH: Good morning. My name is
16 Harinder Singh; I am Energy Commission staff. I
17 am presenting battery charger test method
18 Proposals today.

19 Energy Commission received a proposal
20 information template from PG&E on January 30,
21 2008. The proposal recommended that the Energy
22 Commission adopt Ecos Energy Efficient Battery
23 Charger Test Procedure. The proposed test
24 procedure was developed by Ecos Consulting over a
25 four year process and was funded by California

1 Energy Commission's Public Interest Energy
2 Research PIER program and PG&E.

3 On April 7 PG&E submitted a revised
4 information template proposal. PG&E also
5 submitted a Revised Battery Charger Test Procedure
6 Version 1.1 that incorporated changes suggested by
7 the BCS, the Battery Charger System stakeholders
8 to date.

9 Staff has evaluated PG&E's proposal and
10 Ecos' Energy Efficient Battery Charger Test
11 Procedure and concur with their analysis. The
12 proposed test method is comprehensive and it
13 measures energy consumption in active mode,
14 maintenance and standby mode.

15 Staff has conducted meetings with BCS,
16 battery charger systems stakeholders. They
17 include trade associations and industry
18 representatives. The participants were AHAM, PTI,
19 Sony, JVC, CEA and others, other manufacturers.
20 In the meetings we discussed the proposed changes
21 to the test method. These meetings were held on
22 April 8, 9 and April 17.

23 The US DOE and Natural Resources Canada
24 participated in April 8's meeting. The US DOE
25 provided an updated federal activities and

1 schedule for its battery charger test method
2 rulemaking.

3 On April 28, 2008 PG&E submitted a
4 revised version of Ecos' Energy Efficient Battery
5 Charger Test Procedure Version 1.2.

6 Staff has scheduled the next meeting on
7 May 28 with the large battery charger stakeholders
8 such as golf carts and forklifts to solicit their
9 input.

10 Any comments and suggested changes to
11 the BCS, battery charger systems, are available on
12 the Energy Commission website.

13 According to PG&E and Ecos, they have
14 tested more than 200 battery charger systems. The
15 PG&E proposal includes a call for test data to be
16 submitted by the battery charger manufacturers.
17 Staff and stakeholders are evaluating the proposed
18 call for test data and continue to work on this
19 issue. Are there any questions?

20 PRESIDING MEMBER PFANNENSTIEL:
21 Anything?

22 ADVISOR TUTT: Harinder, I had one
23 question. Is it version 1.1 or 1.2 that is
24 currently proposed in staff's draft regulations?

25 MR. SINGH: It is Version 1.2. Thank

1 you.

2 PRESIDING MEMBER PFANNENSTIEL: Thank
3 you. Any questions, Gary? Any comments here?

4 MR. STRAIGHT: I believe there is one
5 person on the phone currently that may have a
6 comment.

7 MR. PENNINGTON: I just would like to
8 add, if I could. The Association of Home
9 Appliance Manufacturers --

10 MR. STRAIGHT: Is Larry Albert still on
11 the phone?

12 MR. PENNINGTON: Excuse me, Peter,
13 pardon me.

14 I just wanted to add for the record that
15 the Association of Home Appliance Manufacturers
16 have actively participated in bringing forth
17 comments related to battery charger test
18 procedures and have comments for us today, I
19 think, to present their views about how the test
20 procedure perhaps could be refined to address
21 issues that they see. There has been a little bit
22 of confusion back and forth about the proper
23 filing of all of that, some of which the staff
24 apologizes for. And we welcome those comments and
25 welcome the dialogue with AHAM.

1 PRESIDING MEMBER PFANNENSTIEL: Were we
2 going to have Ecos make a presentation now on the
3 procedures or was that not going to happen now?

4 MR. FERNSTROM: Gary Fernstrom from
5 PG&E. If I could just follow up on Bill's
6 comment. We similarly welcome AHAM and PTI's
7 participation in the process, past, present and
8 future, and value their comments.

9 PRESIDING MEMBER PFANNENSTIEL: So Gary,
10 is Ecos going to do a presentation now? We'll
11 open the lines for discussion I think in a minute,
12 let's see where we are in the agenda.

13 DR. BENDT: I am Dr. Paul Bendt and I am
14 with Ecos Consulting. We worked on this battery
15 charger project under contract with PG&E. What I
16 have today is a fairly short presentation.

17 And I would like to first thank the
18 Commission for giving us the opportunity to be
19 here. Also the advisors and staff and all the
20 other representatives.

21 My comments today will be fairly short.
22 I think Harinder gave us a fair amount of the
23 history. This test procedure has been developed
24 over a period of four years or more and has gone
25 through many revisions.

1 The changes that have resulted in
2 Versions 1.1 and Versions 1.2 over the past six
3 months or so have really been very small changes.
4 They are clarifications just to make sure that
5 there aren't ambiguities or loopholes but they
6 haven't been significant changes.

7 But I would like to discuss very briefly
8 the changes that have come out in this latest
9 version. Then I would also like to address the
10 recommendations from Ecos and PG&E regarding the
11 draft Title 20 standards that have been posted by
12 the Energy Commission staff.

13 The latest version of the PG&E/Ecos test
14 procedure is the Version 1.2 that is dated April
15 22. It's available probably through the
16 Commission but it is certainly available on the
17 energyefficient.org website. Once you get to the
18 website the link that is pointed out here will
19 take you to the latest version.

20 The changes that have been incorporated
21 in that since Version 1.1 is some clarity in the
22 definition of an external power supply as it is
23 used in the battery chargers. Many battery
24 charger systems also have external power supplies
25 and we wanted to be sure there is clarity in that

1 the external power supplies that are used, it
2 actually makes very little difference in how a
3 battery charger system is tested, whether the
4 power supply is external or not. So this is,
5 again, just really a minor clarification. It
6 doesn't affect how the products get tested.

7 It was pointed out at one of the earlier
8 meetings that the test procedure did not include a
9 measurement uncertainty for energy measurements.
10 It included uncertainties for power and time,
11 voltage, current and so on so that clarification
12 has been added.

13 There were some suggestions to define
14 the wording in how to select batteries for battery
15 chargers that are not shipped with batteries and
16 that clarification has been included.

17 There has also been concern from
18 industry at a number of times that batteries are
19 being developed which include protective circuitry
20 that avoid doing harm to the batteries and
21 industry has wanted to be sure that that
22 protective circuitry is not defeated during the
23 process of testing. So we have included
24 provisions that specifically provide that the
25 testing lab would follow manufacturers'

1 recommendations for including protective circuitry
2 in all the battery tests.

3 Up to this point there have been very
4 few products that that would affect but we do
5 agree with industry that there probably will be
6 more products coming in the future that
7 incorporate this type of protective circuitry and
8 that those provisions are appropriate.

9 And the final change was that certain
10 battery chargers do not have certain modes of
11 operating. Some of them you really can't remove
12 the batteries and so they don't have a no battery
13 mode. Some of them don't have an on/off switch,
14 they don't have an off mode. We have changed the
15 reporting so that they are reported as not
16 applicable for those modes that a particular
17 charger doesn't have.

18 We view these changes as being very
19 minor, they are really clarifications. They don't
20 change the intent of the procedure, they don't
21 change how it would have been used on any of the
22 more than 200 tests that have been done so far.
23 So we again see this as minor but we see these as
24 continuing -- as further improvements just to make
25 sure there aren't loopholes or ambiguities in the

1 test procedure.

2 The next slide is basically two
3 recommendations we would suggest for the
4 Commission and the Commission staff. The first
5 point is that battery chargers were put in the
6 same Subsection U along with external power
7 supplies and audiovisual equipment. And
8 unfortunately some of the definitions for these
9 three different groups of products are similar but
10 not quite identical. And we believe that
11 including them all in the same Subsection U will
12 result in confusion and perhaps loopholes to the
13 standards.

14 And we would recommend that at least
15 battery chargers be put into a separate subsystem
16 or separate subsection from the other two
17 products. This doesn't result in any actual
18 changes but it is just a different organization
19 that would provide for better clarity within Title
20 20 and avoid confusion and avoid possible
21 loopholes.

22 The second suggestion we would make is
23 that the definition of a battery charger system as
24 it is currently in 1602 Subsection U defined a
25 battery charger system rather narrowly and

1 included perhaps 15 or so qualifications.

2 We would like to see the term battery
3 charger system be used very broadly so that that
4 term would be used to refer to any system but that
5 the eventual standards in Section 1605 would be
6 specific as to which of those battery charger
7 systems would be subject to standards.

8 So for example, the current definition
9 of a battery charger specifically excludes battery
10 chargers that draw more than two kilowatts of AC
11 power. We would contend that those larger
12 chargers are still battery charger systems, even
13 if they are being excluded from the standards. So
14 we would like to see the term battery charger
15 system continue to be used broadly, even though a
16 subset of battery charger systems may be actually
17 subject to the standards.

18 The final piece would be our recommended
19 action for the Commission today and that is to
20 formally adopt the test procedure and provide the
21 45 day language and the other steps that are
22 necessary for the regulatory rulemaking. This
23 procedure has been vetted over four years of back
24 and forth between industry. It has been tested in
25 the lab on probably close now to 300 products and

1 so the variations between products and the
2 problems that have been encountered have all been
3 incorporated into it, making it a reliable
4 procedure for testing energy consumption in all
5 the operating modes and on a very wide range of
6 products.

7 The second piece we would seek is
8 additional data. While the data from the tests
9 that have been conducted so far covers a broad
10 range of products, additional information, in
11 particular certain product categories, more
12 information would be helpful. So we are looking
13 for broader representation, even within the
14 product categories that have been tested. We are
15 also looking at the possibility of extending the
16 scope of battery chargers covered in Title 20, in
17 particular trying to look at extending the scope
18 to include three-phase and chargers over two
19 kilowatts.

20 As Harinder mentioned, the meeting that
21 is being held in two weeks, I believe it is May
22 28, is specifically addressed to these large
23 chargers, the chargers that are more than two
24 kilowatts. To address the possibility of testing
25 and including those in standards. The meeting on

1 the 28th would not affect what is being proposed
2 for chargers under two kilowatts. This would only
3 be addressing the large chargers, forklifts,
4 airport baggage tugs and so on.

5 And finally as we have mentioned in the
6 workshops previously. There are certain products
7 that do have special requirements and we would
8 like to see more data on these. The example, and
9 I don't have the slide of it this time, but the
10 example we used for that last time was an
11 illuminated exit sign that is required to be
12 illuminated all the time as well as to continue
13 its illumination after the power fails. So its
14 continuous power consumption is both keeping its
15 battery charged and illuminating the sign 24/7.

16 And we believe those products may
17 require somewhat more energy than we are proposing
18 for the other standards because they are not just
19 charging batteries but providing that continuous
20 illumination. So there are certain products such
21 as that that because of the requirements of the
22 product, may require an energy allowance or a
23 power allowance to perform those alternate
24 functions. So we are particularly interested in
25 concerns from manufacturers and other interested

1 parties on those products that have special, legal
2 or regulatory requirements that may need more
3 power than simply charging their batteries.

4 So those are the particular areas that
5 we are interested in data. We would like to see
6 that data submitted fairly soon to have that in
7 particular overlap with the 45 days for
8 considering the standards so that it is still
9 possible to get energy efficiency standards
10 implemented by the end of 2008.

11 I think that concludes my presentation
12 and I am willing to accept questions.

13 PRESIDING MEMBER PFANNENSTIEL: Thank
14 you. Are there questions, questions from the
15 dais? We are going to do the questions in the
16 room first then we'll go to the phones.

17 MR. HAYNES: My name is Jim Haynes with
18 Uniden. Doc, you mentioned the power allowances
19 for those battery charger systems that have dual
20 roles. Do you envision products such as a
21 cordless telephone would fit into that category as
22 well?

23 DR. BENDT: Yes, we envision that they
24 may well. A lot of products that have a second
25 function, that function can be turned off. But

1 for cordless phones, the phone does need to be
2 continuously monitoring the phone line in order to
3 detect an incoming call. Many of the phones also
4 have an integral answering machine and that
5 answering machine also requires some power to
6 maintain its date and maintain its memory.

7 So that is in fact precisely the sort of
8 products that we are asking for additional
9 information on to make sure that the amount of
10 power that is allowed for those products is
11 sufficient to accomplish those functions. So
12 there we are particularly interested, not just in
13 the typical consumption of current products but
14 also some of the best products that are available,
15 because that gives an idea of what is required.

16 But in answer to your question, yes,
17 cordless phones and cordless phones with answering
18 machines are precisely the sort of product that we
19 are envisioning as having those special
20 requirements.

21 MR. HAYNES: Thank you. One just
22 clarification. The cordless telephone, of course,
23 awaits an incoming call but it also has to be
24 powered on in case someone wants to make a call
25 from the portable unit. It has to be powered on

1 for that purpose as well. So I just wanted to
2 bring that to you. Thank you very much.

3 DR. BENDT: Thank you.

4 ADVISOR TUTT: Can I get a clarification
5 on that issue? Are these additional power
6 chargers, particularly for the cordless phones, do
7 they reflect with respect to battery chargers, a
8 maintenance mode, standby mode or active mode?

9 DR. BENDT: The energy that is consumed
10 by the other functionality, whether it is the exit
11 sign that stays illuminated or the cordless phone
12 that has to monitor the incoming call, those would
13 be a power allowance that applies to all modes.
14 Because that function needs to be done whether the
15 battery is being charged or maintained.

16 Or in the case of cordless phones,
17 whether the handset is off the unit and it is
18 actually in its no-battery mode, it is not doing
19 any charging. You still need to maintain the
20 power. We would envision that as a power
21 allowance that is applied to all modes.

22 ADVISOR TUTT: Again in the case of
23 cordless phones and you are looking at the
24 charging system, there is a power allowance for
25 the cordless phone itself that needs to be on but

1 the actual charger in standby mode may not reflect
2 that power that the cordless phone is needing. Do
3 you see what I am saying?

4 DR. BENDT: I am not following. When we
5 are testing it we are measuring the AC power in.
6 That power is going to two functions. It is
7 running the battery charger and it is also
8 powering the other phone functions.

9 ADVISOR TUTT: And when you take the
10 phone off then it is only measuring the power that
11 goes to the cradle or the charging unit in standby
12 mode.

13 DR. BENDT: When we take the phone, when
14 you pull the phone off of the cradle then the
15 power that you are measuring is the losses in the
16 power supply, the no battery losses in the battery
17 charger, and also still the functionality of the
18 other phone units.

19 ADVISOR TUTT: Thank you.

20 PRESIDING MEMBER PFANNENSTIEL: Further
21 questions? Or should we now go -- Are there
22 questions on the phone?

23 MR. STRAIGHT: Allow me to find out.

24 MR. ALBERT: A question for Paul Bendt.

25 PRESIDING MEMBER PFANNENSTIEL: Yes, go

1 ahead.

2 MR. ALBERT: Paul, your comment about
3 separating out battery charging systems from
4 Section U of the regulation. By extension would
5 that also imply that you would be considering
6 separate coverage for subsets of battery charging
7 systems? For example the larger one that you are
8 looking at right now as opposed to smaller
9 appliance-type battery chargers. And potentially
10 the special category that you mentioned such as
11 exit signs and cordless telephones within Section
12 B or wherever it ends up.

13 DR. BENDT: We would propose that
14 whatever new section there is would include all
15 battery charging systems that would be subject to
16 standards so that this new section would include
17 the appliance-type chargers, power tools, cell
18 phones, cordless phones. And the exit lights
19 would still all be included, although there might
20 be special allowances for certain products.

21 If the large battery chargers, and by
22 large I mean more than two kilowatts, that would
23 depend on the outcomes from this meeting on the
24 28th and further discussions to determine if there
25 is consensus on how to proceed forward with

1 incorporating those into the standards. I would
2 still envision that those would be included in
3 this same, new section but that would be subject
4 to the outcome of the meetings that are addressing
5 those products. Did that answer your question?

6 MR. ALBERT: Yes it does, thank you.

7 PRESIDING MEMBER PFANNENSTIEL: Thank
8 you. Gary, did you have a --

9 MR. FERNSTROM: So this is Gary
10 Fernstrom from PG&E. I just have one comment on
11 the larger battery chargers. PG&E met with
12 Southern California Edison and Sempra Utilities in
13 Southern California last week, I guess it was, to
14 discuss large battery chargers. And SCE pointed
15 out that there are about seven manufacturers of
16 large battery chargers in this country and they
17 comprise the vast majority of the market.

18 So we are optimistic that through this
19 meeting the CEC staff has scheduled shortly we may
20 be able to come to some sort of consensus with a
21 relatively small group of companies around what a
22 standard, test standard might look like.

23 ADVISOR TUTT: Thank you, Gary. I just
24 wanted to clarify that -- I believe that we're
25 talking about a battery charger test procedure

1 today and we've talked a little bit about what may
2 or may not be included in the standards. But with
3 this proceeding we are sort of limiting ourselves
4 to a test procedure and how that applies to these
5 different battery charging systems.

6 PRESIDING MEMBER PFANNENSTIEL: Yes, go
7 ahead.

8 MR. ANDERSON: I'm Wayne Anderson with
9 Motorola. I just wanted to point out for the
10 record that our products do a lot of the same
11 things Jim's does, the Uniden fellow. When you
12 charge the phone and you get done charging the
13 phone a lot of times it will still have a display
14 running or some other functionality going that is
15 not strictly charging. In fact, if the phone is
16 on, say you start in the middle of the night or
17 early in the evening to charging the phone, then
18 after we get through charging the phone we
19 actually keep running the phone all night long.
20 This is so that you actually get a charge on the
21 phone overnight and don't run it down.

22 PRESIDING MEMBER PFANNENSTIEL: Thank
23 you. Further discussion on the battery charger
24 test procedure? Go ahead.

25 MR. KLEIN: Dave Klein from JVC.

1 Dr. Bendt, with this standard that you all have
2 created. Who owns that standard? You all are
3 obviously -- Mr. Singh said that you all were
4 funded by PIER funds and you mentioned that as
5 well. Who actually owns the copyright to this
6 standard and how are we going to be basing
7 regulations at the state level on a privately
8 copyrighted document, which I believe you all --
9 Ecos Consulting owns the copyright for this
10 particular standard.

11 DR. BENDT: I will have to defer that
12 question to Gary Fernstrom. I believe that if it
13 is copyrighted at all that copyright would belong
14 to PG&E. But I am not even sure that it is
15 copyrighted, it may well be that it is in the
16 public domain. But I will have to defer to Gary
17 Fernstrom to --

18 PRESIDING MEMBER PFANNENSTIEL: Well
19 first of all we are talking not about a standard
20 but about a test procedure, right? That is the
21 discussion.

22 MR. KLEIN: Right, right, right. But in
23 terms of modification. The industry has made
24 several suggestions and have suggested revisions.
25 It certainly impacts the procedure of addressing

1 those concerns and questions and possible
2 clarifications on you all's part.

3 MR. FERNSTROM: So this is Gary
4 Fernstrom from PG&E. The answer is short and
5 pretty clear. At this point the test procedure is
6 wholly owned by the Pacific Gas and Electric
7 Company. If at some point it is adopted to the
8 Commission it will be turned over to the public
9 domain.

10 MR. KLEIN: Thanks, Gary.

11 PRESIDING MEMBER PFANNENSTIEL: And it
12 will not be used by the Commission unless it is in
13 the public domain. Yes, Chris.

14 MR. CALWELL: Good morning, I am Chris
15 Calwell from Ecos Consulting.

16 I just wanted to add one slight thing
17 because we have had this discussion about what you
18 might call functional adders, which are battery
19 chargers that may perform some other function that
20 can't be separated from the power use of their
21 battery charging.

22 I think this could become a very lengthy
23 discussion and occupy much of the Commission's
24 time for months to come. So I just wanted to urge
25 some caution in distinguishing between di minimis

1 functional adders and meaningfully large ones. I
2 can imagine us going round and round in this room
3 in the future about the necessary power use of
4 indicator lights and the necessary power use of
5 other things that get measured in hundredths or
6 tenths of a watt.

7 So I think the example that Dr. Bendt
8 offered you was a meaningful power adder for an
9 emergency function of some substantial wattage.
10 And as we get into the test procedure and
11 standards discussion I hope we'll keep that in
12 mind. Thanks.

13 PRESIDING MEMBER PFANNENSTIEL: Thank
14 you, got that.

15 Other questions, discussion on the test
16 procedure for battery chargers? If not we are
17 going to move -- Anybody on the phone on this
18 subject?

19 MR. STRAIGHT: No one that hasn't
20 already spoken.

21 PRESIDING MEMBER PFANNENSTIEL: All
22 right, thank you. Then --

23 Yes, go ahead.

24 MR. MORRIS: Wayne Morris with the
25 Association of Home Appliance Manufacturers. I

1 think we had some slides that we had submitted
2 that we would like to run through real quick.

3 MR. STRAIGHT: Could you introduce
4 yourself again, you were not captured.

5 MR. MORRIS: Yes I will. I am Wayne
6 Morris with the Association of Home Appliance
7 Manufacturers, also known as AHAM. I am here
8 representing not only AHAM but also the Power Tool
9 Institute. And Larry Albert is on the telephone
10 as a representative of PTI as well in case I mess
11 up with any of this.

12 So just a couple of quick things here.
13 We have participated in this since the very
14 beginning of the process and I think it is
15 important to understand that as part of this
16 overall process battery chargers will be regulated
17 for perhaps a third and maybe even the fourth time
18 in five years.

19 Our manufacturers have made significant
20 improvements and upgrades to the products as they
21 were originally under the domain of the external
22 power supply requirements. Now we will shift over
23 and have to be regulated under battery chargers as
24 well. It has been our interest in all of this to
25 make sure that the test procedure is fair and

1 accurate and represents the way that we can best
2 achieve the energy savings for the citizens.

3 We have encouraged the CEC and
4 contractors to understand basic differences
5 between household-type battery chargers, which are
6 very low in wattage and usage situations, to those
7 that are the more industrial.

8 I think that we are beginning to see the
9 differences in that and I think it is very, very
10 helpful that the Commission has scheduled a
11 meeting on May the 28th with the large
12 manufacturers. I think to get their input in this
13 situation is very, very important. Up until now
14 they have not really been represented very well at
15 some of the workshops and I think it is to the
16 credit of the Commission to reach out to that
17 industry.

18 To date the estimates that have been
19 shown seem to be very heavily weighted toward the
20 industrial and other types of chargers and not the
21 energy savings potential for appliance-type
22 battery chargers. In addition the largest energy
23 savings may really have already occurred in the
24 regulation of these products as EPSs.

25 The recent posting of the CEC staff for

1 proposed regulations which bring the regulation
2 into alignment with the Energy Independence and
3 Security Act of 2007, the adding of definition
4 testing at 115 volts, exclusion of the power
5 supply regulation. These are all very helpful and
6 I think that they go a long way toward making sure
7 that what we are dealing with is centered down to
8 just the type of battery chargers and that we are
9 testing them appropriately.

10 We also believe that those changes which
11 are in the regulatory framework that has been
12 suggested by the staff should also then go back
13 and be put into the Ecos/PG&E test procedure.
14 Currently they are not. Currently they are at
15 odds with each other in some of those situations.
16 And I think if the CEC is going to insist or is
17 going to adopt the PG&E/Ecos test procedure then
18 they need to be in alignment with one another.
19 The definitions need to be the same, testing at
20 115 volts need to be the same, the exclusion of
21 Class A need to be the same, so that we have the
22 language to be the same. They are not currently
23 and that can be done, I think fairly easily.

24 We have always asked that there be some
25 separation that occur between the appliance-type

1 battery charger. Originally when I appeared
2 before you a couple of years ago one of the things
3 that we asked was to have a separate section just
4 for appliance battery chargers in the test
5 procedures. Apparently that is just not feasible
6 to do, we understand that. We think that that can
7 be accomplished in some other ways. We believe
8 that we have tried to work within the confines of
9 Versions 1.1 and 1.2 to show some slight changes
10 that can make that effective and can also apply to
11 the appliance-type battery chargers.

12 We want to measure the important
13 characteristics that occur in these particular
14 chargers and recognize them the way that they are
15 actually used by the consumer. And we also don't
16 think that we need to presume what the standards
17 will be when you are dealing with a test
18 procedure. We can deal with standards later. We
19 understand that. We hope that we can be part of
20 that discussion as well in the setting of the
21 standards. But right now we think that the test
22 procedure needs to be as open as possible.
23 Currently Version 1.2 still has some very narrow
24 language in it that deals with the confines of how
25 you approach formulas and other kinds of

1 situations.

2 We have been making several suggestions
3 since the very beginning, they are not really any
4 different. We have asked for the elimination in
5 the mention of EPS and Dr. Bendt mentioned that
6 the latest version, Version 1.2, has done that.

7 The elimination of DC input. We don't
8 understand the overall jurisdiction I guess you
9 would say, of the CEC, to have battery chargers
10 that are plugged into a cigarette lighter in an
11 automobile being under the jurisdiction of the
12 battery charger requirements here. Also if you
13 choose to charge an electronic device using a USB
14 port on a computer, that we are not sure we
15 understand how we can separate those functions
16 very well.

17 We also appreciate that Ecos in Version
18 1.2 has included an error measurement, a tolerance
19 level, if you will, in here. That is very
20 important in these test procedures because we are
21 dealing in many cases with very, very small
22 numbers in this.

23 The issue of associated batteries has
24 been dealt with.

25 The access to the batteries has been

1 partially dealt with in Version 1.2 but there's
2 still a concern there of a safety issue for test
3 technicians that would be required to open up
4 battery packs and to attach leads to particularly
5 lithium ion-type batteries, where they are very
6 subject to the chemistries and very concerned with
7 the safety situation of that.

8 We believe that there's a few
9 improvements that can be made to Version 1.2. The
10 battery capacity issue, improvements to accuracy.
11 We can avoid the safety issue by -- and AHAM and
12 PTI have suggested a method by which the
13 manufacturer can be required to label the input
14 power of the battery. As well as in those cases
15 where it isn't, a very safe construct of a test
16 procedure that does not allow the test technician
17 to make a mistake and endanger himself when he's
18 making those measurements.

19 We also believe that the power factor
20 issue is an important one we need to better
21 understand. Energy formulas presumes a regulation
22 level and we are not sure why that is in the test
23 procedure.

24 The power factor. The test procedure
25 very recently has included this issue of power

1 factor with an intent, we believe, to set very
2 strict limits on this issue of power factor.
3 Power factor is a ratio of watts to the volt
4 amperes of apparent power and reflects a higher
5 current than the power rating would actually
6 predict. Ecos' contention seems to be that the
7 low power factor causes extensive power losses in
8 distribution wiring. Losses due to the effect of
9 additional current and resistance in the wiring.

10 But we don't believe that a real case
11 has been made as to why that needs to be included
12 in this test procedure. We have to go back to
13 what the purpose of Title 20 is. It is an
14 appliance standard for appliance energy
15 efficiency. And we are measuring that appliance
16 consumption, energy consumption, for the product,
17 not in the house wiring. Residential wiring
18 varies across the state of California from older
19 homes to newer homes and I don't know that we can
20 make the case of understanding what the effect
21 will be on that situation.

22 We proposed in answer to that that we
23 believe that the largest of the battery chargers,
24 those greater than 700 volt amperes, will probably
25 have some effect on the power factor situation.

1 For those losses, energy losses for those battery
2 chargers less than 700 volt amperes, the energy
3 loss is insignificant.

4 We have measured losses of way less than
5 two percent. You know, if you are talking about
6 two percent of three watts you are dealing with a
7 very, very small number. This is down in the
8 tolerance range of the test procedure and we don't
9 believe that it is really appropriate for that.

10 So we would suggest to the Commission that in that
11 section on power factor that it be limited to just
12 those chargers of a large enough size to where you
13 actually get to a measurable limit. Where it is a
14 repeatable measurement and where it really applies
15 to something that is going to influence the
16 overall state of California.

17 Regulation of power factor in battery
18 chargers is probably a very bad idea for the small
19 chargers. Many of the highly efficient power
20 conversion technologies and very poor power
21 factor. For instance, compact fluorescent lights
22 and switch-mode power supplies. As we presented
23 to you, I think in this same room about four years
24 ago, that this was a danger of really impacting
25 and suggesting all use of switch-mode power

1 supplies because of the impact that it has on
2 power factor. Nevertheless that has gone forward
3 and now we need to sort of catch up with that.

4 The limits on power factor without
5 assessing the overall energy consumption of the
6 product is important. We don't want to influence
7 the product negatively at the same time we are
8 trying to cure this situation. It also seems to
9 put an unfair burden on the small battery charger
10 designs compared to other products.

11 We are not sure that the energy formulas
12 that are in Version 1.2 belong in that test
13 procedure. We believe that that really needs to
14 go into the test procedure limits of the
15 regulation when we get to that later this year.

16 The definitions. We have asked for a
17 couple of additional definitions. We don't
18 believe that they would cause any particular harm
19 to the test procedure. They further delineate the
20 types of products that we are dealing with. One
21 has been added with the inclusion of the federal
22 test procedure requirements but the other two,
23 integral and cradle-type battery chargers need to
24 be defined in order to understand them better.

25 That's all I've got. In closing I would

1 like to say that I think we appreciate that
2 Version 1.2 has made a step forward. I know Paul
3 said they were very small steps but actually I
4 think they are very important steps that have been
5 made in Version 1.2. We believe that there is
6 still some tightening that can be done to this
7 Version 1.2. We have submitted a document which
8 has a track change type of format to show you
9 exactly where we think some very small changes can
10 occur.

11 I think overall we are in agreement with
12 95 percent of the test procedure as it remains
13 now. There's some clean-up of some language in
14 some places such as the issue with the battery
15 energy where we don't want to have test
16 technicians be negatively impacted in their
17 safety.

18 We think that also this issue of power
19 factor needs to get down to those products that
20 really do affect power factor and not the broad
21 types of products that operate for the most part
22 at very, very low levels of power that would not
23 be really affected by this type of situation.

24 I think the inclusion of these would
25 improve the overall test procedure. It will help

1 us as we go forward to the data collection. It
2 will also help us as we go forward in rulemaking.
3 Thank you for your time.

4 PRESIDING MEMBER PFANNENSTIEL: Thank
5 you, Mr. Morris, good suggestions. We will
6 certainly look at your written material as well.
7 Gary.

8 MR. FERNSTROM: Gary Fernstrom, PG&E.
9 Just one quick observation and a comment. We
10 absolutely did include appliances of the type that
11 Wayne was talking about in our testing and
12 consideration in the development of the standard.

13 And the second point. We started our
14 efforts on battery chargers three and a half years
15 ago and we were convinced by AHAM and the consumer
16 electronics industry and the Power Tool Institute
17 that we needed to slow down and take a more
18 careful look at this particular measure because it
19 is pretty complicated. I am delighted to hear
20 that Wayne thinks we are 95 percent there. I just
21 hope that the remaining five percent isn't going
22 to take another three and a half years.

23 PRESIDING MEMBER PFANNENSTIEL: Paul,
24 did you have a comment?

25 DR. BENDT: Yes. This is Paul Bendt

1 again with Ecos. There were a number of
2 statements that Wayne has made that I would like
3 to address.

4 The first one is the question as to
5 which categories of chargers actually provide the
6 energy savings. And we have certainly broken out
7 the energy savings -- and I don't have these as
8 slides, perhaps I can hold them up. The energy
9 savings from the smaller consumer products we are
10 estimating as being approximately 2,000 gigawatt
11 hours per year. The energy savings from the
12 larger battery chargers are about 300 gigawatt
13 hours per year.

14 So the real energy savings do come from
15 applying standards to the small products, not so
16 much to the larger products. The larger products
17 it is still definitely cost-effective because it
18 is a small number of products consuming a large
19 amount of power. But with the smaller chargers,
20 there's about 130 million of those small chargers
21 in California. And even if they are only
22 consuming a few watts each it does eventually add
23 up to real gigawatts.

24 PRESIDING MEMBER PFANNENSTIEL: And that
25 information is on our record?

1 DR. BENDT: That information is on the
2 record.

3 PRESIDING MEMBER PFANNENSTIEL: I don't
4 have, I don't have that.

5 DR. BENDT: It was actually presented at
6 the April 8 hearing and I think copies of these
7 slides were in our presentation from that hearing,
8 which is why I didn't include them here. But I do
9 want to make sure there's no belief left behind
10 that the small chargers represent an insignificant
11 amount of energy savings. In fact, that's where
12 the majority of the savings are.

13 ASSOCIATE MEMBER ROSENFELD: Paul, I
14 think I am confused. What is the issue here? Did
15 Wayne Morris not want to -- Wayne didn't say he
16 wanted to exclude the appliance-type battery
17 charger.

18 DR. BENDT: No, but he did make a
19 statement that most of the energy savings were in
20 the large chargers and not the small ones and
21 that's what I am addressing.

22 ASSOCIATE MEMBER ROSENFELD: Okay.
23 Wayne, do you agree?

24 MR. MORRIS: I think if I --

25 ASSOCIATE MEMBER ROSENFELD: I don't see

1 the issue here except maybe a mis-spoken word by
2 you.

3 MR. MORRIS: Thank you. Thank you,
4 Commissioner, I appreciate the ability to clarify
5 that. I think that, Paul, what I was referring to
6 is the appliance and power tool sections. And I
7 believe in that chart that you have they
8 represent, I believe, collectively, about 12
9 percent of the overall energy savings that you
10 were predicting. Is that correct? I believe it
11 was five and seven, if I remember right, from
12 remembering that pie chart. Of the overall energy
13 savings potential.

14 DR. BENDT: I believe that the savings
15 potential of those products, they are probably
16 also about five and twelve percent or so of the
17 number of products out there. So they are still
18 a, it's still a representative sample.

19 The remainder of the questions or the
20 remainder of the concerns that Wayne has brought
21 have been ones that have been a part of the
22 discussion. We have responded to them. Many of
23 them were made more than a year ago and we have
24 issued detailed responses in the comment and
25 response document that was submitted I believe in

1 December.

2 Some of the more recent comments we have
3 also addressed. There is another eight page
4 document which I believe has been provided to the
5 Commission that addresses our responses to the
6 specific concerns they have mentioned here.

7 One of those had to do with discharging
8 the batteries and whether or not it is safe for
9 the technician to discharge the batteries. In
10 that discussion the test procedure here has been
11 misrepresented that it requires disassembly of
12 battery packs. It does not. It simply requires
13 access to the battery pack so that you can measure
14 from the terminals.

15 And the alternative procedure that AHAM
16 has presented in fact have never been tested in
17 the lab and I believe would fail for many
18 products, including for the appliance products,
19 that they are recommending it for. Our detailed
20 responses to that have been submitted in written
21 form.

22 The power factor is certainly an
23 important issue. I believe the power factor is
24 one that needs to be addressed even for products
25 that are considerably smaller. The energy losses

1 that are -- The energy that is lost in the
2 distribution network is an important part of the
3 energy loss. We will be submitting in the case
4 report that regulation of that will result in very
5 cost-effective energy savings.

6 So we don't believe that it should be
7 just dismissed. We believe that the potential
8 energy savings should be justified by and should
9 be significantly greater than the cost of that
10 power factor improvement and we will make the case
11 for that in the case report.

12 The test procedure is simply requiring
13 that that be measured and reported but we do
14 believe that that is an important measurement.
15 And to give an idea of the levels at which that is
16 important. The European standard for applying
17 harmonic correction to products is 75 watts, not
18 700 volt amps but it's 75 watts, and that is for
19 products on a 230 volt grid. So it represents
20 actually a current draw of about half an amp. And
21 the Europeans have decided that products that draw
22 more than about half an amp should be subject to
23 some sort of regulation on the distortion of the
24 wave forms.

25 The levels that we are looking at are

1 going to be comparable to that. And we believe
2 that at levels of somewhere around half an amp the
3 power factor becomes an issue and the excess
4 current that is drawn by uncorrected supplies
5 becomes a concern. So again that would be
6 justified through the case report but it is
7 consistent with the moves that are being made in
8 other international arenas for regulating power
9 factor.

10 And finally, Wayne has advocated for
11 definitions of detachable and integral batteries.
12 I will note that there actually is a third
13 category. There are batteries that are neither
14 detachable nor integral, with the definitions that
15 have been proposed. But in our testing of those
16 products that has not been found to be a
17 significant factor. Products with integral
18 batteries and detachable batteries test -- come
19 out testing just about the same.

20 The technologies that are available for
21 improving the efficiency of those chargers and the
22 cost for doing them are also very comparable so we
23 don't believe that that distinction is important
24 at the level of the test procedure. It may or may
25 not be relevant at the development of standards.

1 But it is certainly not relevant to the test
2 procedure and we would oppose inclusion of
3 definitions of that nature at this time.

4 Again, that gives a quick response, a
5 more detailed response has been submitted in
6 writing.

7 PRESIDING MEMBER PFANNENSTIEL: Thank
8 you. Further questions or discussions on the test
9 procedure, the battery charger?

10 MR. CALWELL: This is Chris Calwell from
11 Ecos. Thank you to Paul Bendt for clarifying on
12 the power factor. All I wanted to add there, I
13 think, is that test procedure development is
14 somewhat deliberate on our part. We have worked
15 on six or seven of them over the last decade.

16 The pattern of approach is always
17 similar, which is that the funnel is rather wide
18 when you begin a test procedure. It is the early
19 stage of scientific inquiry. You need to measure
20 to find out how important things are. And so it
21 is not uncommon that the final scope of a standard
22 does narrow what is addressed, which metrics
23 become the basis of standards and which products
24 are covered. But it has also been increasingly
25 common for industry participants in these forums

1 to try to narrow the scope of a test procedure
2 early on because it forecloses any possible
3 regulation of something that hasn't been measured.

4 So all I would say is we encourage the
5 Commission to allow the scientific inquiry to
6 become broad in the test procedure and trust that
7 all the merits of these issues will get debated
8 when the actual standards arise.

9 There is a document on the record in the
10 Commission from a previous proceeding, or we can
11 put it in the record if it is not immediately
12 available. Brad Meister who is here from the PIER
13 program, funded our team and the Electric Power
14 Research Institute a few years ago to assess how
15 much energy do you save by improving the power
16 factor of computer power supplies and how much is
17 that worth to the state as a whole.

18 And the reason I bring it to your
19 attention is A, that it was funded by this body,
20 but B, that one of its coauthors is John Koomy,
21 someone who is well-known to all of you and a
22 former graduate student of Commissioner
23 Rosenfeld's, and he took some pains in trying to
24 estimate this effect and it was surprisingly
25 large.

1 Because you are typically used to
2 measuring the energy at the device itself, not
3 through all the wire that the power flows from the
4 meter to the device. So I2, our losses are
5 substantial there. We can resubmit it to the
6 record as well as update it as we measure battery
7 chargers. So I won't take you further into the
8 arcane nature of power factor. Just to plead that
9 we do in fact be allowed to measure it and to tell
10 you what we find and how much energy it might save
11 us. Thanks.

12 PRESIDING MEMBER PFANNENSTIEL: Thank
13 you, Chris. On the phone? Are there commentators
14 on the phone?

15 MR. STRAIGHT: Not that I am aware of.

16 PRESIDING MEMBER PFANNENSTIEL: Anybody
17 else? Yes, please come on up.

18 MR. HANSEN: This is Dain Hansen with
19 NEMA. We have John Green. This is Dain Hansen
20 with NEMA. And John Green is going to be
21 presenting.

22 ASSOCIATE MEMBER ROSENFELD: We can't
23 hear you.

24 PRESIDING MEMBER PFANNENSTIEL: You need
25 to speak into the mic if you're going to --

1 MR. HANSEN: My name is Dain Hansen with
2 NEMA and John Green is going to be speaking on
3 behalf of our emergency lighting section.

4 PRESIDING MEMBER PFANNENSTIEL: Thank
5 you.

6 MR. GREEN: Thank you, Dain. Good
7 morning. The CEC rulemaking group has proposed to
8 impose efficiency standards on emergency systems
9 with battery chargers. The CEC proposal would
10 affect most of our consumer-related convenience
11 items but these have somehow evolved into
12 including emergency equipment in the lighting
13 area. These include inverter charger packs,
14 single-point emergency lighting fixtures, exit
15 signs, and have also included uninterruptable
16 power systems. These pieces of equipment use
17 chargers to continuously maintain battery
18 integrity for the maintenance of life/safety
19 equipment, in particular the safe and quick egress
20 of personnel from a building when its power has
21 failed.

22 The document mentions that both the EPA
23 and DOE have taken measures to enact battery
24 charging systems, but neither of these have
25 pertained to emergency lighting equipment to this

1 point. Key stakeholders involved in the
2 preliminary discussions have focused on
3 convenience electronic manufacturers and there has
4 been very little input from the emergency lighting
5 industry, if any. And we feel we have been placed
6 in a category that we really don't belong, in this
7 case.

8 Although the CEC proposes to include
9 emergency systems with battery chargers, the
10 effect of reducing or eliminating energy used to
11 maintain the charge level we feel has not been
12 thoroughly considered or reviewed.

13 ASSOCIATE MEMBER ROSENFELD: I'm sorry,
14 can you talk a little closer to the mic.

15 MR. GREEN: I'm sorry. Is this better?

16 ASSOCIATE MEMBER ROSENFELD: Yes.

17 MR. GREEN: Okay, thank you.

18 The purpose of continuously trickle
19 charging the batteries or having the chargers
20 active all the time is to preserve life safety
21 equipment to maintain the charge on the battery at
22 a level which will ensure operation for a minimum
23 of 90 minutes, per the requirements of UL 924 as
24 mandated by NFPA 70 and the National Electric
25 Code, NFPA 101.

1 Life safety products' readiness is
2 dependant upon the stated charge of the battery.
3 In knowing this it has been industry practice to
4 engage charging systems at two different levels.
5 One is a high rated charge that is used to
6 recharge a battery after an event has happened, a
7 power outage or whatever. Following that there is
8 a flow charge of about 20 to 30 milliamps to the
9 battery which keeps the products on a maximum
10 capacity and readiness in the event it is required
11 to operate in another power outage situation.

12 Any alteration to lessen or disable the
13 maintenance charge characteristics to save energy
14 would be lost when the system would be restored.
15 Whatever energy would be dissipated in a battery
16 not being on this flow charge would have to be
17 recovered on the next charge cycle.

18 The CEC is targeting products that are
19 required to meet the life safety codes and
20 standards. By including these products in their
21 proposals they are compromising the equipment's
22 ability to perform as required to ensure occupants
23 can exit a building safely in the event of
24 emergency.

25 Regarding the draft amendment for 2008,

1 the Appliance Efficiency Regulation Part B. Point
2 one is the definition for products categorized in
3 product category one have remained consistent from
4 previous releases of the Appliance Efficiency
5 Regulations. And that is, quote, emergency
6 lighting, which is illuminated exit signs, as read
7 from page two of the document. At no other time
8 in this document has emergency lighting stood for
9 anything other than exit signs. On page 58, item
10 ten, is the introduction or proposed inclusion of
11 emergency lighting charging systems, which also
12 piggybacks uninterruptable power supplies.

13 If the CEC decides to move in this
14 direction we completely support the removal of
15 this language from the appliance efficiency
16 regulations due to the existing performance
17 requirements found in UL 924 and the fact that
18 regulating performance characteristics of life
19 safety equipment without knowing without knowing
20 the adverse effects on performance and readiness
21 would be detrimental to the industry and to the
22 public safety.

23 Third, on page 88, item one, the
24 appliance efficiency regulation is proposing to
25 strike all printed language as to performance

1 criteria and referencing 10 CFR Section 431.204(b)
2 of 2008, which is the language from the Energy
3 Policy Act regarding the requirements for exit
4 signs.

5 One would expect that if the product
6 requirements are stricken and replaced with the
7 federally mandated requirements from EPCAct that
8 the reporting requirements for the CEC would be
9 dissolved. This does not seem to be the case as
10 the filing requirements are still located in the
11 appliance efficiency regulation document.

12 The reporting requirements for exit
13 signs intended for marketing and subsequent sale
14 of goods in the state of California went into
15 effect in 2003. The database was created to act
16 as a means to identify manufacturers who
17 maintained compliance and filing requirements with
18 the state and prohibit non-compliant companies
19 from participating in the sale and distribution of
20 exits.

21 Point four. On page 129 item one, this
22 again illustrates the removal of the exit sign
23 performance requirements and in place submits the
24 language, the input power of an internally
25 illuminated exit sign manufactured on or after

1 January 1, 2006 shall not exceed five watts per
2 face.

3 This statement alone does not warrant
4 the reporting requirements found in the CEC
5 document for exit signs. The CEC, in essence, is
6 governing the federal mandate on exit signs. We
7 are not sure of the intent of this action.

8 We would also like to remind the CEC
9 that the industry has made significant advances in
10 energy savings as evidenced by the fact that the
11 Energy Star program for exit signs has been
12 discontinued since these signs now meet the
13 targeted energy use per sign.

14 Therefore NEMA Emergency Lighting
15 Section recommends that life safety lighting
16 equipment be exempt from battery charging
17 requirements. There are new charging technologies
18 that are being developed with other battery
19 chemistries that will inherently address the
20 energy savings the CEC is targeting. Until the
21 time these become proven and can be made
22 commercial the risk to public safety is not
23 justified by the unproven energy savings being
24 promoted by these regulations on emergency
25 lighting equipment.

1 Thank you. Are there any questions?

2 ADVISOR TUTT: Mr. Green, as I
3 understand it we are simply adopting a test
4 procedure for battery charging systems or talking
5 about that today, adopting them later this year,
6 not standards. So I am sort of confused by how a
7 test procedure might affect emergency battery
8 charging systems negatively.

9 MR. GREEN: The test procedure would
10 lead to regulations is the assumed intent. And we
11 just feel that until there is a thorough
12 understanding of what the emergency lighting
13 benefits as far as energy savings would be, that
14 the risk to public safety needs to be considered
15 above all else.

16 ADVISOR TUTT: And how can we get that
17 thorough understanding without enacting a test
18 procedure and gathering data about it?

19 MR. GREEN: I agree that that is a first
20 step. We just want to make sure it doesn't
21 proceed into a position where the test procedure
22 leads us in a path that does impair public safety.
23 So we will hope that NEMA and other organizations
24 could participate in any regulation that might be
25 drafted based on the standards.

1 ADVISOR TUTT: Thank you.

2 ASSOCIATE MEMBER ROSENFELD: But nobody
3 suggested that you wouldn't be able to.

4 MR. GREEN: Correct.

5 ASSOCIATE MEMBER ROSENFELD: Nobody
6 suggested that you wouldn't be able to
7 participate. Just using the word public safety
8 doesn't negate a test procedure.

9 MR. GREEN: I understand that. The
10 implementation of a test procedure I agree would
11 not necessarily impact public safety. We are
12 definitely concerned with the path that might lead
13 us to, though. So we just want to be sure there
14 was sufficient input from all organizations that
15 have a stake in this procedure.

16 PRESIDING MEMBER PFANNENSTIEL: Thank
17 you, appreciate that. Gary.

18 MR. PENNINGTON: Question?

19 PRESIDING MEMBER PFANNENSTIEL: Yes,
20 Bill.

21 MR. PENNINGTON: I think once we do get
22 into a discussion of a standard and whether there
23 should be an exception for security equipment.

24 ASSOCIATE MEMBER ROSENFELD: Bill, I
25 don't think your mic is on either.

1 MR. PENNINGTON: I'm not talking into
2 the mic is the problem.

3 PRESIDING MEMBER PFANNENSTIEL: Well
4 then why don't you do that. (Laughter)

5 MR. PENNINGTON: So that issue will
6 logically come up at the standards setting. One
7 thing I am curious about is what is it about the
8 battery charger requirement that would compromise
9 the ability to maintain the security system? It
10 seems like if NEMA could help describe that in a
11 thorough way, scenarios or, you know, this
12 particular aspect will lead to this problem. That
13 would be really helpful when we get to that
14 discussion point.

15 MR. GREEN: Yes, I think that's what we
16 are all targeting is to be able to participate in
17 those investigations and make sure whatever energy
18 saving is targeted it does make sense. Maybe some
19 of the assumptions here were a little over the
20 edge. But I think we just want to make the point
21 that this is a very important issue and we don't
22 believe the emergency lighting equipment, which
23 has obvious requirements, is impacted by any
24 regulations that might come into being for a
25 consumer item that has no safety issues.

1 MR. PENNINGTON: Thank you.

2 MR. GREEN: Thank you.

3 PRESIDING MEMBER PFANNENSTIEL: Gary.

4 MR. FERNSTROM: Gary Fernstrom, PG&E.

5 So just to put NEMA's concerns at ease. The
6 measures that we recommend have only to do with
7 improving energy efficiency and do not at all have
8 the intention to reduce product performance or
9 utility. In fact, we advocated for the exit sign
10 regulation which California currently has. And
11 it, contrary to the prior rules around exit signs,
12 specified a luminance value that needed to be
13 maintained as well as a power input. So we
14 certainly have maintaining product performance
15 with regard to required features in mind.

16 MR. GREEN: Okay. We really appreciate
17 that. I think a lot of this took us a little by
18 surprise on the introduction of life safety
19 equipment into the scope of the study. We are
20 just happy to hear of the responses that there
21 will be involvement and there will be particular
22 attention paid to life safety equipment. Thank
23 you.

24 PRESIDING MEMBER PFANNENSTIEL: Thank
25 you.

1 MS. MERRITT: This is Melinda Merritt
2 with the Energy Commission staff. And John, your
3 comments appear to be mixing I guess concerns
4 around the battery charger test method with I
5 think some of the clarifications that we have
6 tried to introduce into the current regulations
7 with respect to updating and revising the
8 standards for currency with federal law.

9 Betty has been looking over what we have
10 done. We can try to respond to those concerns
11 right now or we can get together with you at a
12 later time to work through the scope and
13 definition points that you appear to be making in
14 your comments.

15 MR. GREEN: Well, I don't think we need
16 to spend a lot of time at this meeting to clarify
17 those but as long as we can discuss those at your
18 convenience. I think that would be acceptable.

19 MS. CHRISMAN: This is Betty Chrisman
20 with Energy Commission Appliance Program staff.
21 Just to throw a couple or three things out here
22 real quick for clarification.

23 The first point that you said related to
24 page two. That is, the scope and not the
25 definitions. It is just intended for clarity. My

1 question related to the specific definitions. Is
2 your question related to page 58 was in the
3 battery charger section. We also include a
4 definition on page 44 in 1602(1), I believe, that
5 is a definition for illuminated exit sign and you
6 did not question that. So we would also like to
7 know at a later date if you have a concern for
8 that definition as well.

9 On page 88 I agree that the changes were
10 dramatic. We took out the test method that we had
11 put in to limit it to the federal test method
12 since these products are now federally regulated.
13 And on page 129 what we were trying to do was
14 incorporate in Section 1605.1 the fact that these
15 are now federally regulated appliances and the
16 federal standards preempt state standards for the
17 illuminated exit signs, not for the battery
18 charging systems as part of illuminated exit
19 signs.

20 MR. GREEN: Okay, maybe we misunderstood
21 some of the intent there. I think that's part of
22 the issues we had. We haven't had a lot of
23 discussions about this yet. So we just want to be
24 sure we become involved. And thank you for the
25 clarifications on that, that's very helpful.

1 MS. MERRITT: We are very encouraged and
2 grateful that you were checking our work
3 (laughter).

4 PRESIDING MEMBER PFANNENSTIEL: Further
5 discussion on battery charger systems? Yes,
6 please come up if you have a comment.

7 MS. BARONAS: Thank you, Madame
8 Chairman. My name is Jean Baronas, I am an
9 employee of Sony Electronics Incorporated and I am
10 the co-chair of the IEEE lithium ion battery
11 committee.

12 I just want to point out that one of the
13 references in the test procedure on page three,
14 this is IEEE 1625, is dated 2004. And last week
15 that committee met and we are in our final voting
16 process so my guess it will be published in '08, a
17 revision for the state of the art. And I hope
18 that the new standard here would reflect that
19 because we really do look at the design of
20 batteries there in a whole new way.

21 And then another point I have noticed,
22 and I'm sorry for the lateness on this one. And
23 oh by the way, the IEEE is accredited by the
24 American National Standards Institute.

25 On page 12 Section F, access to the

1 battery for discharge tests. The first sentence
2 there, I was just talking to Paul about this. I
3 think he is in violent agreement that we could add
4 a phrase there to protect the technician. It says
5 the technician may need to disassemble the end-use
6 product. And I would like to add, comma, but not
7 the battery itself, comma. So just to keep
8 everyone as safe as possible.

9 Thank you for your time.

10 PRESIDING MEMBER PFANNENSTIEL: Thank
11 you for your comments. Others? Yes.

12 MR. JOHNSON: Good morning Commissioners
13 and staff.

14 PRESIDING MEMBER PFANNENSTIEL: Good
15 morning.

16 MR. JOHNSON: Doug Johnson with the
17 Consumer Electronics Association, or CEA.

18 CEA filed comments on behalf of its
19 members on this test procedure on April 18. Our
20 members in general are concerned about a situation
21 where we could have double jeopardy. As you know
22 we focused for a long time and invested a lot of
23 resources and energy into external power supplies.
24 In amending the initial regulation in this state,
25 harmonizing the activities of other states and

1 then ultimately at the end of last year achieving
2 a national energy efficiency standard for external
3 power supplies.

4 However, based on what we have heard
5 during the past few months and also today it seems
6 that certainly some are thinking that these
7 products and devices that we have considered to be
8 external power supplies could also be considered
9 battery chargers. Members are very concerned
10 about a situation where we would have one device
11 subjected to two different test procedures and
12 ultimately two different regulations. That would
13 be a costly and I think ultimately ineffective and
14 inefficient outcome.

15 To the extent that the Commission is
16 considering redefining some of these things then
17 we do need to weigh in on this test procedure and
18 our members have specific comments and concerns
19 with regard to some elements in the test
20 procedure.

21 The third point I wanted to make has to
22 do with the development of the test procedure
23 itself. This is just the type of activity which
24 lends itself to the industry standard setting
25 process. You have heard references to ANSI

1 accreditation a couple of times this morning. And
2 in fact it is ANSI accredited standards
3 development organizations that do play a very
4 effective role in developing test procedures
5 through a broad stakeholder process in a
6 relatively short amount of time.

7 I know in this particular case there
8 have been test procedure activities or standards
9 development activities, for example in Canada, on
10 battery chargers. Now to the extent that those
11 fell short or were not sufficient in the eyes of
12 the Commission or its staff and consultants, then
13 those procedures ought to be -- those test
14 procedures ought to be addressed within the
15 standards development organizations.

16 But CEA being an ANSI accredited
17 standards development organization potentially
18 could take on something like this and engage the
19 necessary members to the extent that the
20 Commission is thinking that some of these devices
21 could ultimately be redefined as battery chargers
22 in the future.

23 So again, I wanted to emphasize our
24 concern about double jeopardy. Emphasize that
25 this is the kind of activity which really should

1 be in a standards development organization. And
2 finally offer CEA support in that regard. Thank
3 you.

4 PRESIDING MEMBER PFANNENSTIEL: Thank
5 you, Doug. Any further comments or questions or
6 concerns about the proposed test procedure on
7 battery chargers?

8 MR. ALBERT: Yes, I am on the phone.
9 This is Larry Albert from Black and Decker.

10 PRESIDING MEMBER PFANNENSTIEL: Thank
11 you.

12 MR. ALBERT: And PTI. Thank you.

13 Mostly I want to comment on some of
14 those questions regarding power factor. I guess
15 essentially one of the key concerns we had in
16 looking at this inclusion of power factor in the
17 test procedure is the belief that it will be
18 ultimately regulated in the standards is that it
19 is now looking at power that is consumed outside
20 of the end product. And I think that relates back
21 to Wayne's comment earlier about it being outside
22 of Title 20.

23 While this is not necessarily a bad
24 thing to do it is a departure from many of the
25 other products that are covered in the appliance

1 energy efficiency standards. I want to make sure
2 that the Commission realizes that this is
3 embarking on, you know, fairly new ground.
4 Although I believe Gary mentioned at one point
5 there's at least another standard out there that
6 looks at similar sorts of things.

7 Then the other part of this is the
8 question that we brought up with respect to is the
9 energy losses significant when compared to the
10 energy losses in the end product itself,
11 particularly when you consider the variation that
12 could occur in both power factor and residential
13 wiring resistance.

14 And then if you do consider that the
15 power consumed outside of the appliance is in fact
16 both significant and something that is worthy of
17 coverage the third question is, is power factor
18 the appropriate proxy measurement to get at the
19 power losses associated with the end product. We
20 contend that it would not be.

21 The question of invoking the European
22 standard that Paul brought up. That standard
23 specifically is not for energy efficiency, it is
24 for harmonic currents. The concern there is the
25 fact that certain kinds of harmonic combinations

1 cancel out in power distribution systems causing
2 overloading of the system.

3 Any attempt to regulate the effect of
4 either non-displacement or displacement power
5 factor as a measure of losses in residential
6 wiring should probably involve a fair amount of
7 additional research to determine what specifically
8 the losses are and how they are incurred and
9 whether power factor is the right way of getting
10 at the losses.

11 And the last point was the one that
12 Chris made, I guess. Which is that there is an
13 investigatory element to inclusions of power
14 factor that allows the consultants and regulators
15 to determine whether, in fact, this is a
16 significant or insignificant component to us.

17 But at the stage we are at, after four
18 years of development, it would seem to me that
19 that question would have been answered already.
20 And that at the stage that we are considering
21 adopting the energy -- the test procedure rather,
22 that we should be moving forward and considering
23 this as being an element associated with the
24 regulation of these products.

25 So if there is any doubt at this point

1 because we are moving forward towards regulation
2 we should probably leave that element out and make
3 that a subject of some other ongoing research.
4 Thank you so much.

5 PRESIDING MEMBER PFANNENSTIEL: Thank
6 you for your comments. Gary, did you have a
7 comment?

8 MR. FERNSTROM: Gary Fernstrom, PG&E.
9 Just an observation, Larry, if you are still
10 listening on the phone.

11 MR. ALBERT: I am.

12 MR. FERNSTROM: I was of the
13 understanding that power factor had been in this
14 test procedure development process from the
15 beginning and it is only recently that a degree of
16 concern or objection has come up concerning it.

17 MR. ALBERT: I think, Gary, a lot of it
18 was related to the fact that it was our
19 presumption that the power factor was just an
20 element of interest in the data that was being
21 collected and it was not something that was being
22 contemplated being considered for regulation.

23 But based upon PG&E's sample on this it
24 was clear that there was consideration given on
25 some very strict limits, we thought, to what the

1 power factors would have to be for battery
2 charging systems. So that was, I think, a
3 considerable departure from what we thought its
4 purpose was. We thought it was just a question of
5 data gathering and there was really no, no intent
6 that that would become something to be regulated.

7 MR. FERNSTROM: Well in a way I think
8 that's kind of a moot issue because as Chris
9 Calwell pointed out earlier, we gathered data for
10 the purpose of educating ourselves about the
11 opportunity. I think the jury is still out on how
12 this may or may not be addressed by any future
13 regulation.

14 DR. BENDT: This is Dr. Bendt again. My
15 response to Larry and to the Commission is that I
16 believe the result of gathering data is that it
17 demonstrates that power factor is important. and
18 that there is energy savings available and cost-
19 effective energy by regulating it. That while
20 battery chargers might be the first appliance that
21 the CEC would apply these regulations to I believe
22 it should be applied to a lot of other appliances.
23 Perhaps TVs, microwave ovens and on and on and on.
24 That power factor is important for many products.

25 But we have to start somewhere. And if

1 battery chargers is the first one that comes up
2 that we really understand it then maybe that's the
3 first one. But over the next ten years I would
4 hope to see that applied to a wide range of other
5 products that have poor power factors.

6 MR. ALBERT: I guess the only comment
7 I'd have in response to that, Paul, is that if you
8 are considering the power losses due to power
9 factor that they are then combined in with the
10 power consumption of the end product. So that you
11 are not, for example, if you are saving ten watts
12 in the end product, right, but you are sacrificing
13 it with one watt of loss due to power factor, that
14 you are not giving up that technology that gives
15 you the ten watt savings.

16 DR. BENDT: I agree completely with
17 that. Certainly even if one looks at the
18 distribution wiring, if one starts from an
19 inefficient charger then there is a certain loss
20 in the distribution wiring. If one goes to a more
21 efficient charger, even one with a lower power
22 factor, the fact that it is more efficient
23 substantially reduces the current loss and reduces
24 the distribution losses.

25 So the first step, even though the power

1 factor is poorer, the fact that the total energy
2 being drawn through that house wiring is lower,
3 does improve it. And we are looking perhaps there
4 is an additional step that says, and if we can
5 also improve the power factor without harming the
6 efficiency of the product then there can be
7 additional savings beyond that.

8 But it is certainly the case that in all
9 of the analyses, the base case and the different
10 scenarios, one should include the total power
11 consumption by the product and the distribution
12 wiring together when one is looking at power
13 factor as a means of saving energy.

14 MR. ALBERT: I have less of an issue
15 with that then separately regulating or separately
16 measuring power factor as a way of getting to
17 that. Because I think if you are considering that
18 then you are looking at the combined consumption
19 of both the product and its losses in the power
20 distribution. By looking at power factor alone,
21 independently, you are missing out on the combined
22 effect that you just discussed.

23 DR. BENDT: I think that's involved in
24 the more detailed analysis and I am happy to
25 continue the discussion to make sure that we are

1 doing that analysis in a way that meets a
2 consensus of approval that we are doing it
3 correctly. And I look forward to continuing that
4 with you. I don't think we need the
5 Commissioner's time for that but I would look
6 forward to continuing that.

7 MR. ALBERT: Sure.

8 DR. BENDT: Thank you.

9 PRESIDING MEMBER PFANNENSTIEL: Thank
10 you. There was another -- In the back, yes.

11 MR. HABBEN: My name is Rick Habben from
12 Wahl Clipper Corporation. We manufacture small
13 personal care appliances. I guess my question was
14 for Dr. Bendt in regard to several times I heard
15 him state that the power factor can be
16 accomplished in a cost-effective manner. And I
17 just wanted to know if he has done studies and
18 analysis on those costs and if they can be
19 obtained. And what those incremental costs would
20 be to take a switch-mode power supply that has a
21 poor power factor and the cost of one that has a
22 good power factor and what those incremental costs
23 would be.

24 DR. BENDT: The answer to that is yes.
25 We have been looking at what design changes would

1 be required. Some of the switch-mode power
2 supplies have very poor power factors. And
3 getting them up to what I would consider a
4 moderate power factor is actually quite simple and
5 those changes are certainly cost effective.

6 Then there was another level of getting
7 them truly power factor corrected so that they
8 would be a good power factor. Those are ones that
9 we have been in discussion with the suppliers of
10 the electronic chips that provide that. Looking
11 at the circuits and really understanding what the
12 costs are. And the details of that will again
13 come out in the justification. We don't have all
14 of that analysis complete yet but that is exactly
15 a part of the analysis that is being done in order
16 to make that case.

17 And we would certainly in this envision,
18 as all the other agencies are, that there would be
19 a threshold below which, current threshold or a
20 power threshold below which power factor is not a
21 significant issue. And that there would be a very
22 large number of products that would not have power
23 factor addressed because the power consumption is
24 low enough that the current draw is not
25 significant.

1 PRESIDING MEMBER PFANNENSTIEL: Any
2 further discussion on this item?

3 MR. ANDERSON: Madame Commissioner,
4 Wayne Anderson of Motorola again. A couple of
5 these are really, I think, cleaning up the
6 document, not really intense.

7 There's a lot of space spent in the
8 final document defining battery charging systems
9 and using the -- that it is the battery plus the
10 battery charger. But when I went to definitions
11 in Section 3 battery wasn't defined and battery
12 charger wasn't defined. So I just thought you
13 might want to do that.

14 Then in Section 6 part D. That's about
15 -- after you have done the active measurements.
16 They define maintenance mode consumption in there
17 but they do not define what charge mode
18 consumption is. And I thought you'd want to put
19 that in there. They are both in that section but
20 I couldn't find a definition for the charge mode
21 consumption.

22 Then the last thing I want to explain is
23 the concept. In Table D they talk about end of
24 life for the battery chemistries. And for lithium
25 ion they quote 2.5. And that's true. But in our

1 phone systems what we do is we operate from 4.2 to
2 3.0 volts, we don't go all the way down to 2.5.
3 And that's for reasons you would hurt other
4 electronics in the phone if you were at that
5 level. So I don't think you need to or you should
6 actually test all the way down to 2.5, that's not
7 how we are using the battery in our systems and we
8 never have.

9 PRESIDING MEMBER PFANNENSTIEL: Thank
10 you. Last comments on this subject. Anybody on
11 the phone to talk battery chargers?

12 All right, it is approaching noon. I am
13 going to then adjourn from now until one and we
14 will come back at one and pick up the lighting
15 issues for the afternoon. Thank you.

16 (Whereupon, the lunch recess
17 was taken.)

18 --oOo--
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1 AFTERNOON SESSION

2 PRESIDING MEMBER PFANNENSTIEL: Let's
3 get started for the afternoon session. I think we
4 are going to start with lighting. Melinda, do you
5 want to start with some opening comments on
6 lighting?

7 MS. MERRITT: Yes, just a few.

8 PRESIDING MEMBER PFANNENSTIEL: Thank
9 you.

10 MS. MERRITT: Good afternoon, everybody.
11 Welcome back from lunch. I'm sure you're enjoying
12 being in out of the heat.

13 I need to note again the correction that
14 was made this morning regarding the call-in number
15 for interested public wishing to participate by
16 phone. The phone number indicated in the workshop
17 notice is not serviceable and the correct number
18 for this meeting is 1-888-935-0258, passcode
19 appliance, call leader Melinda Merritt.

20 Also for those of you just joining us
21 this afternoon there are copies of the agenda and
22 some of this afternoon's presentations in the
23 foyer.

24 If you would like to make oral comments
25 this afternoon please fill out a blue card

1 identifying yourself and your affiliation. We
2 will collect those and get them up to the dais.

3 This afternoon is devoted to the three
4 lighting efficiency proposals identified in Parts
5 A and B, General Purpose Lighting, Portable
6 Lighting Fixtures and High Intensity Discharge
7 Metal Halide Luminaires.

8 PG&E will also be presenting an update
9 of their analysis of standards options for linear
10 fluorescent fixtures. This is a case study that
11 they submitted in January of this year and made
12 some significant changes and improvements to so
13 they will be describing that to us at the end.

14 I will take just a few minutes to
15 reiterate the priority that is being placed on the
16 standards development work for lighting efficiency
17 needed and necessary to carry out the mandates
18 established in Assembly Bill 1109.

19 This is just to refresh everyone's
20 recollection that the Energy Commission is
21 required on or before December 31 of this year to
22 adopt minimum energy efficiency standards for all
23 general purpose lights.

24 And these regulations combined with
25 other programs shall reduce average indoor

1 residential lighting energy by 50 percent
2 relative to 2007 levels and reduce average indoor
3 commercial lighting and outdoor lighting by 25
4 percent -- energy for lighting by 25 percent and
5 more relative to the 2007 levels. These are very
6 ambitious goals. They are going to require not
7 only a lot of work, new standards, which is the
8 subject of this meeting today, but the thoughtful
9 planning and invention of a lot of other
10 activities and programs that are going to bring
11 about these levels of energy lighting reduction.

12 And following the passage of Assembly
13 Bill 1109 in California the federal government
14 enacted the Energy Independence and Security Act
15 of 2007, effectively setting standards for most
16 categories of general service lamps.

17 I am not going to describe this in
18 detail other than there were many lighting and
19 appliance efficiency standards established in that
20 law. The requirements for general service lamps
21 provided for California to accelerate the
22 effective dates of those standards, federal
23 standards. And there was specific provision for
24 metal halide fixtures and an early adoption of
25 standards in California with respect to those

1 appliances.

2 Just a final note. We have drafted the
3 regulations thus far, first and foremost with the
4 intention of meeting the lighting energy reduction
5 requirements of AB 1109 but fully cognizant and
6 intending to be in compliance with EISA and other
7 existing federal regulations.

8 With that, Harinder Singh will be
9 presenting a brief overview of the general purpose
10 lighting proposal.

11 MR. SINGH: Hello, my name is Harinder
12 Singh. I am presenting the general purpose
13 lighting proposal.

14 PG&E submitted an information proposal
15 template for general purpose lighting in January
16 2008. The proposal recommends adoption of EISA-
17 2007 energy efficiency standards for general
18 purpose lighting. The proposal includes the
19 following. Number one is adoption of Tier I of
20 EISA-2007 standards a year prior to federal
21 effective dates. Number two is adoption of a Tier
22 II backstop requirement of 45 lumens per watt two
23 year prior to federal effective dates.

24 These are the wattages and the lumens
25 with the effective dates. This table represents

1 that.

2 There is another proposal. Staff made a
3 proposal for GU-24. Staff has proposed that the
4 general purpose incandescent lamp shall not
5 contain a GU-24 base. A GU-24 base corresponds
6 with proposed requirements for portable lighting
7 fixtures and issues. This will be presented later
8 in the portable lighting presentation. It is
9 consistent with Title 24 2008 Building Energy
10 Efficiency Standards adopted on April 23, 2008.

11 And these are a few examples of a GU-24
12 base.

13 Staff met with NEMA, ELA and CLTC to
14 discuss these issues and other lighting industry
15 -- we also met with other lighting industry
16 representatives on March 13, 2008. I conclude
17 with that and if you have any questions.

18 PRESIDING MEMBER PFANNENSTIEL: Any
19 questions? Yes, Pam.

20 MS. HORNER: Good afternoon
21 Commissioners and staff. Can you hear? My name
22 is Pam Horner, I'm with Osram Sylvania, and I am
23 also chairperson of the NEMA lamp section.

24 I have one question and if the answer is
25 yes then I have a comment. In the staff

1 recommendation on page four there are shown two
2 tables, one is called K-8, one is called K-9. K-8
3 is Tier I, K-9 is Tier II. The question is, does
4 staff intend to place both tables into this round
5 of Title 20 regulations?

6 MS. MERRITT: The answer is yes.

7 MS. HORNER: Then I have a comment.

8 This is a friendly comment. What we would like to
9 point out is two things. In Table K-9 what is --
10 First I would like you to take a look at its
11 title. It is called Standards for State Regulated
12 General Service Incandescent Lamps. We would
13 simply like to remind the Commission and the
14 consultants here that a careful examination of
15 EISA shows you that the standards for Tier II are
16 for general service lamps.

17 And it sounds like it is the same thing
18 but it is not. Incandescent lamps are considered
19 a subset of this larger category. And what the
20 federal law has done is it has further defined
21 general service lamps to include not only these
22 types but also compact fluorescent lamps, no base
23 noted, LEDs, no base noted, and the dreaded
24 category called other, whatever people determine
25 will be general service in the future.

1 While it may not be probable it is
2 possible that each of these types of technologies
3 that are listed as general service lamps may
4 indeed find their way in future federal
5 regulations to have each their own set of LPW
6 standards. That's possible. The other point that
7 is related to this --

8 ASSOCIATE MEMBER ROSENFELD: I didn't
9 hear you, Pam. Each find their own?

10 MS. HORNER: LPW standard.

11 ASSOCIATE MEMBER ROSENFELD: Lighting
12 per watts.

13 MS. HORNER: Yes.

14 ASSOCIATE MEMBER ROSENFELD: Lumens per
15 watt standard.

16 MS. HORNER: The second point, which is
17 related, is that in Table K-9 minimum lamp
18 efficacy is shown at 45 lumens per watt and that
19 was taken from the backstop requirement. So there
20 in effect -- We would just caution that as you
21 write this, as you place numbers in boxes, that it
22 is worded in such a way that it captures the
23 federal intent. The backstop requirement as a
24 reminder said, if the government doesn't set a
25 standard then it shall revert to this. And it

1 looks as if this has been already chosen as the
2 default so we would caution you on that. So those
3 are our comments.

4 PRESIDING MEMBER PFANNENSTIEL: Thank
5 you.

6 MS. HORNER: You're welcome.

7 PRESIDING MEMBER PFANNENSTIEL: On
8 response on that? Do we have then a presentation
9 by PG&E or Ecos on lighting?

10 MR. CALWELL: Hello, I am Chris Calwell
11 with Ecos Consulting and I am presenting on the
12 general service lighting topic on behalf of PG&E.
13 I think I can keep this to about 10 to 15 minutes.
14 I know the agenda is full this afternoon. It is
15 primarily a little more depth on a proposal that,
16 as we have heard, is largely non-controversial.

17 I wanted to begin with just a reminder
18 on where we are. As of May of 2008 many of you
19 have been involved in these proceedings for awhile
20 and so remember the two rounds of standards that
21 we have gone through so far with the Commission on
22 general service lamps.

23 This is a visual indicating the lumens
24 per watt requirements the Commission has in place
25 now compared to the light output level of the

1 lamps.

2 What you can see is a red line with a
3 series of saw tooths in it. And essentially lamps
4 that fall above the red line would be legal to
5 sell in California under the standards. These
6 large number of faint colored diamonds in the
7 background are all products that were in the data
8 set prior to the standards. And then we have
9 highlighted some of the new products that have
10 come into the market in California as a result of
11 adoption of the standards.

12 So primarily just to indicate that the
13 vast majority of the products do sit right on the
14 standards line and in general at lighting levels a
15 little lower than the lighting levels typical for
16 standard soft white lamps. So we have tried to
17 highlight here with vertical dashed lines typical
18 light output levels today for a 100, a 75, a 60
19 and a 40 watt lamp. And lamps that fall to the
20 left of that would be less bright.

21 The other noteworthy products on the
22 page really are these four product introductions
23 from Philips under the Halogen brand, which are
24 remarkably more energy efficient than the other
25 incandescents that have been introduced so far and

1 are really worthy of commendation as the kind of
2 technologies that standards help to bring to
3 market and hope to bring to market.

4 The next slide here indicates a photo
5 taken recently in a Northern California grocery
6 store just to help provide a sense of how the
7 market is beginning to shift as a result of the
8 California standards in place so far, and other
9 factors, frankly, that are going on in the
10 marketplace.

11 In order from top to bottom here. What
12 we start to see is CFLs at eye level in a grocery
13 store, which is, of course, a change from the days
14 when they were either down low or hard to find in
15 a grocery store at all. Then what you see here
16 and on subsequent rows is you can see the arrival
17 of these new, lower wattage products specifically
18 to meet the California standards.

19 Here are some 38 watts lamps, 57s from
20 major manufacturer and the private label brand for
21 the store. The same for the 71s and the same for
22 the 95. So I think the good news is that there is
23 evidence of compliance with the standards that the
24 wattages are five percent lower as required by the
25 standards. However, most of the new bulbs reduce

1 light output by eight to ten percent so they are
2 actually less efficient than the old bulbs that
3 they replace.

4 And the modified spectrum bulbs in the
5 G-lamps, which were not covered by the California
6 standards, are being offered at the familiar
7 wattages right next to them. So here you see a 60
8 watt non-regulated product right next to a 57 watt
9 regulated one. These are the kinds of market
10 outcomes that we flagged as a concern during the
11 previous discussion and so it should be on our
12 minds as we think of future standards going
13 forward.

14 MR. FERNSTROM: Chris, this is Gary.

15 MR. CALWELL: Yes.

16 MR. FERNSTROM: If I could interrupt
17 with a comment. The modified spectrum lamps are
18 similarly of reduced light output, correct?

19 MR. CALWELL: Yes. In fact by a greater
20 extent actually. The light output levels reduced
21 there are typically in the ten to twenty percent
22 range versus the eight to ten percent range I was
23 flagging before.

24 Then just one more mystery shopper photo
25 here. This was taken recently at a national

1 retailer. Just indicating that the most prominent
2 and fastest selling shelf space in the store is
3 these end cap displays. And the middle row or
4 shelf in the lighting section now increasingly
5 being devoted to the modified spectrum products,
6 which are the least efficient ones offered. So
7 against that backdrop we are anticipating
8 additional regulation and voluntary initiatives.

9 So next steps in California. As
10 Harinder and Melinda said, the federal standards
11 were adopted in December of '07. The standards
12 were imperfect but they will at least push
13 manufacturers to reduce lamp wattage in a similar
14 manner as the California standards but to a
15 greater extent. They give manufacturers wide
16 latitude to reduce light output, especially with
17 the modified spectrum products that we were just
18 showing.

19 And I think with better federal labeling
20 as required by the standards -- I'm sorry, by the
21 law, and large amounts of consumer education,
22 engagement by utilities and so forth, I think the
23 power savings the standards aspire to will
24 hopefully come mostly from efficiency gains and
25 not from further dimming of the lamps. But both

1 are clearly allowed by the standards.

2 EISA offers California an opportunity to
3 accelerate its adoption of Tier I standards by one
4 year and Tier II by two years. Sorry, that is a
5 typo in the slide, Tier II by two years.

6 Other presentations you will hear today
7 I think will discuss savings opportunities beyond
8 general service. So I just wanted to focus for
9 now on the opportunity to accelerate the federal
10 standards.

11 And as we said in January testimony so I
12 won't reiterate here, PG&E did recommend six
13 specific strategies for dramatically increasing
14 residential lighting efficiency in California.
15 And if there is any one message maybe from my talk
16 today is I don't want people to leave this
17 discussion feeling like the one year and two year
18 accelerations of the federal standards get us
19 anywhere close to the targets required by AB 1109.
20 It is going to require much, much more than this.

21 This is, in effect, sort of the simplest
22 and easiest and most obvious first step. But we
23 had highlighted back in January, and hope to bring
24 to further discussion, better enforcement of
25 existing standards, adopting a broad range of

1 Title 20 and 24 measures that are not preempted by
2 EISA, profound expansion of consumer education.

3 And then employing financial incentives
4 on the positive side, which utilities have done
5 effectively in the state for years, but also the
6 notion of employing financial incentives on the
7 negative side to say to consumers that some
8 products should be discouraged from purchase
9 because they are much less efficient than average.

10 So just a little bit of market research
11 recent history. The general purpose incandescent
12 lamp sales in the US based on the data we have
13 seen likely peaked back in the late 1990s. They
14 leveled out briefly and they have begun a steady
15 decline since. So we have been in declining
16 annual sales of general service incandescent lamps
17 for perhaps nine or ten years.

18 The NEMA data that were submitted to DOE
19 as part of their standard proceeding showed US
20 sales of all incandescent A-lamps at about 1.6
21 billion units in 2001 and around 1.4 billion units
22 in 2005. And some of the market data we have seen
23 show that the decline has become even more rapid
24 since then.

25 Not coincidentally the CFL sales have

1 been rising sharply during the same time. And the
2 import data we have, which I will show you in a
3 moment, indicates about 29 percent of all the
4 screw base lamps sold in the United States in 2007
5 were CFLs in the general service category.

6 So there is also this interesting
7 phenomenon that is interesting to model and that
8 indeed our teams in the middle are trying to model
9 now. When you have high past sales of CFLs they
10 significantly reduce future lamp sales of all
11 types due to longer average lifetimes. So it is
12 not just enough to watch market share of sales,
13 you have to keep track of the total.

14 Because you fill a socket with a CFL,
15 next year you don't need to buy a lamp for that
16 socket and the year after you don't need to buy a
17 lamp for that socket. So socket share, the
18 percentage of sockets occupied by CFLs is likely
19 to exceed the percentage of light bulbs sold
20 that's CFLs sometime over the next few years and
21 we will keep you posted on modeling results.

22 This is an updated version of a visual I
23 showed at the Commission in January. These are
24 data from the US trade on-line database and they
25 show monthly imports of CFLs to the United States

1 on screw based products. Since virtually all
2 screw based CFLs are now manufactured outside of
3 the United States imports are good proxy for
4 sales.

5 And you see really just three things I
6 wanted to point out. A very sharp run of CFL
7 sales in 2001 coincident with the California power
8 crisis. A drop and a fairly steady level of sales
9 for the next few years and then a quite
10 unprecedented ramp in CFL sales where nearly every
11 month was a higher number than the previous month
12 running all the way through the fall of 2007 and
13 then dropping off about 30 percent since then.
14 The numbers at the bottom indicate annual totals
15 so you can see nearly 400 million units in 2007
16 compared to fewer than 200 million the previous
17 year.

18 This drop-off will bear some watching
19 because it could be seasonal variation but it also
20 could be sort of reaching a near-term saturation
21 of how many people wanted CFLs at that moment and
22 whether it is going to come back to those levels
23 again anytime soon, we'll see.

24 Now we are entering the realm of
25 projections where there are not a lot of data to

1 go on so you just have to make some educated
2 estimates. We looked at the demographic factors,
3 economic growth, population growth, declining
4 household size, a series of other issues, and
5 think that the number of California sockets, all
6 other things being equal, is probably going to
7 grow about 30 percent between the base year of the
8 Huffman Bill and the requirement year of 2018.
9 Even with that growth we would expect there are
10 going to be 20 percent fewer screw based lamps
11 sold in 2018 than are being sold now, maybe even
12 more, because of this longer and longer lamp
13 lifetime issue.

14 And there are huge unknowns regarding
15 the pace of technical advance in solid state
16 lighting and what is going to happen to the price
17 of it. What if we get more pin based on fixture-
18 oriented solutions as opposed to screw based. So
19 it is not as interesting to look at the percentage
20 of lamps sold as to look at the actual number of
21 lamps sold because that is what is driving your
22 energy savings.

23 Okay. In summary what we found in this
24 case analysis with a number of simplifying
25 assumptions is that the Tier I standards option

1 that Harinder mentioned before would result in
2 about a 64 megawatt reduction in peak demand and
3 about just under 1,000 gigawatt hours of savings
4 for that one year acceleration of Tier I.

5 Tier II would get you substantially
6 more, a little over 100 megawatts at peak demand
7 reduction. Quite a bit more energy savings, 2800
8 gigawatt hours. And then you see the totals
9 there.

10 I just wanted to caution that the totals
11 are a little misleading because if your target is
12 a reduction by 2018, accelerating by one year what
13 happens in 2011 or 2012 does not by itself change
14 the outcome in 2018. It changes your trajectory
15 to get there but it doesn't by itself change the
16 2018 outcome.

17 So I am not going to walk you through
18 all the fine print numbers here. These are the
19 same lumen bins that Harinder showed you before.
20 But just to remind you, the federal wattage
21 requirements, 29, 43, 53 and 72 watts for both
22 standard lamps and modified spectrum lamps but
23 with different lumen bins. All the lumen bins are
24 shifted downward in the modified spectrum area.
25 So even though modified spectrum are definitely

1 growing in the sales percentage they represent of
2 incandescents the majority of the energy use still
3 lives up here in standard.

4 What sort of technologies will be used
5 to comply with Tier I? Well the lamps I
6 highlighted before, the Philips Halogen are the
7 first incandescents we have in retail stores today
8 that do that. So we have just cut one open here
9 to show you what is going on. You have a very
10 small incandescent filament here inside of a
11 halogen-filled sphere with an infrared reflective
12 coating on it to bounce the heat back on the
13 filament.

14 What would we save by going to Tier I a
15 year early? So what you see here are average
16 wattage reductions ranging from 9 watts to about
17 28 watts per lamp. And a series of assumptions
18 about how long the lamps are going to last, what
19 is going to happen to sales and so forth, leading
20 to the savings totals I mentioned before. Because
21 the federal standards would take effect on their
22 own a year later, even if the lamps live longer
23 than a year you can't claim more savings than the
24 period they would last until the federal standards
25 take effect.

1 What about Tier II? Well now we are
2 talking about dropping average power levels quite
3 a bit more. So now down into the 12 to 45 watt
4 range for standard lamps and probably a little
5 lower. This is where it gets tricky because as
6 Pam mentioned before, we don't know how DOE might
7 choose to implement this. But if they just
8 applied a flat 45 lumens per watt across the board
9 and you picked the mid-range of each of these
10 lumen bins then these are the kind of wattages you
11 might see for each.

12 So what savings might you get from
13 adopting the standards two years early for Tier
14 II? You see here estimates of 17 to 27 watts and
15 20 to 38 watts depending on the lamp type.
16 Remember that under the wattage cap system the
17 modified spectrum lamps remained quite inefficient
18 after Tier I. So therefore taking them to 45
19 lumens per watt gets you more savings per lamp in
20 Tier II.

21 I want to conclude with this slide. The
22 recommendations are straightforward. We urge the
23 Commission to adopt the Tier I requirements a year
24 early so it's a rolling set of dates starting in
25 2011 instead of 2012 and finishing in 2013 instead

1 of 2014. And then to adopt the Tier II
2 requirements with an effectance date of 1/1/2018,
3 which would secure up to a year's worth of early
4 savings to assist with the compliance deadline.

5 And then I don't want to lose this theme
6 too. That there are of course additional energy
7 and greenhouse gas benefits from doing this early.
8 It's just that they land after 2018 so they don't
9 help you with compliance with AB 1109 but
10 certainly help you with AB 32 and help you with
11 other aspects of keeping the lights on.

12 And finally and most emphatically, to
13 move promptly on other options for lighting
14 standards and voluntary measures to secure the
15 needed savings for compliance. With that I'll
16 conclude and either take any questions or join the
17 discussion. Thanks very much.

18 PRESIDING MEMBER PFANNENSTIEL: I have a
19 question, Chris. Back to the shelf space that you
20 showed with the CFLs and the modified spectrum
21 lamps and the fact that the modified spectrums are
22 getting a lot more shelf space. Is it correct
23 that consumers don't really understand the
24 difference in a 57 watt as opposed to a 60 watt
25 when they look much the same in terms of what they

1 are getting for efficiency? Is what's going on
2 there consumers are just stuck in the 60 watt
3 mold?

4 MR. CALWELL: I certainly haven't seen
5 any market research yet because we are talking
6 about a period of months, you know. We were
7 watching retail store shelves. January, no
8 evidence; February, no evidence. The new lower
9 power product started trickling in late February,
10 March in the stores we examined. So it's a worthy
11 question. It would be worth asking how many
12 consumers are buying each and for what reason.

13 I guess one point I would make here is
14 that you have got essentially three, three levels
15 of packaging. What's the word? Attractiveness or
16 visibility to consider here. You have a somewhat
17 more generically packaged or standard lamp branded
18 us such in monochrome packaging and then a little
19 bit more colorful house brand packaging here of a
20 lamp with essentially similar performance,
21 slightly cheaper, and then a full color packaging
22 here accompanied by a strong, national advertising
23 campaign, price discounts, promotions and so
24 forth. So to untangle all those things and say --

25 PRESIDING MEMBER PFANNENSTIEL: Well,

1 but I am not even sure I am looking to have them
2 untangled.

3 MR. CALWELL: Okay.

4 PRESIDING MEMBER PFANNENSTIEL: I am
5 sort of looking for the question of, do consumers
6 have the information perhaps, to make these
7 decisions? Is the information on the packaging?
8 Does it come across through advertising, thorough
9 national advertising, through advertising by the
10 individual retailers?

11 I guess I am very concerned that I think
12 a major part of what is happening here outside of
13 the actual standards is that we are not giving the
14 consumers very much information. I mean, people
15 in this room know an awful lot about it, people
16 outside of this room know very little about it.

17 MR. CALWELL: Yes.

18 PRESIDING MEMBER PFANNENSTIEL: And let
19 me just ask Gary, how much money has PG&E spent on
20 advertising information about light bulbs?

21 MR. FERNSTROM: Well we spent -- Gary
22 Fernstrom, PG&E. We spent a lot of money last
23 year on CFLs but virtually none on incandescents,
24 to answer your --

25 PRESIDING MEMBER PFANNENSTIEL: But was

1 the information -- Was the money spent on CFLs
2 promoting through rebates or was it on some kind
3 of advertising campaign in terms of the value?

4 MR. FERNSTROM: No it was, it was
5 general awareness advertising characterizing the
6 CFL as the type of lamp, you know, you should want
7 and you should have. It was pretty successful, we
8 think.

9 However, to respond to this display.
10 You know, lacking any other education or
11 information as you point out, I think I would be
12 drawn to the, you know, cleaner, brighter, whiter
13 light of 60 watts, you know, as opposed to some
14 lower wattage that is, you know, less attractively
15 characterized.

16 PRESIDING MEMBER PFANNENSTIEL: Thanks.
17 Joe.

18 MR. HOWLEY: Yes, Joe Howley from GE. I
19 would just like to make a couple of comments. To
20 help smooth the transition we purposefully kept
21 the packaging of the 57 watt lamps exactly the
22 same as the 60 watts that they have been buying
23 for the last, you know, five years or so. So if
24 somebody was looking for that I think we haven't
25 had a lot of confusion or questions about it.

1 I think consumers who are used to buying
2 that yellow package for many years, they buy
3 incandescent lamps probably every couple of
4 months. They saw the package, they saw the
5 wattage was down a little bit but they didn't seem
6 to have any problem identifying it.

7 And I will note that, you know, it is
8 those products that seem to be sold more. There
9 is an empty space there. Because you still have
10 the price comparison. If they were confused about
11 it and looked at the 60 watt Reveal , as soon as
12 they saw that being two to three times more
13 expensive they would probably look back at the
14 other product very quickly.

15 And finally, we haven't seen any great
16 increase. In fact the sales of the hand spectrum
17 have been going down just like the sales of the
18 standard lamps have been. All incandescent
19 categories are going down right now and being
20 replaced with CFLs, probably because of Gary's
21 programs to promote the compact fluorescent lamps.

22 PRESIDING MEMBER PFANNENSTIEL: Thank
23 you. I remain somewhat unconvinced about how much
24 information the general consumer has. I think
25 ultimately all of our work is going to require

1 that they have a different level of understanding
2 of how lumens work relative to wattage than they
3 have now.

4 MR. CALWELL: Yes, and thank you for
5 clarifying the original question. I understand it
6 a little better now and was just going to offer
7 two thoughts. One of them I think is we are all
8 familiar the federal EISA requirements stipulate
9 that the Federal Trade Commission has to undertake
10 a review and possible revision to its labeling
11 guidelines. So a lot of the energy efficiency
12 stakeholders are of course aware of that and
13 preparing suggestions for how those labeling
14 guidelines might be revised.

15 It wouldn't be a mystery to anyone here
16 to guess that revisions that further emphasize
17 light output and efficiency and add less emphasis
18 to wattage might help. So you can expect those
19 kinds of things. Just notice. I mean, here we
20 are a fair distance away from the shelf as if we
21 would be in the store and I can glance across the
22 shelf without my glasses and see the wattages.
23 But the lumens that the federal government
24 requires to appear on there are in a much smaller
25 font and wouldn't be noticed by the average

1 consumer, let alone interpreted.

2 PRESIDING MEMBER PFANNENSTIEL: I was
3 going to say, I think even noticed they wouldn't
4 understand them, especially.

5 MR. CALWELL: Yes, so that is perhaps
6 one point. And then I guess the other thing I
7 would just say on the price issue is, in this
8 particular retail store it is true that the
9 modified spectrum bulbs are selling for about \$4 a
10 four-pack compared to about \$2.49 or \$2.99 for a
11 four-pack of the 57 watt bulbs.

12 But it is partly why I included the
13 other example because if anything we just see more
14 and more retailers promoting the products at lower
15 and lower prices with supplemental coupons and
16 discounts and attractions from the manufacturer.
17 So the price parity is shrinking all the time.

18 There is a very careful but meaningful
19 distinction between saying that absolute sales of
20 modified spectrum products are dropping and saying
21 that modified spectrum sales are changing as a
22 percentage of the incandescents that are sold.
23 All incandescent lamps are dropping but the
24 evidence in the stores suggest that modified
25 spectrum represent a larger and larger fraction of

1 what is being sold. If not, the retailers are
2 devoting a heck of a lot of space to promoting and
3 calling attention to products they can't persuade
4 anyone to buy.

5 PRESIDING MEMBER PFANNENSTIEL: Okay,
6 Pam.

7 MS. HORNER: Pam Horner, Osram Sylvania,
8 NEMA, et cetera.

9 I just wanted to let the Commissioners
10 know, John and Tim do know, we have a meeting
11 tomorrow. And it occurs to me that -- And Gary,
12 perhaps we could put on the agenda. We have a
13 discussion with industry and with Flex Your Power.
14 And the subject is the education of the public and
15 the public relations work that actually needs to
16 be done to better educate the consumer about all
17 of these energy efficient lighting options that
18 are occurring. Who knew? That's tomorrow and
19 that was our subject.

20 PRESIDING MEMBER PFANNENSTIEL: How
21 timely.

22 MS. HORNER: So if we put that,
23 specifically include the incandescent on there I
24 think that would be in our best interest. I
25 thought you should know. Thank you.

1 PRESIDING MEMBER PFANNENSTIEL: Thank
2 you.

3 MR. COOK: Keith Cook from Philips
4 Lighting. I just wanted to add another comment
5 and that is, putting lumens on a package, no
6 matter what the font size, is not going to solve
7 the problem. People do not relate to lumens.

8 But what you will find, for instance, on
9 that Halogen energy saver is the equivalency.
10 So we will say like 45 watts is equal to 60 watts.
11 People still think in wattage. So somehow we have
12 got to address your concern, you're absolutely
13 right. We are trying to do that on the packaging
14 in very obvious ways. But just lumens is not
15 going to be the answer.

16 PRESIDING MEMBER PFANNENSTIEL: Thank
17 you very much. Yes, I agree. I think that some
18 kind of translation, some kind of packaging is, I
19 want to say, necessary but not sufficient. I
20 think we probably also need to work out something
21 in the way of advertising these products so that
22 they are thought of -- they become household words
23 in terms of how people are thinking about
24 lighting.

25 I don't mean to monopolize this. Are

1 there further questions or issues on the general
2 services lighting? If not we are going to move
3 off of this.

4 ADVISOR TUTT: I just have one.

5 PRESIDING MEMBER PFANNENSTIEL: Tim.

6 ADVISOR TUTT: I just wanted to ask
7 Chris if there was any sort of objective or
8 quantitative data on this marketing issue that he
9 is raising here? When I go into my local hardware
10 store the most common bulb that is on the end cap
11 is CFLs. I go in there as a puttering around
12 house-husband nearly every weekend and it almost
13 always is CFLs that are on the end cap it seems to
14 me. I understand that there's promotions of
15 different bulbs at different times but is there
16 any kind of quantitative information you have
17 regarding this issue that you have raised?

18 MR. CALWELL: It's a great question.

19 The reason I put the quantitative data for the CFL
20 sales here is to say, absolutely. I could show
21 you photos I have gotten in retail stores, some in
22 the US, some in Canada, where the total linear
23 feet of shelf space devoted to CFLs is now as
24 great or greater than the linear feet of shelf
25 space devoted to screw base incandescents. And in

1 the 20 years that Gary and I have worked on this
2 subject we would not have envisioned that ever
3 happening. I mean, that is a remarkable change.

4 So the reason I put in the slides that I
5 did is not to in any way suggest that CFLs aren't
6 being promoted or sold like crazy and heavily
7 advertised. But just to say that of the remaining
8 incandescent sales that occur it is pretty clear
9 where the shift has gone in emphasis.

10 I would also just say too that you can
11 go to some retail stores where you have to look to
12 find a standard soft white incandescent because
13 your first visible scene is of CFLs in varying
14 flavors and manufacturers and light output and
15 prices. And then the next incandescent that you
16 are presented with are specialty ones in a variety
17 of ways. They might be modified spectrum, they
18 might be so-called super soft white, or double
19 life or DuraMax. You know, ultra durable. But
20 the old-fashioned, plain vanilla, cost 20 cents
21 apiece general service incandescent is getting
22 harder to find in stores.

23 ASSOCIATE MEMBER ROSENFELD: Chris,
24 maybe I wasn't listening but did you explain why
25 there was this pretty significant drop in the last

1 half a year?

2 MR. CALWELL: I speculated but it is
3 actually a question worth asking. The
4 manufacturers might have an opinion on it. I was
5 saying that there are one of two likely
6 explanations. One of them is that you do see in
7 the chart seasonal variations from month to month
8 which are fairly sharp, usually not in the
9 magnitude of 30 percent, of course.

10 But secondly, if you have a series of
11 intense promotions, utilities offering rebates in
12 perhaps two-thirds of the US states. Al Gore
13 promoting the virtues of CFLs to people who have
14 seen his movie and read his book and a variety of
15 other people doing so. I think there was an
16 absolute crescendo or frenzy of interest that
17 peaked in '07. And after a certain large number
18 of sockets that are easily replaced get occupied
19 by CFLs it would be natural for the market to
20 maybe take a pause again.

21 I think you all may remember. I shared
22 back in January some data from e-source that
23 showed that half of all US households were CFL
24 users, approximately, and that half were not
25 persuaded yet. So instead of thinking about there

1 being an average of three bulbs per household what
2 you have really got are half the households with
3 six and half the households with none.

4 So in order for this kind of chart to
5 continue upward indefinitely you have got to find
6 a way to bridge the divide to the other half and
7 persuade them on the merits of using CFLs.
8 Because the market growth potential among the
9 converted is going to be more limited.

10 MR. FERNSTROM: So this is Gary --

11 MR. CALWELL: Does that help,
12 Commissioner?

13 MR. FERNSTROM: Gary from PG&E. As long
14 as we are speculating on this. I think there is
15 also a possibility that the easily-filled sockets
16 in many homes are being filled with CFLs and now a
17 super CFL is needed to fill the remaining sockets
18 that might be more difficult on account of
19 electronic controls or dimmers or special size
20 requirements and so on.

21 So the California utilities and the
22 California Lighting Technology Center are doing
23 some work on the lines of trying to bring a
24 universal replacement-type product into the
25 market.

1 MR. HOWLEY: Joe Howley from GE. As a
2 manufacturer, rather than all this speculation,
3 which none of it has actually hit the mark yet but
4 it is interesting to hear. (Laughter)

5 ASSOCIATE MEMBER ROSENFELD: So tell us
6 the answer.

7 MR. HOWLEY: Yes. Well the real answer
8 here is that this is not a picture of sales. This
9 is a picture of imports. And in a anticipatory
10 environment where people, importers, manufacturers
11 are bringing product in expecting ever and ever
12 bigger sales, there is a point where you hit an
13 inventory build point or you overshoot what is
14 actually being sold.

15 And what you are really seeing there at
16 the end is an inventory build for two reasons.
17 One, probably a little overshooting of how fast
18 the market is going and secondly, you have -- Boy,
19 the second idea just went right in and out of my
20 mind. (Laughter)

21 MR. FERNSTROM: And overstock.

22 MR. HOWLEY: Oh, increased inventory.
23 You need a higher inventory level. All
24 manufacturers need a higher inventory level to
25 support much higher sales. So we just need to

1 bring in more inventory to support a higher level
2 of sales through all levels of distribution. And
3 what you see there really is an inventory built to
4 support the new, much higher level of sales. It
5 is not a reflection of sales of CFLs going down
6 from the consumer.

7 PRESIDING MEMBER PFANNENSTIEL: It is
8 not on those dates but I think that you are still
9 getting -- the graph is still describing
10 presumably what will be sold.

11 MR. HOWLEY: Right.

12 PRESIDING MEMBER PFANNENSTIEL: And it
13 has not been sold on the dates shown there.

14 MR. HOWLEY: Right. But the --

15 PRESIDING MEMBER PFANNENSTIEL: And you
16 are bringing it into inventory assuming that it is
17 going to go out of inventory.

18 MR. HOWLEY: Our market data is showing
19 that the CFL market continues to grow, albeit it
20 not quite as fast as the torrid pace that it grew
21 during the first half of 2007. It continues to
22 grow. There is not a drop-off like that in
23 consumer sales. That is representing something
24 totally different.

25 ASSOCIATE MEMBER ROSENFELD: So you say

1 the shipments tend to be more volatile than the
2 actual sales.

3 MR. HOWLEY: Yes, because people are
4 bringing in big containers full from various
5 places.

6 MR. CALWELL: Yes, I appreciate that as
7 well. Imports are at best a proxy for sales but
8 they are a time lagged proxy for sales.

9 Maybe one other point that is worth
10 noting. If you look at the 397 million units down
11 there you can see that that number in one year is
12 more than the imports or sales that occurred in
13 '06, '05, '04 combined. And so these are huge
14 numbers that retailers and consumers have never
15 seen before. We are in a new era as far as CFL
16 sales go.

17 PRESIDING MEMBER PFANNENSTIEL: Anything
18 further on general service lighting? We are
19 making progress then. Thank you, Chris.

20 Let's move to portable lighting
21 fixtures. Gary.

22 MR. FLAMM: Good afternoon, Gary Flamm,
23 Energy Commission staff. I am going to go over
24 the portable lighting proposal.

25 The Efficiency Committee received two

1 proposals for measures for portable luminaires.

2 The first one came from PG&E and their team with
3 ACEEE; the second one came from the American
4 Lighting Association.

5 Additionally the Committee received
6 comments in response to the ALA proposal from PG&E
7 and their team.

8 In addition to that staff has had a
9 couple of meetings and conference calls. There
10 was the meeting that has been mentioned several
11 times here back on March 13 when NEMA, the
12 American Lighting Association and staff met at the
13 California Lighting Technology Center. So there's
14 been significant discussion on this proposed
15 measure.

16 So staff has considered these proposals
17 and all of this dialogue and staff believes both
18 proposals have merit. The first thing I want to
19 present is the PG&E proposal and to bring out that
20 the PG&E proposal does significantly contribute to
21 the requirements of AB 1109 and the energy savings
22 that would occur.

23 So to summarize the PG&E proposal. They
24 basically have two options for portable
25 luminaires. One is a maximum wattage determined

1 by a power limiter installed in the portable
2 luminaire of 35 watts for screw based lamps and
3 for 40 watts for non-screw based, low-voltage
4 halogen. Or the other option would be to design
5 only for Energy Star high efficacy lamps.

6 Additionally, PG&E offers a definition
7 of a portable luminaire that basically is broadly
8 applied to all portable luminaires with a plug-in,
9 regardless of the lamp socket configuration,
10 except for federally regulated torchieres.

11 Through our discussions and analysis of
12 the proposals we recognized that PG&E does treat
13 floor and table lamps the same. ALA has
14 contributed that higher wattage is needed for
15 floor luminaires than is needed for table
16 luminaires, typically.

17 Also it has been pointed out that
18 luminaires with more than two sockets may need
19 higher wattage than allowed under the PG&E
20 proposal.

21 And the concern that the measure, a
22 regulation based on 35 watts may drive California
23 consumers to Internet sales, which may be hard for
24 the state to regulate and get our arms around.

25 The ALA proposal. Basically on new

1 single- and multiple-socket luminaires would
2 require that the luminaire be rated for no more
3 than 150 watts and be controlled with an integral
4 dimmer and marked for use with an incandescent or
5 dimmable compact fluorescent. And it does exempt
6 all other lamp socket configurations.

7 The second option under the ALA proposal
8 would be simply a GU-24 line voltage socket in the
9 luminaire.

10 And the third option would be a
11 dedicated two- or four-pin socket that is
12 appropriate for compact fluorescent luminaires or
13 lamps.

14 The ALA definition, again, of a portable
15 luminaire is limited to only medium screw based
16 portable luminaires. And again, except the
17 federally regulated torchieres.

18 The ALA proposal also had some very
19 interesting ideas that are outside of the scope of
20 Title 20. They recommend a portable luminaire
21 conversion for existing portable luminaires, GU-24
22 adapters and rebates for trade-in or conversions.
23 And staff believes that these ideas have merit to
24 further discuss as a separate effort outside of
25 this rulemaking.

1 In the ALA proposal, by limiting only to
2 medium screw base, it only addresses a subset of
3 all of the luminaires that are available and
4 creates a loophole and maybe even an incentive to
5 start bringing to the consumers portable lamps
6 that have other configurations.

7 And ALA has pointed out in their -- I
8 mean PG&E pointed out in their review that the 150
9 watt cap, the listing for the luminaire, will only
10 affect 25 percent of portable luminaires.

11 Another issue with the ALA proposal is
12 that if portable luminaires were equipped with
13 integral dimmers virtually all retail, screw base
14 fluorescent lamps would not be compatible.
15 Because virtually everything that you can get
16 today is not compatible with dimmers. They are
17 available but not at the typical retail store.

18 And it is speculative at this point to
19 think that screw base dimmable CFLs will be
20 readily available in the near future.

21 Also we know that there is a percentage
22 of Californians that are already screwing in screw
23 base fluorescent lamps into portable luminaires
24 and they will no longer be able to do so. So we
25 have a concern, staff has a concern that this may

1 actually increase energy consumption or may
2 increase compact fluorescent lamp failures.

3 Also part of the ALA proposal is a GU-24
4 option. And today GU-24 products are virtually
5 all high efficacy. However, there are no federal
6 or state standards that prohibit incandescent
7 lamps from being developed with GU-24 bases. So
8 therefore as part of staff's recommendation that
9 we will go over in a minute, staff recommends that
10 no incandescent lamps with GU-24 bases be sold in
11 California. And that was part of what Harinder
12 presented in the general service lamp
13 presentation.

14 And by allowing two-pin and four-pin
15 fluorescent lamps, in all practical purposes the
16 Energy Star requirement really drives to four-pin
17 fluorescent lamps, which means basically
18 electronic ballasts. The two-pin option actually
19 in our opinion is less than Energy Star .

20 So staff has considered all of these
21 proposals and the recommendations and the comments
22 and became aware of a few other issues. The RLW
23 residential appliance saturation study has pointed
24 out that there are 58 million portable luminaires
25 in homes in California and that is projected to

1 go, I believe, to about 75 million by 2020. Also
2 the average wattage of these sockets is 67 watts.

3 We also became aware in the 2006
4 appliance efficiency rulemaking that the most
5 common, general service incandescent lamp was a 60
6 watt lamp. Under EISA and the proposed Title 20
7 early adoption of EISA the 60 watt lamp is going
8 to become a 43 watt lamp. So staff assumes that
9 the 60 watt lamp becoming a 43 watt lamp is
10 actually going to be the baseline under which we
11 evaluated our proposal. So therefore the proposal
12 from PG&E for 35 watts seems reasonable in that it
13 does save energy beyond what will, what is
14 anticipated to be the baseline.

15 So the staff realizes that some of the
16 issues raised by ALA had some significant issues
17 that we wanted to address. We agreed that 35
18 watts is not appropriate in all situations. We
19 also agree that portable floor luminaires and
20 portable table luminaires are different and have
21 different needs. So staff has created our
22 proposal in light of those issues.

23 So the staff proposal has three options.
24 One, there is going to be a maximum wattage per
25 Table N-3, which I am going to go over in a

1 minute. Or equipped only with GU-24 line voltage
2 sockets. Or shall be high efficacy as defined by
3 Table N-4.

4 So the staff report that was published
5 prior to this workshop, that last bullet said
6 Energy Star . And in discussions between staff
7 and management we were reminded that we could not
8 put Energy Star into Title 20.

9 So there is already a construct of high
10 efficacy in Title 24 that has been there for a
11 number of years so staff is proposing that we move
12 that construct from Title 24 and basically cut and
13 paste it into Title 20 and replace our third
14 bullet. Instead of saying Energy Star say high
15 efficacy.

16 Here is staff's proposed table. So
17 staff has broken out portable floor luminaires
18 from portable table luminaires. Staff recommends
19 that for portable floor luminaires the maximum
20 wattage shall be 35 watts for one socket, 58 watts
21 for two sockets, and an additional 23 watts per
22 each additional socket up to a maximum of 150
23 watts. With an exception for low voltage halogen
24 lamps, which starts with a higher 40 watts and
25 then 63 watts.

1 For all other portable luminaires, which
2 include table that are other than low voltage,
3 staff recommends that one socket is a 35 watt
4 allowance, two sockets is still within that 35
5 watt allowance, with an additional 16 watts per
6 each additional socket up to 150 watts. And all
7 other portable luminaires used in low voltage
8 start out with 40 watts.

9 Here is a copy of basically Table 150-C
10 out of Title 24 2008. And the high efficacy is
11 determined by the wattage threshold and there is a
12 lumens per watt per each threshold.

13 For staff to incorporate the ALA's
14 proposal of GU-24 staff believes that there also
15 needs to be some regulations on GU-24 luminaires
16 and sockets. So staff proposes that luminaires
17 with GU-24 sockets shall not be rated for
18 incandescent lamps. And also there shall be no
19 GU-24 adapters that adapt a GU-24 to any other
20 line voltage socket.

21 Now I want to point out the socket in
22 the bottom right of this slide is a photo that I
23 took. I was at LIGHTFAIR a couple of years ago
24 and a socket manufacturer was proudly displaying
25 this. This is a way to change a GU-24 to a medium

1 base socket. And this is the kind of product that
2 we will need in order for the GU-24 option to work
3 in California. And that is all I have in my
4 presentation.

5 PRESIDING MEMBER PFANNENSTIEL: Specific
6 questions for Gary on the presentation? We'll
7 have an opportunity obviously for a lot more
8 discussion on this. But if you have -- Certainly,
9 come on, come on up.

10 MR. O'BOYLE: My name is Mike O'Boyle
11 and I am here from Lightolier, which is a division
12 of Philips Lighting. I am also the co-chair of
13 the ALA engineering committee and the vice chair
14 of the NEMA luminaire section.

15 I have a question concerning the scope
16 of the portable lamp proposal. Do you intend this
17 to also include industrial or special purpose
18 lighting such as medical examination lights or
19 work lights or shop lights?

20 MR. FLAMM: I had to I had to check with
21 this issue with ICF Consulting to try to get my
22 arms around that very issue. And as far as they
23 were aware there was no distinction between
24 residential and commercial luminaires that they
25 were aware of. So if you are aware of some kind

1 of designation I think that is something we can
2 discuss further.

3 MR. O'BOYLE: Okay. Because I think the
4 rules, if applied to industrial, would be
5 impossible. So we do need to work on some way of
6 identifying or drawing the line between the two.
7 And I guess we can do that in the workshop
8 tomorrow.

9 MR. FLAMM: I believe that if we define
10 that without a significant loophole that we can
11 discuss that. My concern is how do we define that
12 and is there, are there standards, UL, ANSI. Are
13 there some standards which we can rely on to make
14 that distinction between those products. There is
15 precedent in the standards for addressing medical
16 applications.

17 MR. O'BOYLE: Okay. And industrial
18 particularly is of concern because in
19 manufacturing situations there are luminaires that
20 are metal halide that have cord and plug
21 attachments and the purpose of this is to allow
22 them to be brought down from these high ceilings
23 for servicing. Obviously 35 watts would be much
24 too low for that situation. And I am not aware of
25 a UL rating at this point but there may be some

1 way of identifying those.

2 MR. FLAMM: Okay. I would like to work
3 with you further to define that, please.

4 MR. O'BOYLE: Okay, all right, great.
5 Okay, thank you very much.

6 PRESIDING MEMBER PFANNENSTIEL: Thanks.
7 Other questions of Gary?

8 MR. COOK: Keith Cook from Philips
9 Lighting. One quick question and that is, do you
10 also plan on working on standards for your GU-24
11 proposal? Because my concern is you can outlaw it
12 in California. But unless you have got a national
13 standard that outlaws it for using incandescent
14 then you're going to find people still developing
15 it and then you're back to the Internet problem
16 again with now way to keep it from flowing into
17 California.

18 MR. FLAMM: Yes, I understand that. All
19 we can regulate is for California right now. And
20 I believe because there is no -- there are no
21 products that I am aware of other than that
22 adaptor that I saw, I believe that we can
23 contribute to the dialogue. There are national
24 efforts going on with CEE, and I believe ALA is
25 working. There are national efforts to make sure

1 that the GU-24 remains only high efficacy, even
2 though there are no standards prohibiting it from
3 becoming low efficacy.

4 MR. COOK: Okay, thank you.

5 PRESIDING MEMBER PFANNENSTIEL: No other
6 questions for Gary? Let's move on. I believe we
7 have Dennis Swanson from ALA and NEMA.

8 MS. MERRITT: This is Melinda Merritt.
9 I might mention there are copies of this
10 presentation in the foyer, I brought them down
11 just before the meeting started, if anyone wants a
12 copy.

13 ASSOCIATE MEMBER ROSENFELD: Thank you.

14 MR. SWANSON: I was going to say I have
15 to use a reading lamp over here to read my notes
16 but I am not sure. That is the truth. Of course
17 it would be LED. (Laughter)

18 I am Dennis Swanson, representing the
19 American Lighting Association. I am the past
20 chairperson of the American Lighting Association's
21 Board of Governors. I am the founder of Lamps
22 Plus. Lamps Plus is the largest specialty
23 lighting company in California, actually in the
24 United States. We are headquartered in
25 Chatsworth, California. And we are also the

1 largest Internet lighting retailer.

2 And I would like to say we have several
3 members of the American Lighting Association with
4 including Dick Upton, its president. Dick. He is
5 the tallest person in the room but he is sitting
6 down so you won't notice.

7 I want to say the American Lighting
8 Association supports energy efficiency. We have
9 supported AB 1109 Huffman and have testified as
10 such in support of the bill before the Energy and
11 the Commerce Committee. And to quote Mr. Huffman,
12 if we can nudge the market in a positive direction
13 that works for the environment and works for
14 customers, why not do it?

15 The ALA supports energy efficiency
16 through its Lighting for Tomorrow, which is
17 sponsored in part and organized by the American
18 Lighting Association. Its mission is to increase
19 market availability of energy efficient lighting
20 fixtures.

21 The ALA believes in practical and
22 reasonable methodologies to see energy
23 conservation goals through to fruition.

24 We believe that new technologies will be
25 instrumental in lessening energy demands in spite

1 of population growth.

2 And maybe most importantly, we believe
3 that education is a prime factor in conservation.

4 Now I want to state right now the ALA
5 has a new proposal, which we will get into as I go
6 through my presentation. We felt our original
7 proposal was a great proposal for the nation. It
8 didn't really work for a lot of reasons for
9 California alone. So as we go along here we will
10 see a revised ALA presentation.

11 Now the ALA has concerns regarding
12 limiting switches. Limiting switches do not
13 create efficiency, they merely limit a product's
14 usefulness. Now we surveyed 40,000 California
15 consumers of portable products this past month and
16 our survey indicated consumers clearly understand
17 this. And when the limits are very low, as in the
18 PG&E proposal, the government has de facto
19 mandated a CFL solution. And they view it as a
20 serious intrusion into their personal freedom.

21 Let me just catch up with my notes here,
22 excuse me. We feel the biggest flaw with PG&E's
23 proposal is it is inaccurate in its estimate of
24 the energy savings. Now I learned in marketing a
25 long time ago, if you raise the price and lower

1 the quality of the product you sell less.

2 In this case we would be raising the
3 price of portables and giving the customer a
4 portable with a 35 watt limiting device. Now
5 according to our survey, 80 percent of the people,
6 and this is a survey of 40,000 customers, were not
7 very interested in buying a product with a
8 limiting switch. So we project that the number of
9 devices sold would actually be probably way less
10 than one half of the 3.7 million they estimate.

11 And a consumer is not going to be
12 anxious about replacing their current lamps with
13 no limiting switch with ones that do have limiting
14 switches, especially when, again as our survey
15 showed, 80 percent are strongly against this
16 regulation.

17 We know that consumers will dramatically
18 reduce their purchase of portables. Large
19 quantities are going to be purchased on the
20 internet. And as I will explain later, the
21 portable lighting business is undergoing the same
22 phenomena as the music business. How many music
23 stores do you see out and about today? Not many.
24 Why? They moved on-line.

25 Well the portable lighting business is

1 moving on-line too and that's why we have a large
2 Internet lighting business and I see the
3 transition. So PG&E's proposal is just going to
4 take and hasten that movement of portable lighting
5 from stores onto the Internet.

6 Significant numbers of consumers are
7 going to have the devices removed. Now there was
8 a little bit of talk about a retrofit device for
9 GU sockets. Well there is no device you can put
10 on a portable lamp that customers can't defeat.
11 And I was actually surprised at the number of
12 people in our survey who said they would just cut
13 it off or take it out. So the net result is
14 actual energy savings would be I think way less
15 than half of their proposal. But, you know, I
16 would encourage other interested parties to do
17 their own surveys before you start putting
18 limiting switches on portables.

19 Another thing to kind of get our arms
20 around is the size of the portable market. When I
21 first went in business we were 100 percent table
22 lamps, now it is a small part of our business.
23 When Mr. Upton and I grew up on a farm we had two
24 lamps in our living room. Well today you go in
25 the same room you've got six recessed lights, a

1 plasma TV and maybe one or two portable lights.

2 Portable lights are a shrinking part of the
3 lighting solution in people's homes.

4 Now if you assume that 18 percent of the
5 energy bill is lighting and portables are ten
6 percent of the total, and you are only replacing
7 three percent of that, you are taking two percent
8 of the lighting bill, two percent of your energy
9 bill, and replacing it with three percent. So now
10 you are down to about .006 of your energy budget.
11 And we are still assuming under PG&E's proposal
12 that portables would sell at the same rate, which
13 is not a assumption.

14 There is no question that the limiting
15 devices will generate intense public backlash,
16 especially when they are set at this low level. I
17 would invite everyone -- We have brought copies of
18 the responses. I was quite shocked at how intense
19 the responses were. I have been in business, I
20 have been in the lighting business for 30 years.
21 I have designed, retailed and manufactured more
22 lamps than anybody in the country. I thought I
23 knew everything about lamps. I learned a lot from
24 this survey of 40,000 customers.

25 We fear the results will be nearly

1 identical to the CFL mandate or the ban of the
2 incandescent light bulb.

3 These switches also add \$4 -- excuse me
4 -- at least \$5 to the retail price.

5 And as we will talk about later, the
6 overall selection of portable lighting available
7 to California customers via stores and the
8 Internet, if you assume the Internet is going to
9 be legal and we have to assume that and obey the
10 California regulations, the overall selection
11 would drop by 80 percent.

12 Now there has been a revision I think to
13 PG&E's proposal on the floor lamp limiting switch.
14 They proposed a 150 watt limiting switch. The
15 problem with that is it is not going to save any
16 energy. It will add five to ten dollars to the
17 retail price. And at the same time, because you
18 have to have a California-only product, you are
19 going to eliminate 80 percent of floor lamp styles
20 available to California. So it really doesn't do
21 anything.

22 There are also issues with component
23 failures. We have seen devices like this put out
24 by the millions. We actually put them on
25 torchieres, limiting switches, for torchieres

1 overheating, and there is a failure rate. It
2 costs a lot and it causes a lot of consumers
3 issues. And that has to be added back into the
4 cost of the product.

5 And as our survey showed, the customers
6 can and will remove the devices.

7 Another issue, limiting switches on new
8 portable lighting would not be compatible with
9 current energy efficient devices such as three-way
10 sockets, dimmers or touch lamps.

11 Another thing I was quite surprised in
12 my survey, or our survey, was the amount of
13 complaints we had from consumers regarding
14 headaches. And time and time again consumers
15 said, we are putting them every place in our
16 house, I don't like to read by them. And maybe
17 that explains that graph where they are
18 plateauing.

19 And I am not sure if -- You know, they
20 like them in general area lighting but I am not
21 sure when it gets to task lighting and they are
22 focusing on a piece of paper and the color
23 rendition is not the same and the bulbs have a
24 flicker rate -- they're having headaches. You
25 know, what can I tell you. I don't know why but

1 it was frequently mentioned in the survey.

2 The US EPA website alludes to the
3 dangers of CFLs.

4 Interestingly enough two nights ago a
5 new report by NBC News documents increasing
6 problems of headaches associated with increased
7 CFL use. Dr. Larry Newman of the Headache
8 Institute, Roosevelt Hospital in New York, said
9 he, himself gets headaches from CFLs.

10 Another problem with PG&E's proposal,
11 multiple lighting levels cannot currently be
12 accomplished. And there's a lot of situations
13 obviously we need multiple levels of lights. And
14 I don't care if it is in your bed, you're reading
15 a book and your wife doesn't want too much light
16 on, lower light levels for viewing TV, et cetera,
17 et cetera. So having controllable light in
18 portable lighting is extremely important.

19 AARP is very concerned about the impact
20 on its constituency. I can't tell you how many
21 people in our survey said they are older, they
22 have aging eyes, they do not like to read by CFLs.
23 I think it's a big, it's a big issue.

24 Infringement on personal freedoms was a
25 primary concern to the respondents in our survey.

1 There will be consumer aggravation and resistance
2 to the PG&E proposal and we are certain it will
3 result in illegal consumer activities which are
4 beyond enforcement capabilities. Again, that's
5 removal of devices, importing of banned products,
6 purchasing on the Internet, et cetera.

7 Again, the results of our survey of
8 40,000 customers who bought lighting recently said
9 they would oppose -- And my biggest fear is -- I
10 love CFLs, I have designed a lot of products with
11 CFLs, we use them in our stores. We try to use
12 the product in the way, in the function and the
13 form the type of product that lends itself to it.
14 And my concern is there is going to be a backlash
15 that is going to hurt viable energy proposals. I
16 am very concerned about that.

17 And again as I will explain later, the
18 PG&E proposal will limit consumer choice amongst
19 all portable lighting types in California.

20 I will read this quickly. This is a
21 survey we sent to 40,000 California consumers.

22 "In an effort to save energy
23 statewide there is a proposed
24 regulation before the California
25 Energy Commission mandating that

1 all table lamps, desk lamps and
2 floor lamps in California be sold
3 with a 35 watt limiting socket.

4 "This regulation would prevent
5 the sale of any portable lamp using
6 a bulb that consumes over 35 watts
7 of electricity or is not Energy
8 Star rated. A consumer, however,
9 would be able to achieve normal
10 lighting conditions using a compact
11 fluorescent that is the equivalent
12 of a 120 watt incandescent light
13 bulb.

14 "Since this legislation would
15 affect every household we would
16 appreciate your opinion."

17 Now 80 percent of the people were
18 against it. I would strongly suggest you read
19 their comments, it would scare you. And oddly
20 enough, the people who are in favor, most of them
21 are qualified. They are in favor of this
22 regulation yet they want to make sure they still
23 have incandescent bulbs in certain situations.

24 So I would highly recommend you read
25 this and I would highly recommend that other

1 organizations do a similar type of survey.

2 I am just going to quickly read you some
3 of the comments.

4 "I believe in saving energy
5 and I have converted almost all my
6 of my lighting to the CFLs but do
7 not want California to legislate
8 this - this is way too intrusive."

9 Again, this is maybe why the curve is flattening.
10 There are places people don't want to use these
11 CFLs.

12 "I am an elderly person and
13 need more light when I read.

14 "Thirty-five watts are too
15 dim. Fluorescents don't work with
16 a dimmer switch. Fluorescents
17 contain mercury.

18 "CFL bulbs produce a horrible
19 blue light. Stop telling me what I
20 can do!

21 "CFLs are not even safe to
22 dispose of.

23 "Decisions on how and where to
24 save energy should be left to the
25 individual consumer, as everyone

1 has different needs."

2 And the one I like the best because they
3 are obviously smarter than me, they are using
4 bigger words than I use:

5 "This would be an egregious
6 invasion of personal choice and
7 freedom and would begin a slippery
8 slope to allow the state government
9 to begin making mandates in our
10 personal lives. Last time I
11 checked I was a resident of the
12 United States, a free nation."

13 There were a lot of comments like that.

14 To sort of summarize. Under the PG&E
15 proposal the volume of new lamp sales in
16 California would drop dramatically. We would see
17 the sort of Internet music curve happening. It
18 would accelerate the movement of portables to the
19 Internet.

20 Products that were sold legally in
21 California would be converted by motivated
22 consumers. I can see lamp conversion kits being
23 sold on the Internet for, you know, for \$2.95
24 probably within 24 hours.

25 And significant sales would shift to the

1 Internet or be purchased outside the state.

2 We want an energy solution. We want an
3 energy solution that works. And we believe a good
4 energy solution achieves the intent of AB 1109, is
5 simple for the consumer to understand, would not
6 decimate consumer choice, encourages lawful
7 purchases, would not create a consumer backlash --
8 because I think that is going to go against
9 everything we are trying to do here.

10 It would avoid sparking further public
11 concern over a de facto mandate of CFL use and
12 mercury contamination as well as clean-up and
13 disposal issues. And it would avoid frustration
14 over inability to dim CFLs. And again, will not
15 force California retailers and manufacturers out
16 of business, which would cost several thousand
17 jobs and would cost the state hundreds of millions
18 of dollars in economic activity.

19 Portable lighting has unique
20 characteristics. It is very different than any
21 other part of the lighting business. I just want
22 to take a minute and go over what some of those
23 unique characteristics are.

24 It is a highly fragmented business.
25 There are a minimum of 15,000 styles on the

1 Internet. And the reason I say that, at Lamps
2 Plus alone we have 5,000 styles, we're adding 500
3 a month. We have two competitors that have 5,000
4 styles and are pretty mutually exclusive. So to
5 say there's 15,000 styles is a very small number
6 and there's probably at least 30,000 viable
7 products.

8 You have to remember, most portables use
9 the same bulbs. Consumers focus on the lighting
10 task, design and aesthetic appeal. How often do
11 you walk into somebody's house and you say, my
12 gosh, I have seen that lamp before. They buy
13 lamps like they are buying a piece of art, they
14 want to make a unique design statement in their
15 house. It creates a tremendously fragmented
16 business.

17 Now, we used to have the largest
18 portable lighting manufacturing company in
19 California. Like almost all decorative lighting
20 in the United States we had to move that business
21 to China. Almost all decorative lighting,
22 including European decorative lighting, is
23 manufactured in China. And by the way, these
24 sources are facing major financial difficulties
25 and are going bankrupt. There's a recent article

1 in Business Week about a factory we happen to do
2 business with. I was there two weeks ago and I
3 had never seen the industry in such bad shape.

4 And also in today's economy the
5 decorative lighting industry in the United States
6 is in a major recession.

7 Another sort of trend in portable
8 lighting is households are increasingly being
9 illuminated by hardwired fixtures and not
10 portables. Homes currently have close to 45
11 sockets dedicated to fixtures and only 5 for
12 portables. Portable lighting experts see that
13 trend continuing into the future. The portable
14 lighting business is a declining business.

15 And this poses a problem since portables
16 are more efficient at lighting a room as opposed
17 to the proliferation of recessed lighting.

18 I have a graph here which I won't take
19 the time to explain but it just shows in our
20 business the percentage of portable lighting has
21 gone from about 25 percent to 20 percent. When I
22 first started in business it was 100 percent.

23 Now one of the most important things I
24 can try to explain to you and to get you to
25 understand. There is a phenomena that is being

1 driven by the Internet. A man named Chris
2 Anderson wrote a book called the Long Tail. And
3 when you go to any major marketing conventions
4 this book is a bible. It explains how the
5 Internet has changed the distribution of all
6 consumer products. And again, the notable
7 examples are the movie and music industries.

8 And this is a result of the Internet's
9 ability to allow a near limitless choice to the
10 consumer. As a result, the consumers are
11 demanding, and are receiving, an almost
12 exponential growth of selection in certain
13 consumer goods categories. And I will tell you,
14 portable lighting is one of them.

15 Here is a Long Tail distribution curve.
16 Now there is an old rule in retail, it's called
17 the 80/20 Rule, where 20 percent of the SKUs do 80
18 percent of the business. I don't think it is
19 really any different in the lighting business.

20 Up here at the head of the Long Tail
21 distribution curve we have 20 percent of 15,000
22 SKUs, that's 3,000. Down here we have the Long
23 Tail, which is 80 percent of the SKUs, which is at
24 least 12,000 styles and going rapidly. The
25 Internet is building and driving this Long Tail

1 and it is happening daily.

2 Now assuming that there are 3.7 million
3 portable lighting units or so in California. This
4 is without limiting switches and this is today,
5 and that is according to the PG&E proposal. If
6 you took 15,000 and divide it into 3.7 million you
7 have on average only 246 units sold per style in
8 California out of 35 to 40 million people. That's
9 not a lot of units.

10 However, the most popular 20 percent of
11 the units comprise 80 percent of the sales. I
12 won't go through the math but the bottom line is
13 80 percent of the portable unit sales are
14 represented by 3,000 styles.

15 So if you take 2,960,000 and divide it
16 by 3,000 you get approximately 987 or 1,000 SKUs
17 on average being sold in California at the curve,
18 the head of the Long Tail distribution curve. And
19 that is where 80 percent of the sockets are.

20 Now we are going to look at the end of
21 the Long Tail. The bottom 80 percent of the
22 styles represent 20 percent of the portable
23 lighting styles. Now let's do the math. It
24 translates to about 62 units per style are sold at
25 the bottom of the Long Tail.

1 So the Long Tail on the average, on the
2 yellow part, you're getting around 67-70 SKUs per
3 year being sold in California. So the overall
4 average is around 247. If you take the Long Tail
5 distribution curve, the top 20 percent are doing
6 about 1,000 on the average, the bottom are doing
7 about 67 pieces.

8 Now what is the economic reality.
9 Portable lighting manufactured in China requires
10 minimum manufacturing runs. I wish I still had my
11 factory in Chatsworth, we can't manufacture
12 anymore. Everybody manufactures their product in
13 China. Assuming a four times product turn a year,
14 1,000 units, that's 250 times units an order.
15 They will just make 250 units an order. They like
16 to make full containers, that's 500 to 1,000 units
17 per container. But you can get them down to
18 making 250 units.

19 So what's feasible is the head of the
20 Long Tail distribution curve, those lamps could be
21 made for California only. At the bottom of the
22 curve, economic feasibility dictates that the
23 bottom 80 percent of the styles could not be
24 specially manufactured for California because our
25 production runs would be 62 units. In a four

1 times turn it would be less than 16 per order. So
2 what you have is there is an economic feasibility
3 of building California-only products at the head
4 of the curve. At the bottom 80 percent there is
5 not a chance to build those products.

6 Now interestingly enough, the PG&E
7 proposal would destroy the Long Tail. There's not
8 enough of them being sold in California to make a
9 California-only solution. And believe me, I
10 understand this business, I talk to manufacturers,
11 it cannot happen. They will not make 16 pieces
12 for California. It just will not happen. When it
13 gets to 250 units for California-only they will do
14 that.

15 The PG&E proposal destroys the Long Tail
16 and the limiting device will probably take half
17 the sales out of the head of the tail. So what do
18 you end up with for sale in California? You know,
19 you are not gaining any energy savings if you
20 don't sell the product and I think that needs to
21 be studied. We have studied it but I welcome
22 anyone else to study that.

23 Now here is what the ALA proposes. We
24 propose to use GU-24 sockets, and they should be
25 limited to energy efficient light sources only, on

1 the top selling 20 percent of the styles. This
2 represents 80 percent of the sockets.

3 And we estimate that installing a GU-24
4 socket, or any other pin-based solution to the top
5 20 percent will result in energy savings of 75
6 percent. That's 65 to 80 percent of the new
7 portable units sold in the state of California.
8 If you do the math you get energy savings of 49 to
9 60 percent.

10 Even though we are saying the head of
11 the curve is 80 percent let's say we only get 65
12 percent. You take 65 percent times a 75 percent
13 energy savings, you still get 49 percent.

14 In addition, all portable manufacturers
15 in the ALA, including my own business, we are
16 working on developing cutting edge CFL technology
17 that play to the strength of this light source.

18 And these designs are also being
19 developed in the Long Tail, and will be generating
20 additional savings as the country converts to more
21 energy efficient sources.

22 So we propose, let's do what's possible.
23 Convert the head of the Long Tail distribution
24 curve where there's sufficient quantities for a
25 California-only solution. Make those portables

1 have 75 percent energy savings.

2 And in the Long Tail let's let business
3 go out there and do what they can do and develop
4 the products that they can develop that are also
5 energy efficient.

6 And here's another kind of important
7 point. What is happening today, innovation is all
8 being tried out on the Internet. It is being
9 tried out in the Long Tail distribution curve. I
10 was in China two weeks ago. We deal with all the
11 manufacturers, they are also making for Europe.
12 Well now for the first time we can go and buy
13 European products and bring them into our market
14 and test them.

15 Now when the market was smaller, when
16 you only had a store-based solution, you could
17 never test those solutions. Well today we're
18 trying to learn from all the European solutions.
19 Let's face it, they have been ahead of us for a
20 long time. So we and other ALA members are bring
21 in those European solutions, testing it out in the
22 Long Tail. And if they work, and a lot of them
23 will work, they'll move to the head of the curve.

24 Now the PG&E proposal will essentially
25 destroy that testing ground and I think that would

1 be to the detriment of the business.

2 So let's repeat the ALA proposal. The
3 proposal necessitates a minimum of 1,000 units per
4 item sold per year to California customers.

5 As I have tried to demonstrate, any
6 number less than 1,000 units creates an economic
7 barrier to consumers by pricing the unit
8 manufacturing costs beyond the average consumer's
9 affordability. The production runs for a
10 California-only product are not possible.

11 We believe this energy solution achieves
12 the intent of AB 1109; is simple for the consumer
13 to understand; does not decimate the consumers'
14 choice; encourages lawful practices among the
15 consumers; does not create a consumer backlash
16 against freedom of choice and all the other issues
17 of headaches, eyestrain, disposal, et cetera; it
18 avoids sparking further public concern over a de
19 facto mandate of CFL use and the mercury
20 contamination and clean-up and disposal issues;
21 and also avoids consumer frustration over the
22 inability to dim CFLs.

23 Our solution will not cost the state
24 hundreds of millions of dollars in lost economic
25 activity and thousands of lost jobs. And it will

1 save energy in the range of 49 to 60 percent.

2 Now what we have talked about is new
3 portables. It is an extraordinarily small part of
4 the market. We need to address the existing base
5 of both portables and fixtures. And the American
6 Lighting Association would like to take our
7 knowledge of consumers and work with the
8 California Energy Commission and work on programs
9 to convert the existing base -- the existing lamps
10 in people's homes. And unless we do that,
11 addressing three percent in my lifetime will not
12 make any difference.

13 And we think there's a lot of other
14 programs including a rebate program to provide
15 incentives for lighting fixture conversions and
16 lamp conversions.

17 But the bottom line is if we really want
18 to attack and solve the lighting energy problem in
19 California we have to really look at Title 24,
20 which is a very good program. The problem is it
21 is only addressing new houses. I believe in your
22 own documents I read twice -- the statement was
23 made, until you address the fixture base of
24 existing homes there really cannot be -- a lot of
25 progress cannot be made.

1 We believe instead of addressing just
2 new homes, when homes are resold they should be
3 brought to Title 24 just like they should have an
4 energy efficient toilet, et cetera, et cetera.

5 And we believe this can be done by tax
6 credits or other government or electric company-
7 funded incentive programs.

8 And I would also say that existing homes
9 should have the right to become Title 24 and
10 receive other financial incentives. It's a bigger
11 issue, I realize that. It may not be in the
12 confines of this room a solution that we can
13 address. But until we do that we really won't
14 make a dent.

15 But I have absolutely no question. We
16 take Title 24, we make it available to resales,
17 make it available to any home and provide
18 incentives either in reduced electrical rates or
19 other incentives to make that happen.

20 That's the end of my presentation.

21 PRESIDING MEMBER PFANNENSTIEL: Thank
22 you, Mr. Swanson. Excellent. I especially liked
23 the plug at the end for some time of sale energy
24 improvement in existing homes. We're working on
25 that ourselves. We wish that we could do that

1 from this room but unfortunately we can't.

2 Questions for Mr. Swanson.

3 ASSOCIATE MEMBER ROSENFELD: I have a
4 question.

5 ADVISOR TUTT: I have a question.

6 ASSOCIATE MEMBER ROSENFELD:
7 Mr. Swanson, your proposal was to have GU-24
8 sockets in the head of your distribution.

9 MR. SWANSON: Right.

10 ASSOCIATE MEMBER ROSENFELD: What lamps
11 would be eligible to go into those sockets?

12 MR. SWANSON: Only energy high efficacy
13 lamps. I mean, we totally agree that that socket
14 needs to be dedicated to fluorescent or LEDs or
15 any other high efficacy solutions.

16 ASSOCIATE MEMBER ROSENFELD: That's a
17 little bit inconsistent with your complaints that
18 they cause headaches and they are unacceptable.
19 In fact I would say -- First I will admit that
20 your questionnaire was scary. That is, the
21 answers were scary. So there is an opinion out
22 there. But it wouldn't solve most of the people's
23 objection, which is, the government is taking away
24 my freedom.

25 MR. SWANSON: Well you know what, the

1 thing is they'll have a choice.

2 ASSOCIATE MEMBER ROSENFELD: And the
3 world shouldn't be warming.

4 MR. SWANSON: Well, they have a choice.
5 And I think if you read all the comments, having a
6 choice is extremely important to the consumers.
7 See, the PG&E proposal, essentially you have no
8 choice, you only have a CFL solution.

9 ASSOCIATE MEMBER ROSENFELD: I'm sorry,
10 maybe I am not understanding you. I thought that
11 new fixture, new portables according to your
12 proposal, would have a GU kind of socket.

13 PRESIDING MEMBER PFANNENSTIEL: Just the
14 popular ones.

15 MR. SWANSON: Only the ones, only ones
16 produced, sold in California of 1,000 units or
17 more. And that's 20 percent of the styles but 80
18 percent of the volume. And I am saying 80 percent
19 of the SKUs, which only do 20 percent of the
20 volume, because they can't economically be made
21 anyway, would not have the GU socket.

22 I'm saying, let's do it where we can do
23 it and we can do it on the higher volume units.
24 And then if the customers don't want those they
25 have a choice of the other 80 percent of the

1 styles.

2 ASSOCIATE MEMBER ROSENFELD: Okay, I'll
3 understand your point. I'll make one comment and
4 that is, you say elderly people need more light
5 and I know for sure that's true. On the other
6 hand, I solved that problem both at the office and
7 at home by having -- the Berkeley lamp is a 50
8 watt, which is equivalent to a 200 watt
9 incandescent, one going up and one going down.
10 Fluorescents do solve that problem wonderfully.

11 MR. SWANSON: Personally I think there's
12 more study that needs to be done on using
13 fluorescents for task lighting. I was surprised
14 at the number of people who complain. They use
15 them for general lighting, they have problems with
16 task lighting.

17 ASSOCIATE MEMBER ROSENFELD: I at least
18 don't.

19 PRESIDING MEMBER PFANNENSTIEL: Tim, you
20 had a question.

21 ADVISOR TUTT: Yes I do. Mr. Swanson,
22 first I want to thank you for coming here and
23 providing comments to us today and for your
24 support of 1109 and the important goals we have in
25 California. It is clear you are thinking

1 seriously about what you might do in your industry
2 to try to help us with the goals of 1109.

3 My question -- Before I get to my
4 question I would like to point out that it would
5 seem like the PG&E proposal would prohibit the
6 Berkeley lamp.

7 ASSOCIATE MEMBER ROSENFELD: That's a
8 point I forgot to make. (Laughter)

9 MR. SWANSON: You could go on the
10 Internet, I guess, I don't know. Just kidding.
11 (Laughter)

12 ADVISOR TUTT: The question I had was,
13 how do we determine, how do you determine, what is
14 a lamp that would be required to put in a GU-24
15 socket and what isn't, when you don't know
16 necessarily how popular it is and popularity would
17 change from year to year. I think that to adopt a
18 standard like that we would need to understand
19 where this lamp falls, otherwise we don't know
20 whether it's compliant or not.

21 MR. SWANSON: That's a very good
22 question. And I will tell you, major retailers,
23 when they buy a product they project out and they
24 know pretty much what their unit sales are going
25 to be. And a high volume of product goes through

1 major retailers. And I guarantee you, they would
2 not want to be found violating a California law
3 selling energy efficient lamps.

4 As a matter of fact, I think anybody
5 selling lamps in high volume would use it as a
6 selling point. These are Energy Star or Energy
7 Star equivalent lamps, highly efficient lamps.
8 But still always allowing the consumer to have the
9 choice to buy something that is not a CFL
10 solution.

11 ADVISOR TUTT: Follow that line a little
12 bit further. If a manufacturer thought that their
13 product, this one SKU might fall in the top 20
14 percent, then presumably they would manufacture it
15 with these GU-24 sockets.

16 MR. SWANSON: Right. I tell you, a lot
17 of this product is proprietary by companies with
18 many, many outlets. They know what the
19 projections are. They know how many they're going
20 to sell. It is not that hard.

21 ADVISOR TUTT: I guess the last question
22 is, given the consumer choice that will remain in
23 the market in your proposal, what would stop some
24 of the products that aren't currently in the top
25 20 percent from being chosen more by consumers and

1 then moving into that top 20 percent? And again
2 we have to understand either when that happened or
3 how that happened in order to understand when the
4 lamps were compliant or out of compliance.

5 MR. SWANSON: If you are selling a lot
6 of any consumer good you have pretty sophisticated
7 means of projecting these sales. I mean
8 personally I really don't see it as an issue.

9 PRESIDING MEMBER PFANNENSTIEL: Thank
10 you. Other questions? Gary.

11 MR. FERNSTROM: Gary Fernstrom, PG&E. I
12 have a couple of comments and some questions.

13 PG&E has modified its proposal to be
14 consistent with the staff proposal. So I believe
15 what you are reacting to here was the original
16 version and not the current version of PG&E's
17 proposal to deal with this.

18 A comment about self-interest. It's
19 appealing to think that the majority of the
20 market, which would be products being sold in
21 volumes of 1,000 each or more, would have GU-24
22 dedicated bases. But it would also seem to me
23 that that would shift a lot of purchases away from
24 those products, given the result of your research,
25 toward the real specialty lamps. And that would

1 enormously be in the self-interest of specialty
2 lamp makers and vendors and not in the self-
3 interest of the larger, mass merchandisers of
4 these products. So I wonder how fair that would
5 be in terms of equity in the market.

6 MR. SWANSON: Is that a question?

7 MR. FERNSTROM: That's the question. I
8 wonder how fair that would be in terms of equity
9 in the market.

10 MR. SWANSON: Well, you know, I could
11 say, how fair is it to put a limiting switch on
12 every lamp in the state. The bottom line is
13 people would still have a choice. You do whatever
14 is economically feasible. If you can make, if you
15 can possibly make -- What I am saying is if you
16 can possibly make a product in minimum production
17 runs, let's put GU-24 sockets on them. That's
18 all.

19 MR. FERNSTROM: Okay.

20 MR. SWANSON: And I'll tell you, it will
21 drag along. When people get more used to these.
22 And I personally think we should include the bulb
23 with it. The more people get used to that
24 solution, the ones that can use that solution, the
25 more apt the solution is apt to move into

1 specialty lighting.

2 And I will tell you, I have patents on
3 products using CFLs, I love CFLs. We can talk
4 outside this meeting. There are a lot of great
5 solutions and we are working them into specialty
6 products. But there's a lot of cases where the
7 bulbs need to have more advances.

8 And I will tell you, especially products
9 where people want to control their light. And
10 right now with three-way sockets, with touch
11 dimmers, et cetera, et cetera. They want that
12 additional feature on a specialty product and they
13 can't get them with CFLs. If the CFL product gets
14 there, fine, let's put CFLs into everything.

15 MR. FERNSTROM: Okay. So we'll have
16 time to make some more comments later. In the
17 interest of time I just have one last one. And
18 that is, you allege that the prevalence of
19 portable lighting fixtures is declining in homes.
20 I don't know, that may be the case nationally.
21 But work done for the California Energy Commission
22 by the California Lighting Technology Center shows
23 quite the opposite. It was in fact presented in a
24 residential lighting workshop the CEC had last
25 year. New homes are being built with fewer and

1 fewer permanently installed fixtures and the
2 prevalence of plug-in lighting fixtures is
3 increasing in the state.

4 MR. SWANSON: Well we have probably the
5 highest market penetration and the largest market
6 segment and we don't see it. I mean, these are,
7 they are honest areas to disagree.

8 DR. SIMINOVITCH: We are also seeing --

9 PRESIDING MEMBER PFANNENSTIEL: Michael,
10 come up.

11 ADVISOR TUTT: Michael, you have to come
12 to the mic.

13 DR. SIMINOVITCH: I just want to add --
14 Michael Siminovitch from the California Lighting
15 Technology Center. And I certainly appreciate
16 many of your comments and want to thank you for
17 additional insights.

18 ASSOCIATE MEMBER ROSENFELD: Michael,
19 closer to the mic.

20 DR. SIMINOVITCH: I wanted to also add
21 that we have done a series of studies inside in
22 some non-residential environments where we have
23 seen a fairly significant increase in portable
24 lighting fixtures in office environments and in
25 dormitory applications where we didn't see them

1 before. Plug loads are a major growth load in
2 California inside offices and that's horrible
3 lighting.

4 MR. SWANSON: Can I comment on that?

5 DR. SIMINOVITCH: Sure.

6 MR. SWANSON: We just expanded our
7 offices and everything is, you know, the latest
8 code. And you know what happened? I would say
9 over half the people put an incandescent desk lamp
10 on their desk because they cannot read by the
11 current standard, the current codes.

12 DR. SIMINOVITCH: To add to that, we're
13 seeing a lot in public housing environments and in
14 educational facilities there is a pressure to
15 reduce the amount of hard wired fixtures in these
16 for first cost issues for construction. So what
17 that leaves is a lot of duplexes around the walls.
18 And the way people satisfy their illumination
19 requirements is through portable lighting.

20 So we see growth in portable lighting in
21 the state as a major opportunity for efficiency.
22 And I think your comments are good and I think we
23 need, you know, it's an important step forward of
24 where we need to be and how to do that.

25 And, you know, I wanted to add one more

1 thing. I think a lot of your ideas and
2 suggestions really warrant additional thinking in
3 terms of how we would implement this. But high
4 efficiency lighting doesn't necessarily mean low
5 quality lighting. It can mean very high quality
6 lighting. It can mean added value to the
7 consumer. So yes, there's problems with new
8 technologies but there's no reason today
9 technically, technically, why we cannot use high
10 efficiency light sources to provide all of our
11 illumination requirements.

12 And I think there's some very good
13 precedence in Title 24 which says, use high
14 efficiency, and where you need to have an
15 incandescent use it at a certain percentage. I
16 think there's room for this kind of approach in
17 the standard. I think it just needs some
18 compromise.

19 MR. SWANSON: I don't disagree with you.
20 I have a patent on a torchiere, a fluorescent
21 torchiere. It puts out twice the light and uses
22 half the energy. I wish I could sell more of
23 them, it's a fantastic product.

24 DR. SIMINOVITCH: Great.

25 MR. SWANSON: So I don't disagree with

1 you.

2 DR. SIMINOVITCH: Well you're selling a
3 million more fluorescent torchieres this year than
4 were ever sold before.

5 MR. SWANSON: They are a great product
6 but they are indirect lighting.

7 PRESIDING MEMBER PFANNENSTIEL: Thanks.
8 Bill, did you have a question?

9 MR. PENNINGTON: A comment. Maybe
10 there's a question in here somewhere.

11 Almost all standard setting processes,
12 either in the US or elsewhere, either in
13 government or in the private sector, target
14 physical characteristics that can be identified
15 and that you can discriminate among those physical
16 characteristics and apply reasonable standards
17 based on those physical characteristics. And it
18 is very rare, I think, that you approach a problem
19 like standardization through a market-based kind
20 of idea.

21 It requires, to go through a market-
22 based approach, some sort of fleet monitoring.
23 You know, you have to track products in and out of
24 the top 20 percent that you're shooting for. You
25 have to have information that almost universally

1 is unavailable to government to do that kind of
2 monitoring. It becomes a very complex thing to
3 track.

4 It seems like you are heading off away
5 from a tried and true approach to standardization
6 and moving into an area that is almost untried and
7 you have to develop a new technique.

8 PRESIDING MEMBER PFANNENSTIEL: Well, I
9 think that that's probably not a reason not to
10 consider it. I think untried ideas are probably
11 what we're looking for in some instances. There
12 may be reasons that we can't do this, but right
13 now I think the fact that it's not been tried
14 before isn't one of them.

15 MR. PENNINGTON: All I'm saying is that
16 you're potentially getting into a very complex --

17 PRESIDING MEMBER PFANNENSTIEL: I
18 understand that. No, I do understand that. Gary,
19 did you have a --

20 MR. FERNSTROM: One last very quick
21 comment. I'll bet if we did a word count of your
22 presentation we would find the most popular words
23 to be PG&E and limited. And with regard to
24 limiting, I would just like to point out that yes,
25 PG&E has proposed limiting the power to portable

1 lighting fixtures but not the light output. So,
2 you know, it is not the intent to limit the
3 utility of these products at all.

4 I think with the great imagination and
5 design resources of the portable lighting industry
6 more efficacious sources can be utilized to create
7 a high level of customer satisfaction, creating an
8 opportunity for the industry rather than a
9 limitation.

10 PRESIDING MEMBER PFANNENSTIEL:
11 Commissioner Rosenfeld, do you have a question
12 here?

13 ASSOCIATE MEMBER ROSENFELD: I just
14 wanted to make two little points. You keep
15 talking about the California market. And I admit
16 this whole thing is tricky. But just by
17 coincidence I was talking yesterday to Howard
18 Geller who represents the Southwest Energy
19 Efficiency Project. And he told me that Arizona
20 intends to adopt whatever we come up with in toto
21 with the same effective date. And there are going
22 to be a lot of other states. We may be a trend
23 setter but we are not an island. So that affects
24 a little bit of your economics.

25 MR. SWANSON: One comment on that. When

1 you look at the Long Tail distribution curve it is
2 built by the size of the total market. The total
3 market is the whole United States plus the
4 Internet. So when you reduce that dramatically
5 that selection goes away. Because the total
6 market built that market. So you have to
7 understand what happens to the selection.

8 And again, it goes against what is
9 happening in the marketplace with the Internet and
10 multi-channel marketing. And now that Long Tail
11 distribution curve is driving the selection of the
12 consumer.

13 ASSOCIATE MEMBER ROSENFELD: Okay.

14 PRESIDING MEMBER PFANNENSTIEL:

15 Dr. Bendt.

16 DR. BENDT: Yes, Paul Bendt with Ecos.
17 And my comment was actually very similar to the
18 one that Art just put forward. That one doesn't
19 have to say that only 16 of a particular product
20 will be sold in California so it can't be
21 manufactured. Even if one makes a product,
22 whether it's limited by having a GU-24 socket or
23 limited by having a power limiter. And both of
24 those, in a sense, accomplish the same thing. But
25 it can be sold in places other than California.

1 Even if it was manufactured to meet the California
2 standards it can still be sold elsewhere.

3 And as energy efficiency becomes a
4 concern elsewhere we'll expect to see standards
5 like this in other places encouraging those sales
6 and increasing the volume to the point that it is
7 cost-effective to be able to produce those
8 products.

9 MR. SWANSON: Can I answer that comment?

10 DR. BENDT: Sure.

11 MR. SWANSON: If we took all our
12 products on the Internet and put limiting switches
13 on them to the PG&E proposal we would sell in the
14 rest of the United States, zero. Who would pay
15 more money for the same product that's limited?

16 ASSOCIATE MEMBER ROSENFELD: I assert
17 people from Arizona would. (Laughter)

18 MR. SWANSON: Well, they are good
19 people. You know, if it was a national solution
20 I'd say, great. A California-only solution in the
21 portable lighting business has severe problems.

22 PRESIDING MEMBER PFANNENSTIEL: Tim, did
23 you have a question? Then we're going to move off
24 of this onto the next.

25 ADVISOR TUTT: Yes, I did. Mr. Swanson,

1 your survey and your presentation today referred
2 often to PG&E's original 35 watt limiter proposal.
3 As PG&E has said today, it has now moved to
4 endorse the staff proposal, which is significantly
5 different. I'm just hoping in your written
6 comments or your today you might provide comment
7 on this new version, the staff proposal and any
8 further direction we may go in that regard.

9 MR. SWANSON: Well I did comment on the
10 150 watt floor lamp idea. The problem with that
11 is it doesn't save any energy.

12 ADVISOR TUTT: Yes, but I'm speaking
13 more of the additional wattage allowances per
14 socket. The difference between floor and table
15 lamps or other portable lamps that are in the
16 staff proposal that PG&E has endorsed today.

17 MR. SWANSON: Well we can go back and
18 certainly do that, yes.

19 PRESIDING MEMBER PFANNENSTIEL: Thank
20 you. I think the next speaker is Ted Pope in this
21 general area. We are going to stay on the whole
22 question of portable lighting fixtures so there
23 will be more discussion but why don't we get onto
24 Ted's discussion.

25 MR. POPE: Thank you, Commissioner. Ted

1 Pope with Energy Solutions on behalf of PG&E.
2 Just lots of information in that presentation, I
3 couldn't capture all of it. I did note a comment
4 of a likely price of \$5 per power limiter. Our
5 team has actually constructed one. We've talked
6 to manufacturers of products involving chips that
7 would handle the management of power down to
8 whatever limit is set and we are finding a price
9 that is probably under one-tenth of that. So I
10 don't think there is a substantive, incremental
11 cost associated with that power limiter.

12 Number two, I think there may be some
13 confusion or I heard it wrong but PG&E did not
14 propose a 150 watt limit. We were down to 35 in
15 our original proposal. And I don't think that
16 there is necessarily any conflict between the
17 controls and the power limiting. That can all be
18 done in a single chip from our research and I
19 think Dr. Bendt can answer more questions if you
20 have any on that. But I think some of those
21 concerns maybe are not well-founded in view of the
22 products that could come out to supply this
23 market.

24 I guess I have one observation and again
25 I may be getting the data wrong. But that Long

1 Tail I think was estimating 67 products per style
2 out in the long tail for the California market.
3 If we are ten percent of the country that implies
4 something on the order of 670 products for the
5 national market, which is still a number smaller
6 than you need to get that 250 units per quarter.
7 If I understood the math it strikes me that there
8 is a fundamental infeasibility of producing most
9 of the products in that long tail. And again,
10 perhaps I misunderstood those numbers but that is
11 a question I would like to ALA about in the
12 future.

13 PRESIDING MEMBER PFANNENSTIEL:

14 Mr. Swanson, do you want to respond to him?

15 MR. SWANSON: The products in the long
16 tail tend to be more sophisticated products that
17 cost more money. So based on a dollar volume they
18 will make those products in a little smaller
19 quantities. So that's the answer.

20 PRESIDING MEMBER PFANNENSTIEL: We also
21 were going to hear from ACEEE.

22 MS. AMANN: Harinder just mentioned to
23 me that Gary had a couple more slides to present
24 before I spoke.

25 PRESIDING MEMBER PFANNENSTIEL: Gary

1 Flamm?

2 MS. AMANN: Yes, that's what he just
3 said but I guess he was mistaken, okay.

4 PRESIDING MEMBER PFANNENSTIEL: We are
5 not moving off of this topic yet.

6 ASSOCIATE MEMBER ROSENFELD: Gary, while
7 she is looking for her slides let me ask you. How
8 are you going to handle my complaint that I really
9 love my Berkeley lamp which has 50 watts per
10 socket? I am just trying to curry favor with
11 Siminovitch here.

12 MR. FLAMM: I was surprised to hear that
13 the Berkeley lamp wouldn't work. I thought it
14 would work under the proposed standard.

15 MR. FERNSTROM: Yes, let me make a
16 comment on that. Gary Fernstrom, PG&E. If I
17 understood the proposed standard right it was okay
18 with pin-based and Energy Star . And your
19 Berkeley lamp uses a pin-based light, a square-
20 D/2D lamp. So it would be okay with the standard.

21 ASSOCIATE MEMBER ROSENFELD: Okay, thank
22 you.

23 MR. FERNSTROM: By the way, I have one
24 too and really like it.

25 MS. AMANN: I'll address exactly how we

1 can make allowance for the Berkeley lamp and like
2 lamps. I am Jennifer Thorne Amann, I am with the
3 American Council for an Energy-Efficient Economy,
4 and I appreciate the opportunity to address the
5 Commission today on behalf of PG&E.

6 I'll review just briefly. I have just a
7 few slides here and I'll review a little bit of
8 the history of how we got here and add some
9 comments to some of the topics that Gary presented
10 earlier. As mentioned, PG&E submitted the initial
11 standards proposal in January for portable
12 fixtures. As Gary mentioned, we see portable
13 fixtures as a great opportunity to capture
14 additional energy savings beyond those that are
15 offered by adoption of the GSL standards or an
16 accelerated adoption of the federal general
17 service lamp standards.

18 We presented a preliminary case report
19 in April recommending maximum power limits for
20 portable fixtures. As has been discussed, 35
21 watts for screw base lamps and 40 watts for non-
22 screw base low voltage halogen. We also added an
23 Energy Star compliance path and that was
24 specifically to allow products with a higher light
25 output than might be allowed by a 35 watt maximum

1 wattage cap for lamps. So that would allow the
2 Berkeley lamp and similar lamps that have a higher
3 wattage, maybe using the 55 watt D lamps and so
4 forth.

5 The estimated energy savings from our
6 proposal was 45 gigawatt hours and four megawatts
7 in the first year of sales and growing to 901
8 gigawatt hours and 84 megawatts upon stock
9 turnover. That's about 20 years, a 20 year
10 assumed life for portable fixtures. We had a
11 cost-benefit ratio of 18.

12 As discussed ALA submitted their
13 alternate proposal on April 7. The CEC staff,
14 PG&E team and ALA have held meetings and
15 conference calls to discuss the proposals and I
16 think it was quite constructive discussions, we
17 were able to learn a lot from each other, and PG&E
18 submitted comments in response to the ALA proposal
19 on April 15.

20 The key issues in our response to the
21 ALA proposal were concerns about the limited
22 coverage of the standards that they proposed.
23 Limited coverage meaning just covering medium
24 screw base products.

25 There are a number of portable lamps

1 that are sold with candelabra or smaller bases
2 than the medium screw base. We wanted to make
3 sure that those were covered as well so that they
4 would be, we could get the energy savings from
5 those products but also to prevent a loophole
6 increasing the market share of those products.

7 The overall high wattage limits in their
8 proposal, which was 150 watt maximum, which is
9 actually larger than most of the portable fixtures
10 on the market today. Other than torchieres, which
11 are preempted by federal standards.

12 We were also very concerned about the
13 dimmable requirement because of the fact that most
14 CFLs on the market today aren't currently
15 dimmable. We felt that a dimmable requirement
16 could lead people away from using CFLs or could
17 lead to problems with the CFLs once they were
18 installed.

19 The CEC staff report has put out a new
20 proposal as Gary Fernstrom has mentioned, one that
21 PG&E is now supporting. The staff report
22 recommends wattage limits dependant on the number
23 of lamps and the type of fixture. It addresses
24 the difference between floor luminaires and other
25 portable lamps by setting higher wattage

1 allowances for floor luminaires.

2 And in the table that Gary showed you
3 could see that the main way of doing that is
4 setting the same power limit for a single socket
5 floor and table lamps, but allowing a higher
6 maximum wattage for two-socket floor lamps than
7 for two-socket table lamps and allowing a higher
8 adder for each additional socket.

9 It sets a maximum wattage for one- and
10 two-socket luminaires as just mentioned. It
11 provides an adder for the additional sockets. But
12 that adder is only enough to allow the use of high
13 efficiency light sources and sets the absolute cap
14 at 150. And that is in keeping with the overall
15 ALA proposal.

16 The staff report does have the GU-24
17 compliance option and it has appropriate
18 limitations for that to disallow the use of the
19 incandescent lamps. And also to disallow use of
20 GU-24 adapters that could do this reverse
21 conversion back to a medium screw base.

22 And one thing that I will have to update
23 in this presentation. Although in detail the
24 staff report no longer maintains the Energy Star
25 compliance as a third option, in practice it

1 allows similar levels, which again takes into
2 account that there would be a role for lamps with
3 larger light output.

4 We would like to note, however, that the
5 staff recommendations would reduce energy savings
6 by an estimated 73 gigawatt hours at stock
7 turnover and that could be an important
8 contribution to Huffman goals.

9 It is clear that floor lamps tend to
10 provide higher light outputs and we agree that the
11 new approach addresses that concern and that
12 market reality. And also that the staff
13 recommendations allow for greater adoption of new
14 GU-24 base products and are happy to see the
15 inclusion of the appropriate limitations on the
16 GU-24 socket type.

17 We've definitely appreciated ALA's
18 willingness to discuss the standards options for
19 portable lighting. The ideas and the energy that
20 they have brought to the discussions that we have
21 had. We believe that the staff recommendations
22 reflect upon a constructive process in considering
23 the PG&E and ALA proposals and are willing to
24 support the staff recommendations as a compromise
25 from the initial PG&E proposal.

1 And the team is available to discuss any
2 additional comments or concerns from the CEC or
3 from industry. I think a couple of the things in
4 particular that have come to light. Mr. Swanson's
5 presentation showed some of the responses from
6 consumers about concerns over CFLs and other high
7 efficiency light sources.

8 While I think there is a lot of cause
9 for concern for those comments I think much of
10 that can be addressed through better efforts to
11 educate consumers, as has been discussed, about
12 the appropriate use of CFLs, the appropriate
13 wattage levels to use and so forth.

14 And also we look forward to continuing
15 improvements in the technology of both CFLs and
16 LEDs and other high efficiency light sources that
17 can help address some of the other usage problems
18 that consumers have perceived in the past.

19 PRESIDING MEMBER PFANNENSTIEL: Thank
20 you. Are there questions?

21 ADVISOR TUTT: Yes. Jennifer, thank you
22 for coming. Were you coming all the way from
23 Washington DC?

24 MS. AMANN: Yes.

25 ADVISOR TUTT: So quite a trip to take

1 for this. We appreciate the work that ACEEE does
2 all around the country and the world.

3 I had a couple of questions. One about
4 the 40 watt, low voltage halogen. I guess I know
5 about those in regular fixtures but I have not
6 seen many portable fixtures that are like that.
7 Are there a variety of those?

8 MS. AMANN: There are a number of desk
9 lamps and other portable lamps that use
10 particularly MR-16 and other small halogen light
11 sources. And those are typically, you know, can
12 be of varying wattage. Some of those that are
13 quite common are like 32 watts. But they also
14 have power requirements for the transformers so
15 that's why we gave them a higher allowance.

16 ADVISOR TUTT: And in fact in those
17 particular lamps a 40 watt limit may not change
18 the market that much because they are often less
19 than that anyway.

20 MS. AMANN: Yes. There are some
21 products that are over that amount but the average
22 is under.

23 ADVISOR TUTT: Thank you.

24 MR. FLAMM: Tim, if I could interject
25 something, this is Gary Flamm. The low voltage

1 MR-16 is a very direct task light. It creates a
2 contrast. It is for those task lights where you
3 need a spot of light that is intense.

4 And the 35 watt limit may not allow
5 that. So the reason that the 40 watt low voltage
6 was brought up was to allow that lamp. I believe
7 it is 37 watts plus transformer losses. So it was
8 to allow the functionality of that very bright
9 task light.

10 ADVISOR TUTT: Thank you for that
11 clarification, Gary.

12 In reading the original task report, and
13 I presume it is the same in the latest version,
14 you talk about a variety of options including an
15 option where CFLs or other very efficient bulbs
16 might be packaged with the fixture. And the case
17 report goes on to say that you don't expect much
18 savings from that because consumers wouldn't use
19 those bulbs.

20 I am having trouble understanding that
21 because it seems to me that either the consumer
22 likes CFLs and so would use them. Or if they had
23 never used them before, at least some percentage
24 of them would, since they have them, stick them in
25 and may at that point decide that, you know, maybe

1 it's not as bad as they thought they were and
2 continue using them after that.

3 So it seemed to be dismissed. I was
4 wondering if there was any data for dismissing
5 that particular option.

6 MS. AMANN: I believe the main reason
7 that we dismissed the option was because it would
8 allow for consumers to revert to less efficient
9 light sources in the future. So even if they did
10 use the original CFL that was packaged with the
11 lamp they might discontinue using it in the
12 future.

13 ADVISOR TUTT: Okay.

14 MS. AMANN: And then I would also add
15 that there are also problems with compliance and
16 the packaging has often been an issue that has
17 been raised by industry as very prohibitive in
18 their efforts.

19 ADVISOR TUTT: The other question I had.
20 I'm just trying to get clarification about what we
21 mean by demand limiters here. The case report
22 says, including a circuit breaker that prevents
23 the fixture from operating if a lamp wattage
24 exceeds a preset value. And I had understood that
25 it didn't prevent the fixture from operating but

1 just prevented it from using more watts than that
2 level. So which of those is correct?

3 MS. AMANN: There could be two options,
4 actually. And I believe that in the torchiere
5 market fixtures of both types have been
6 introduced. Some have a limiter that just will
7 not allow the lamp to operate if it is over a
8 certain wattage, others allow it to operate much
9 more dimly. So you might have a 75 watt
10 incandescent, for instance, but it could only use
11 35 watts of power if that was your power limit.
12 So you would have a lot less light output.

13 ASSOCIATE MEMBER ROSENFELD: Practically
14 zero.

15 ADVISOR TUTT: I assume that we were
16 talking about the kind that just limited it to the
17 watt limit but still allowed it to operate when we
18 were talking about it.

19 MS. AMANN: I am not sure actually. I
20 believe that those that just don't allow operation
21 are more common in the torchiere market or have
22 been more common.

23 ADVISOR TUTT: But for these standards.

24 MS. AMANN: But maybe somebody from
25 industry could comment on which has been more

1 widely used.

2 ADVISOR TUTT: But for these standards
3 what would be proposed, which kind?

4 MR. FERNSTROM: Tim, it's Gary from
5 PG&E. The far least expensive product would be,
6 in effect, a circuit breaker, and it would simply
7 turn the lamp off if you put in a bigger lamp.
8 You would have to reset it. The more expensive
9 product would be a limiter. And that in effect
10 would be a dimmer of sorts, which simply wouldn't
11 allow the lamp to operate at any higher than a 40
12 watt level. That would be a more expensive
13 alternative.

14 PRESIDING MEMBER PFANNENSTIEL: So which
15 did you use to your cost-effectiveness?

16 MR. FERNSTROM: Exactly. So --

17 PRESIDING MEMBER PFANNENSTIEL: Which
18 one, the cheaper one?

19 MR. FERNSTROM: The cheaper one is the
20 one I think that would be prevalent.

21 MS. AMANN: And that is the one we used
22 for the cost benefit analysis.

23 ADVISOR TUTT: I see Ted approaching the
24 mic here.

25 MR. POPE: Thank you. Ted Pope, Energy

1 Solutions, for PG&E. The legal language doesn't
2 specify either. It just says, the fixture shall
3 not be able to operate over 35 watts. I believe
4 that was the approach taken.

5 ADVISOR TUTT: Yes. I'm looking earlier
6 in the case report and I saw that.

7 I had one last question and that relates
8 to the baseline for savings. It appears from your
9 calculations that you are using the proposed new
10 HIR lamps at the federal level as the baseline for
11 long-term savings. And in California, as you
12 probably heard today, and even federally, in 2018
13 here we'll be moving to 45 lumens per watt bulbs.
14 So it seemed like that should be perhaps the
15 baseline for long-term savings as opposed to the
16 HIR levels that you used. Any comment on that?

17 MS. AMANN: Yes, I would agree. I think
18 our estimates can be seen as conservative, our
19 savings estimates. We have used an estimate that
20 50 percent of sockets would be using CFLs already,
21 which is a little bit more conservative than I
22 think the latest modeling has shown. And also --
23 or gives more conservative savings estimates. And
24 then also the fact that there would be additional,
25 additional savings further on. I guess actually

1 it's the opposite, we would take out of our
2 savings.

3 ADVISOR TUTT: Yes, I think it's the
4 other way around.

5 PRESIDING MEMBER PFANNENSTIEL: Yes,
6 further discussion or questions?

7 MR. SWANSON: I'm just curious. When
8 they made their projections of savings did they
9 assume there was going to be any effect on the
10 sale of lamps with these limiting devices?

11 MS. AMANN: No, we did not.

12 MR. SWANSON: Do you think that's
13 realistic?

14 MS. AMANN: I think we'd have to look at
15 the market and see. But I think at this point
16 people buy lamps on a regular basis that have
17 limitations for safety concerns. I know many of
18 the portable fixtures in my home now I can't
19 operate or they are recommended for operation only
20 at 35 watts or less. So I am not sure. I think
21 we'd need to look and see if there's some market
22 studies or analyses that could help us figure out
23 how we might adjust savings.

24 MR. SWANSON: I would agree. Because
25 the limiting switch will significantly impact the

1 sales. Being a retailer I know that. And I think
2 before you make projections you need to know how
3 it is going to affect the sales because it will
4 have a big impact.

5 I just want to say one other thing on
6 the cost of these devices. The torchiere limiting
7 switch didn't limit the product much, it really
8 wasn't an issue. You had ultimate choices of
9 bulbs that you could use. This proposal, there
10 really isn't any other choice than the CFL
11 solution. And I think that is a very important
12 differentiation between limiting devices on
13 torchieres and this particular limiting device.

14 Another thing regarding cost. We found
15 -- They were in the process of finding a reliable
16 torchiere switch but they're going to cost around
17 at least \$5 retail. Because engineers talk 50
18 cents to a dollar for the part. By the time that
19 gets into the factory and he adds it into his food
20 chain and we add it into our's, that turns into
21 four and five dollars. So we always have to look
22 at what is the impact on the retail.

23 PRESIDING MEMBER PFANNENSTIEL: Thank
24 you, Mr. Swanson. Other questions, comments?

25 ADVISOR TUTT: I would just like to

1 point out, in terms of the staff proposal which is
2 here in front of us, one could in a floor lamp
3 install one of the new 75 watt equivalent
4 incandescent lamps. I guess if the socket limit
5 is for a luminaire. I mean, if you can leave a
6 socket bare. Can you leave a socket bare under
7 the staff proposal and just install one
8 incandescent bulb? If you have other sockets that
9 are --

10 MR. FLAMM: This is Gary Flamm. I think
11 that answer could be however, whatever technology
12 the industry brings to the table. How it is
13 wired, how it is circuited, what kind of
14 controller they put on that. I would assume it is
15 going to be the cheapest thing to do is put one
16 control at the home run. And therefore what you
17 are saying then is that you could put a higher
18 wattage lamp in a single socket. It would
19 probably be most often true. That's just
20 speculative on my part.

21 MR. FERNSTROM: Gary Fernstrom, PG&E. I
22 think it is important to note, if I understood
23 this dialogue correctly, that you probably
24 wouldn't want to leave an empty socket because
25 that is kind of dangerous. You know, to the

1 extent that somebody might stick their finger in
2 it.

3 PRESIDING MEMBER PFANNENSTIEL: Further
4 discussion then on the portable lighting fixtures?
5 Yes, please come up.

6 MR. UPTON: Thank you, Madame Chairman.
7 I am Dick Upton, President of the American
8 Lighting Association. I didn't come as far as the
9 lady from Washington but from Dallas this morning.

10 PRESIDING MEMBER PFANNENSTIEL: Thank
11 you for joining us.

12 MR. UPTON: Well no, it's important.
13 And if we are a little late to the dance over the
14 last two years, I apologize to you. But in
15 dealing with this issue on a national level, and I
16 had the privilege of sitting in last year on the
17 national negotiations with advocates, it became
18 abundantly clear after Senator Pryor made a
19 comment to us. I said to him, you know, there
20 isn't any light until a lamp is screwed into a
21 socket. And we tend to be on the fixture side of
22 life. And he said, well if that's the case then
23 you better have a seat at the table or you'll find
24 out you're on the menu. And that's a very real
25 statement. (Laughter)

1 I want to make a couple of quick
2 comments but I do need to respond on one thing.
3 On the power limiter. When it was finally
4 approved on the torchiere I called our director of
5 engineering, who a number of you know, Terry
6 McGowan. Terry would be here but he has got
7 another responsibility that I am going to tell you
8 about.

9 I said Terry, let's not just tell them
10 that there's a power limiter requirement, let's
11 tell them where to buy it. And Terry is a pretty
12 prompt guy and I didn't hear from him for three
13 days. And Terry said, I have been on the Internet
14 in every catalog that exists and there isn't such
15 a thing as a power limiter for 190 watts or
16 anything else. So big deal, we'll create one.

17 Well it was a big deal. And we
18 struggled to meet the deadline for the power
19 limiter. I went to ACEEE and told them what our
20 challenge was and we were going to need some extra
21 time and they thought that was reasonable. We are
22 still struggling with the ceiling fan power
23 limiter at 190 watts because of miniaturization
24 requirements and the heat factor that exists in
25 that small space.

1 But when we talk about a 35 watt power
2 limiter we are talking about a new product that is
3 going to have go be created. And I don't know
4 what your time frame is but that is a real issue
5 for us. And what the final cost is going to be I
6 don't know either.

7 What I did hear today that I like was
8 this gentleman's comment talking about fleet
9 averages. We know a couple of things pretty
10 clearly. And besides Dennis Swanson, who is the
11 largest retailer in California and the United
12 States on this kind of product, an exceptionally
13 brilliant man intellectually, we have got two
14 other members here, one from locally, Lofing's
15 Lighting, and one from Bakersfield. Different
16 kind of communities.

17 All of our people in California are
18 telling us their product as far as portables are
19 going down in sales. And when you talk about that
20 Long Tail curve. When you get into the long tail,
21 the 138 location retailers that we have in this
22 state sell in that long tail. And if those
23 products disappear or are not available in
24 California, and they won't be because I also have
25 the manufacturers as members of this association,

1 then we have a real dilemma for business for
2 Californians.

3 And it may be that it will go to Arizona
4 or go to Nevada tomorrow. And hey, I can tell you
5 the states too and it's Minnesota and New
6 Hampshire and New York. But that will be over a
7 period of time and the impact is going to be here
8 now with people. And when we are looking at the
9 kind of economy in the lighting industry that is
10 tied significantly to the housing mess, that's a
11 problem for our people. That's not your problem
12 because you are looking at the energy issue. But
13 it is a big picture issue that I thought I had to
14 share with you today.

15 The other piece of the pie that I want
16 to talk about though very quickly is Terry isn't
17 here because he is wrapping up the sixth annual
18 Lighting for Tomorrow competition. ALA manages
19 that and we partner with CEC and the Department of
20 Energy. In the first year I had to get on the
21 telephone to call manufacturers and say, for God's
22 sake, send something in, we have got to have some
23 products. Manufacturers drive our industry pretty
24 heavily.

25 I'm tickled to death to tell you I

1 haven't made a telephone call after the first
2 year. The program was so successful that the guy
3 who had the winning entry was knocked off within
4 eight months by most every other manufacturer, and
5 that has got to be a mark of flattery, or
6 something. (Laughter)

7 But we had over 100 entries on LED this
8 year. That's a staggering number. Because when
9 you look at the cost differential on LED today,
10 that's a message that is coming through pretty
11 loud and clear. We have got some other problems
12 with LED. Is it a really good, white light yet?
13 I think it is. I'm like that fellow. I'm an old
14 guy, I can't tell the difference on the whites.
15 But the real issue is we have over 100 there.

16 And the other piece that I want to say
17 to you is ALA manages that program and has for six
18 years. And we have got the best engineer that we
19 could have on that job doing that job because he
20 is dedicated to energy efficiency, and that is
21 Terry McGowan. But he has helped move our
22 association to energy efficiency.

23 Every one of our training programs,
24 which are extensive to our retail showrooms and
25 their salespeople talk about energy efficiency,

1 Energy Star , and marketing that product today.
2 There isn't one of those courses that don't. All
3 of our advanced courses, all of the programs we do
4 in layout are all involved. The industry is there
5 with you.

6 What I am suggesting, I think, is you
7 don't have to have your answers up. Let's try to
8 bring people still together so we can explain Long
9 Tail impacts. As we look at the numbers and what
10 you are going to save on new portable sales in
11 California is just -- it's hard to use the word,
12 marginal.

13 And the real question comes, if we want
14 to save lighting energy and you have to get to a
15 50 percent number then let's find a vehicle that
16 gets us there. And if we need to walk with you
17 over to the State Capitol and try to get something
18 passed that works, that achieves that, we're
19 prepared to do that.

20 We're aware that this isn't going to be
21 isolated in California. You have got some very
22 fine organizations that have the ability to speak
23 just as I do in every state in the union. And it
24 is not just sensible to try to battle these little
25 issues everywhere we go.

1 And the biggest challenge I have when
2 this stuff goes state to state is you all want to
3 have your own labels put on stuff as well. When
4 we were talking about the torchiere and I was
5 fooling around in twenty-some states I finally
6 said, we will have to weld a flange onto every
7 torchiere so we'll have a space long enough to put
8 labels on. And those things sound silly but the
9 silliness of it is, that's how we have been
10 working.

11 And we're the ones that have been late
12 for the dance and I apologize to you for that but
13 we're there. And we have the team of people that
14 can make things happen and work with you. And I
15 would hope we could have the time necessary to
16 talk about this fleet issue so retailers in this
17 state are not negatively impacted to the point of
18 job loss and tax revenue loss that ends up being
19 this word called unintended consequences.

20 And as bright as you are on that panel,
21 and as we may be sitting in this audience, we are
22 not going to have the ability to anticipate all
23 the damned issues that are going to jump up and
24 bite us on some of these things. And if we can
25 help you with that we are keen to do it. But we

1 don't want to negatively impact the retailer and
2 we don't want to negatively impact the consumer.

3 The one thing I found in wrapping up
4 serving with some of the people in the room
5 nationally last year. People say, well we have
6 got to get the right labels on the boxes so people
7 know what they want. That is not marketing. The
8 consumer needs to know what they are doing before
9 they get to the store so they know what the hell
10 they are looking for. That's reality.

11 And so I sat there and said, we've got
12 to have ten million bucks a year for a five year
13 period before this thing goes into effect
14 nationally to get the consumer where we need them
15 to be.

16 The good outcome of that issue was
17 government, industry and the advocates were on one
18 page saying one thing. If you don't have that on
19 this issue or any other issue the consumer will
20 continue to be confused. And in my opinion, if
21 the consumer is confused they will continue to do
22 what they are doing today, which isn't buying what
23 you want them to buy.

24 So let's leave them there and let's help
25 them understand the issues. But when we talk

1 about mandates, the one that is in the
2 questionnaire that was put out, the response that
3 I thought was the funniest is one person said,
4 don't mess with my bedroom lighting. (Laughter)
5 Stay out of my bedroom with your lighting or
6 something of that nature. Funny stuff kind of
7 makes a point. But I really want to see us come
8 up with an answer.

9 And you are the leaders in this issue.
10 Let us find an answer here that can transfer to
11 other states and work effectively for business,
12 industry and efficiency in lighting. Thank you.

13 PRESIDING MEMBER PFANNENSTIEL: Thank
14 you. We do share your goals and we do want to
15 work with you. We appreciate your taking the time
16 to come here and address us.

17 MR. UPTON: Sure.

18 PRESIDING MEMBER PFANNENSTIEL: More
19 questions? I think we are about to move off of
20 this subject so last comments on this subject.
21 Tim.

22 ADVISOR TUTT: I just had one question
23 for Mr. Upton if I could.

24 MR. UPTON: Surely.

25 ADVISOR TUTT: Ms. Amann suggested that

1 packaging bulbs with the fixture, with the
2 portable luminaire, was something that
3 manufacturers I think had found not very practical
4 to do. I bought a couple of LED luminaires
5 recently and obviously the bulb is packaged with
6 the luminaire with those. But can you speak about
7 packaging CFLs with a luminaire and how that might
8 work. Have you tried that within your industry?

9 MR. UPTON: One, I am not a very good
10 person to ask that question. I know how to run a
11 trade association but I don't know a heck of a lot
12 about the operations day to day. But I will make
13 some guesses with you and then we'll ask a couple
14 of other people who are better.

15 We know that on ceiling fans if it is a
16 CFL product those have to be put in the box and
17 used. And I can't imagine, frankly, you or I
18 going into the store, finding the lamp in the box,
19 and not using it. I would presume somebody has
20 sold me something that they know what the heck
21 they were doing. Especially if you go to the kind
22 of stores that are members of the American
23 Lighting Association, an independent lighting
24 showroom.

25 I don't know that much about lighting

1 and most people don't. And those kind of folks
2 do. If they package that thing and present it to
3 you I would think that would be the case. But
4 Paul, what happens? One, manufacturers don't ship
5 lamps, you would have to insert the lamp. But
6 what do people want? Do they want the lamp
7 inserted?

8 MR. PAVLETICH: I'll answer that
9 question.

10 MR. UPTON: Paul Pavletich from
11 Bakersfield.

12 MR. PAVLETICH: It depends on the
13 customer. Paul Pavletich from Premier Lighting in
14 Bakersfield.

15 It depends on the customer. If we are
16 selling something to someone that -- What they are
17 going to use it for. We need to figure that out
18 because they may not need as much light in there.
19 Or they may be able to use a CFL or they may be
20 able to use a lower wattage bulb if it is just
21 going to be just general illumination. I hope
22 that answers the question.

23 ADVISOR TUTT: But if they were required
24 to include a CFL along with the package then the
25 customer would still have a choice it's just, you

1 know, there would be a choice in front of them.

2 MR. UPTON: Sure, but if you're buying a
3 product it would seem to me -- and you and I are
4 on the same wavelength. If you go in to buy a
5 product or fixture and you're looking to get a
6 GU-24 or want something else that is going to have
7 that lamp in it. If you are going specifically to
8 buy that product I think you'd use it that way.

9 Somebody made a comment about
10 limitation, by the way, on candelabra lamps.
11 Candelabras are specifically exempt in the federal
12 bill. And I would hope we don't try to move into
13 some products that work only and very effectively
14 with candelabra lamps. They just don't look right
15 and they don't work right and they are terrible.
16 CFLs are great products and we are making great
17 strides but one of the things our industry
18 believes in is proper application of lighting.
19 That's very, very important to us. I can't say
20 that more strongly.

21 I'm married to a British girl who should
22 have been born in Edwardian times. So polite that
23 it's -- I'm from Iowa and it renders me speechless
24 sometimes how long it takes her to say something.

25 I brought home a CFL candelabra lamp

1 because I wanted to see how it operated, what it
2 looked like. And she said, what are you doing.
3 So I told her, I'm running a little test. And she
4 said, well that's nice but when it's done take it
5 out because that's ugly in there. And there's
6 other things that they aren't ugly in but in some
7 applications they aren't the right beastie.

8 But this fleet thing of yours really --

9 MR. PENNINGTON: I wasn't an advocate
10 for that. You have to be clear about that.

11 MR. UPTON: No, but he said it. But
12 that's interesting. Excuse me, thank you very
13 much.

14 PRESIDING MEMBER PFANNENSTIEL: Thank
15 you. The last comment on this subject because we
16 need to move on.

17 DR. BENDT: Again, Dr. Paul Bendt. My
18 comment is very brief. I've heard an assumption
19 made that if sockets are limited to 35 watts that
20 is going to force people to use CFLs. And I would
21 like to point out that there are some highly
22 efficient incandescent bulbs. The Philips
23 Halogen is one. But I'm talking about the ones
24 that on Chris Calwell's presentation were way
25 above the line. There are some very efficient

1 incandescent bulbs that at 35 watts put out very
2 reasonable amounts of light. And so this
3 limitation on the fixtures would not be forcing
4 people to CFLs.

5 PRESIDING MEMBER PFANNENSTIEL: Thank
6 you. We are going to move back to Gary Flamm to
7 move into the area of high intensity discharge
8 metal halide luminaires. Gary.

9 MR. FLAMM: Thank you. The Committee
10 received a proposal from Pacific Gas and Electric
11 and their team for a regulation for high intensity
12 discharge luminaires.

13 The proposed standards affect new
14 fixtures in commercial applications.

15 And the energy savings do help to meet
16 our AB 1109 requirements for commercial
17 applications.

18 So there are existing and proposed
19 regulations for metal halide luminaires.
20 California has adopted a two tier regulations for
21 metal halide luminaires. The first tier became
22 effective in 2006 and the second tier became
23 effective in January 2008.

24 And the EISA that was just adopted in
25 December contains requirements, federal

1 requirements, that will become effective on
2 January 1, 2009.

3 And the EISA provisions allow California
4 to adopt revised standards for metal halide
5 luminaires by December 31, 2011. And that is the
6 basis for this proposal.

7 So to try to get our arms around apples
8 and oranges here there is a chart that we put into
9 the staff report. The first section under
10 California 2008 shows the current requirements in
11 California for metal halide luminaires between the
12 wattages of 150 to 500 watts. And currently it
13 says it shall not contain a probe start ballast
14 and there is a minimum ballast efficiency of 88
15 percent.

16 The new federal standards that were
17 adopted in December, which take effect in 2009,
18 have a more complex structure than the California
19 existing standards. They do allow probe start
20 lamps and they have a variety of efficiencies,
21 depending on if it is a pulse start ballast, a
22 probe start ballast, electronic or magnetic. So
23 that's why there's a table here to try to capture
24 that.

25 In the PG&E proposal, which staff

1 supports, it is very similar to 2008 in that we
2 are proposing to continue not allowing probe start
3 ballasts and to have an efficiency that is higher
4 than 88 percent, depending on the wattage
5 threshold. So between 150 to 275 watts it will
6 require a minimum 90 percent efficient ballast.
7 And above 275 to 500 watts it would require a
8 minimum 92 percent efficient ballast.

9 And that is all I have on my
10 presentation.

11 PRESIDING MEMBER PFANNENSTIEL: Thank
12 you. Questions for Gary? We have some other
13 people who want to speak on this same subject.
14 Jen for ACEEE.

15 MS. AMANN: Thanks again. Again I
16 appreciate the opportunity to speak on metal
17 halide fixtures as well.

18 I won't spend time on this. This is
19 very much what Gary just presented, kind of the
20 history of the proposals, the current status of
21 standards at the California level and at the
22 federal level.

23 The recommended revision to the current
24 metal halide fixture standard that PG&E has
25 proposed is as Gary said, to require ballast

1 efficiencies that are equivalent to electronic
2 ballasts. There are some magnetic ballasts that
3 can meet these requirements as well so it is not
4 an electronic ballast requirement, but it does set
5 levels that are in the range of those met by
6 electronic ballasts. In the lower wattage, 150 to
7 274 watts, a 90 percent ballast efficiency. And
8 from 275 to 500, a 92 percent ballast efficiency.

9 The estimated energy savings from this
10 would be 19 to 59 gigawatt hours and 3 to 11
11 megawatts for the first year of sales. Growing to
12 173 gigawatts to 538 and 31 to 96 megawatts upon
13 complete stock turnover.

14 And the reason, I'll explain a little
15 bit the reason for this large range in energy
16 savings assumptions. One of the benefits of using
17 electronic ballasts for pulse start metal halide
18 lamps is that they allow some significant lumen
19 maintenance benefits and as a result people can
20 use lower wattage lamps to get the same lumen
21 output.

22 Our savings estimate, the low end of the
23 estimate is just a savings based on the wattage
24 reduction that you get from the more efficient
25 ballast. The higher end savings comes from an

1 assumption of the lumen maintenance benefits as
2 well. The cost benefit ratio for this is 2.65.

3 And again just to underscore that the
4 federal standards do have this temporary carve
5 out, this one time carve out for California to
6 adopt new standards as long as those standards are
7 adopted by January 1, 2011.

8 The CEC staff report does recommend the
9 adoption of PG&E's proposal. The staff report
10 indicated that there had been no lighting industry
11 -- the lighting industry hadn't raised any
12 substantive issues to them in response to the
13 proposal to date. And again, the PG&E team is
14 available as needed. We'd be happy to address any
15 comments or concerns from CEC or industry as we
16 move forward.

17 PRESIDING MEMBER PFANNENSTIEL: Thank
18 you. Questions here? Others, questions?

19 MR. ERHARDT: This is Bob Erhardt. I
20 contributed to a NEMA response. NEMA and industry
21 did respond to ACEEE and we do have some very
22 serious concerns about this proposal. Mr. Dain
23 Hansen will present the NEMA response and I can
24 comment further.

25 PRESIDING MEMBER PFANNENSTIEL: Thank

1 you. Mr. Hansen.

2 MR. HANSEN: Good afternoon. My name is
3 Dain Hansen with NEMA, the National Electrical
4 Manufacturers Association. First of all I want to
5 thank the CEC for the great working relationship
6 we have had. We have been able to have great
7 working meetings and accomplish a lot and be able
8 to speak with them on an up-front level and we
9 appreciate that. We want to continue in this
10 effort as we move forward.

11 My presentation is on our positions on
12 the proposal. The NEMA lighting systems division,
13 we propose a system solution through Title 24 and
14 other means that represent a more effective
15 solution for the citizens of California to realize
16 energy savings than the currently proposed Title
17 20 rulemaking.

18 In the proposal currently it will result
19 in a negative net present value for California
20 citizens and eliminate more cost effective, proven
21 energy savings means based on electromagnetic
22 ballast technology. Also the proposal risks lower
23 reliability of lighting systems and a major
24 disruption in the supply chain into California.

25 Current proposals increase ballast

1 efficiency from current 88 percent levels, as we
2 discussed already, to 90 percent for 150 to 275
3 watts, and 92 percent for wattages greater than
4 275 up to 500. Proposed levels have the potential
5 to effectively eliminate many of the most popular
6 electromagnetic ballast solutions available in
7 California, requiring costly electronic ballast
8 alternatives.

9 Many current dimming alternatives
10 utilizing electromagnetic ballasts would be
11 eliminated by the current proposals.

12 Energy savings from the current
13 proposal. Approximately 2.3 to 4.5 percent
14 depending on the wattage level will be the
15 savings. NEMA's position is that there is no
16 industry-accepted direct correlation between
17 ballast efficiency and any other energy savings
18 factor. For a 350 metal halide ballast system
19 this results in a 78.8 kilowatt hour per year
20 energy savings. This can be projected to result
21 in a present value of lifetime energy savings of
22 approximately \$75, \$75.33 exactly.

23 Additionally, a cost adder per luminaire
24 is going to be an issue as well. Ballast cost
25 adder estimates run between \$50 to \$200, depending

1 on the source. The luminaire cost adder will be
2 even higher due to the commercialization costs
3 associated with the typically larger housings
4 needed for electronic ballasts.

5 Even assuming a lower end adder estimate
6 of \$75 for a 350 watt luminaire the net present
7 value is 33 cents, for an energy savings present
8 value of \$75.33. And NEMA expects the actual
9 luminaire cost to the consumers will be much
10 higher.

11 So the bottom line, the current proposal
12 we feel delivers minimal energy savings, will
13 result in unjustified cost to the increase to end
14 users and also looks backwards rather than
15 forwards. And also we feel that a new approach is
16 needed to meet California's energy challenges.

17 So we propose a systems alternative. We
18 propose adding dimming and controls to metal
19 halide systems. This can result in over 25
20 percent energy savings in many applications such
21 as occupancy sensors in warehouses, occupancy
22 sensors in parking lots, and also daylight
23 sensors. Additionally, outdoor occupancy sensors,
24 such as parking, will also decrease sky pollution
25 or lighting pollution, light trespassing.

1 Furthermore, adding dimming and controls
2 to electromagnetic metal halide ballasts typically
3 costs less than changing to fixed output
4 electronic ballasts.

5 For the same \$75 additional cost
6 estimate applications that can utilize dimming
7 electromagnetic ballasts can save over 435
8 kilowatt hours annually and realize a present
9 value of energy of over \$415 per luminaire.

10 Existing electromagnetic metal halide
11 dimming systems represent a proven technology for
12 meeting California's energy reduction needs.

13 So moving forward NEMA wishes to
14 continue to work with the CEC, the utilities and
15 all interested stakeholders in defining a systems
16 approach rather than a component approach that
17 will allow California to meet its energy reduction
18 goals through multiple cost effective means.
19 Thank you.

20 PRESIDING MEMBER PFANNENSTIEL: Thank
21 you, Mr. Hansen. Responses or questions? Gary.

22 MR. FERNSTROM: Gary Fernstrom, PG&E.
23 Gee, that's an interesting idea. Do you have any
24 sense what fraction of the market would use
25 dimming, you know, relative to the other

1 alternative, which would affect all sales of these
2 products in their section of the market?

3 MR. HANSEN: I'm trying to find that
4 offhand. I would have to look. Bob, do you know
5 the answer to that?

6 MR. ERHARDT: I don't know the relative
7 sales. I would ask if you have -- I don't know
8 who is present from NEMA. If you have Becky or
9 Cheryl they can probably tell you where the
10 relative sales of metal halide go. I know
11 warehouse is a significant percentage.

12 When we were last meeting with the
13 California Energy Commission I believe we were
14 talking about how to address outdoor. And we feel
15 that outdoor parking lots offer a sizable market
16 as well.

17 Our overall position is, though -- and
18 we have had this discussion as long as we have
19 been discussing metal halide in front of the
20 California Energy Commission. There is, again, in
21 the ACEEE proposal an assumption that you get
22 lumen maintenance from ballast efficiency. And
23 that is speculation and there is no direct
24 relationship for it.

25 Yes, many of the electronic ballasts

1 that are available today, our companies included,
2 can improve lumen maintenance. But by specifying
3 efficiency you are not specifying lumen
4 maintenance. And until you can have a means of
5 specifying a lumen maintenance number from lamp
6 manufacturers, or having lamp manufacturers agree
7 to a lumen maintenance, it's purely speculative
8 that you are going to be able to realize it as
9 energy savings.

10 MR. FERNSTROM: Okay. Well, you know, I
11 think that's an important question that we would
12 want to know the answer to in considering the
13 merits of this. Being the energy efficiency
14 advocate that I am I would just say, that's a heck
15 of a good idea, why don't we do both. (Laughter)

16 MR. ERHARDT: Well our position is if
17 you put an efficiency level of 92 percent and 90
18 percent you will eliminate the electromagnetic
19 dimming systems that can give you more energy
20 savings.

21 MR. FERNSTROM: Well yes, for sure, but
22 there are very fine electronic dimming systems.
23 In fact, electronics offers, I think in terms of
24 incremental costs, less additional costs for
25 dimming than perhaps the very fine magnetic ones.

1 MR. ERHARDT: No, that's not true. The
2 cost of an electromagnetic dimming system is less
3 than the cost of a fixed output electronic system.

4 MR. FERNSTROM: That isn't --

5 MR. ERHARDT: And if you add dimming to
6 an electronic system its cost will be even higher.

7 MR. FERNSTROM: That isn't quite the
8 point I made. I was talking about the incremental
9 cost from the basic cost of the ballast, adding
10 the dimming capability. And my allegation was
11 that adding dimming to an electronic ballast is
12 less incremental cost than adding dimming to a
13 conventional, magnetic ballast that doesn't have
14 it.

15 MR. ERHARDT: I think the incremental
16 cost difference is rather insignificant.

17 PRESIDING MEMBER PFANNENSTIEL: Gary
18 Flamm, did you have a comment or question?

19 MR. FLAMM: Actually I was just thinking
20 from the various stakeholders something similar to
21 what Gary was thinking but not quite there. I was
22 wondering if the stakeholders, what they thought
23 about an alternate option. One would be the
24 efficiency proposed by staff, the originally PG&E
25 proposal, or one of the dimmers integral to the

1 luminaire as proposed by NEMA as a dual path.

2 ASSOCIATE MEMBER ROSENFELD: Alternative
3 paths, right?

4 PRESIDING MEMBER PFANNENSTIEL: Right.

5 MR. PENNINGTON: Excuse me.

6 PRESIDING MEMBER PFANNENSTIEL: Bill.

7 MR. PENNINGTON: Is there good
8 information about the likely savings that would
9 arise from dimming controls? Is there good
10 information about the application of these
11 controls being feasible for dimming?

12 MR. ERHARDT: There is information.
13 Unfortunately NEMA is a rather cumbersome process
14 and we were unable to pull together the studies in
15 time to include them in our presentation.

16 PRESIDING MEMBER PFANNENSTIEL: But they
17 will be forthcoming for written comments?

18 MR. HANSEN: Yes.

19 PRESIDING MEMBER PFANNENSTIEL: Okay,
20 thank you.

21 MR. HANSEN: We are going to be
22 expanding quite dramatically in our written
23 comments on what we said today. More details and
24 more numbers as well.

25 PRESIDING MEMBER PFANNENSTIEL: Okay,

1 that's excellent.

2 MR. COOK: Keith Cook from Philips
3 Lighting. CLTC has been doing an extensive amount
4 of work in these controls of HID products and they
5 have had some very good results. I would suggest
6 that we, of course, pull them into this
7 conversation and make sure that they are included.

8 We do need to do some more homework on
9 this, there is no question about it. This is just
10 something that came up in the last week or so and
11 we have not had a chance to really flesh out all
12 the details. We expect to provide more
13 information with our written comments.

14 PRESIDING MEMBER PFANNENSTIEL: Thank
15 you. Ted.

16 MS. AMANN: I just have maybe one
17 question for Bob or the other manufacturers about
18 dimming for metal halide. Does dimming have an
19 efficiency penalty with metal halide lamps like
20 you get with incandescents and some other lighting
21 sources?

22 MR. ERHARDT: If you are asking if the
23 efficacy of the lamp decreases while you dim it,
24 there is some decrease in efficacy as you dim. I
25 don't believe it is as dramatic as it is with, as

1 it is with incandescents. As you dim to 50
2 percent power I believe it is something like 30 or
3 40 percent light output.

4 MR. POPE: Ted Pope, Energy Solutions,
5 for PG&E. Bob, I think the question might have
6 been also, if you have a metal halide lamp
7 operating at the full light output in applications
8 where there is no need for dimming is there a
9 percent or two efficiency penalty for having that
10 dimming circuitry attached to the product? Or is
11 that just the same as a non-binding product?

12 MR. ERHARDT: It would be the same as a
13 non-dimming product. The dimming of an
14 electromagnetic metal halide system simply
15 involves changing the reactance value of its
16 impedance circuit. You're switching a different
17 capacitance with the capacitance that is already
18 there. So during full light output it's exactly
19 the same as the regular. With, you know, perhaps
20 a half watt or so of control circuitry overhead.
21 But on a 400 watt system that's not substantial.

22 MR. FERNSTROM: Gary Fernstrom, PG&E.
23 Earlier before you came on-line we had a
24 discussion about power factor and its potential
25 value in terms of energy efficiency. Does dimming

1 affect the power factor of those products?

2 MR. ERHARDT: I'll have to look at it.

3 You know, of course during a dimming operation you
4 are using less power to begin with. But the power
5 factor, we'll have to address that in our written
6 comments.

7 MR. PENNINGTON: So is the dimming, is
8 the dimming controlled on some time basis? Do you
9 have a time clock approach to dimming to
10 accomplish the savings or is it a manual control
11 situation? If it's strictly manual I think there
12 are very potentially high issues with the
13 reliability of the savings that you might predict
14 from that versus an automatic control of some sort
15 such as an occupant sensor. If the origin of the
16 ability to dim or to reduce light comes from an
17 intermittent need for light then an occupant
18 sensor would be perhaps a more reliable control.

19 MR. ERHARDT: Yes, I think occupancy
20 sensing is perhaps the most effective means for
21 realizing energy savings. For instance, if you
22 have a warehouse where certain aisles are only
23 accessed sporadically. If you have a large
24 warehouse and each aisle is only accessed one-
25 third of the time, then you can have 50 percent

1 power saving two-thirds of the time. You can have
2 as much as 33 percent energy savings.

3 Similarly, if you can think of a parking
4 light that is illuminated all night and has only
5 one or two people retrieving their car from it, it
6 will stay at the lower power the whole time that
7 you don't have somebody present to retrieve an
8 automobile. Dramatic energy savings can be
9 realized.

10 MR. PENNINGTON: So just a follow-up
11 comment and then I'll be quiet. It seems to me
12 that the potential breakthrough idea is the
13 integral occupant sensor with these lighting
14 devices and we ought to be really focusing --

15 ASSOCIATE MEMBER ROSENFELD: Bill, could
16 you be a little louder.

17 PRESIDING MEMBER PFANNENSTIEL: Bill,
18 you need to speak into your mic.

19 MR. PENNINGTON: Sorry. It seems to me
20 that the potentially breakthrough idea is the
21 integral occupant sensor with these luminaires.
22 And that we really ought to be focusing on
23 thinking through that problem and seeing if we
24 could make that happen.

25 MR. FERNSTROM: So Gary Fernstrom, PG&E.

1 And additionally where you might have outdoor
2 lighting, as in a parking light, it might be an
3 astronomical time clock or a regular time clock.

4 PRESIDING MEMBER PFANNENSTIEL:

5 Mr. Cook, did you have a --

6 MR. COOK: Yes. Keith Cook Philips
7 Lighting. You really have to look at it on a case
8 by case basis. A lot of times an occupancy sensor
9 may not make sense in roadway lighting and yet you
10 could do an astronomical clock and reduce the
11 power, even on roadways, for early morning hours
12 and things like that. So you really do have to
13 look at it.

14 As far as integral occupancy sensors.
15 There are luminaires today that are readily
16 available that already have them in them. That's
17 very commonly used in warehouse applications. So
18 that's another option.

19 These are all things that are available
20 today so we don't have to wait for having to
21 redesign all the ballasts. We don't have to worry
22 about certification processes. We don't have to
23 worry about having to come up with new luminaires
24 to house electronic ballasts. These are things
25 that we can do very short term.

1 PRESIDING MEMBER PFANNENSTIEL: Thank
2 you. Further questions?

3 ADVISOR TUTT: Yes, I just had one.

4 Does the dimming concept for these
5 luminaires require a probe start ballast, a
6 magnetic probe start ballast?

7 MR. ERHARDT: No, it can be used with a
8 probe start or a pulse start.

9 ADVISOR TUTT: Thank you.

10 PRESIDING MEMBER PFANNENSTIEL: Anything
11 else? Any further thoughts, questions, discussion
12 on this? Anybody on the phone on this subject?

13 MR. STRAIGHT: No.

14 PRESIDING MEMBER PFANNENSTIEL: No.

15 Okay, I think we have pretty much
16 covered the agenda. I do have one other -- I see.
17 Tim has a different agenda than I do. (Laughter)

18 MR. PENNINGTON: That's normal, right?

19 PRESIDING MEMBER PFANNENSTIEL: That's a
20 different subject. All right.

21 Apparently there is another subject,
22 linear fluorescent fixtures. Ted.

23 MR. POPE: Commissioners and staff and
24 stakeholders, Ted Pope with Energy Solutions for
25 PG&E. Before anybody in industry panics I want to

1 clarify that what I am about to talk about is not
2 a full blown proposal to the Commission at this
3 point. It is an addendum to a case proposal that
4 was submitted in January regarding linear
5 fluorescent fixtures.

6 And NEMA and manufacturers have been
7 brought into discussions on that in the past.
8 Since January, though, I don't believe there has
9 been any formal communication between industry and
10 the PG&E team. This is our first time taking this
11 concept public.

12 It was noted by some with the proposed
13 -- there was nothing proposed but the case report
14 on linear fixtures, that some folks felt there
15 might be preemption issues associated with the
16 concept.

17 In response to that, that feedback,
18 although I don't think we have an official opinion
19 on that, we looked for alternate options. And we
20 have been crunching numbers and pulling data from
21 spec sheets for several weeks now and have come up
22 with a concept we wanted to share with industry
23 today, also under the view of the Energy
24 Commission as well.

25 We want to go through that quickly and

1 then sort of hand the idea off to industry to see
2 how they respond to it and then work with them
3 going forward to see if this is a viable,
4 alternate proposal to what was in the original
5 case report.

6 So again, I guess I mentioned these
7 points. But our original case report did estimate
8 savings impacts of 78 gigawatt hours a year and 22
9 megawatts in the first year's sales. Leading to
10 about 2,000 gigawatt hours per year and 561
11 megawatts once the stock turned over.

12 The alternate concept is attached to the
13 case report that was filed with the Commission, I
14 believe yesterday, and is probably on the website
15 at this point. The approach is to look at the --
16 somewhat analogous to what Bob and others were
17 just saying moments ago for metal halide and that
18 is, go for a systems approach. This is somewhat
19 analogous to that, looking at the full fixture.

20 So the performance of the fixture
21 efficiency, the fixture itself. The performance
22 of the ballast and the lamps all together. That
23 is done with a LER rating, which stands for
24 luminaire efficiency -- efficacy rating, excuse
25 me.

1 I may have this wrong. I am not sure it
2 was actually proposed by DOE but it was part of
3 the 1992 federal process. As far as we know that
4 metric has not been used in a standard process
5 before. And we understand from conversations with
6 NEMA and industry that NEMA, in fact, is trying to
7 develop a -- I believe it's NEMA or -- okay, Pam
8 is shaking her head. Develop an alternate metric
9 called a targeted efficiency rating, a TER for
10 short.

11 Our understanding is that that process
12 is fairly early in its inception and therefore
13 there probably would not be a functional TER
14 environment to operate in for a number of years
15 from now. So we have looked at LER as a near-term
16 potential strategy for a potential metric.

17 Our approach was to look at a pretty
18 broad cross-section of products. We analyzed data
19 on 500 fixtures. For the purposes of this
20 conceptual approach we narrowed down pretty
21 quickly to two-by-four recessed and surface mount
22 box fixtures. We took a look at the efficiency as
23 posted in the spec sheets and brochures and
24 website catalogs of several major manufacturers
25 and I believe a few small manufacturers as well,

1 of fixtures.

2 We kind of identified three basic
3 product classes, those with louvers, those with
4 prismatic lenses and those with basket diffusers,
5 which is typically a perforated metal to sort of
6 diffuse the light output from the lamps. From
7 these three, basic categories we broke it into 11
8 total sub-categories driven largely by the number
9 of lamps in the fixture because that does tend to
10 affect LERs.

11 And also trying to make sure that even
12 though this is just a first pass we wanted to get
13 the obvious separate categories for products that
14 provide distinct consumer utility such as video
15 display terminal appropriate fixtures.

16 Based on our preliminary sense we
17 believe these categories properly break down the
18 two-by-four fixture broader category into the
19 necessary sub-categories to preserve performance
20 characteristics that customers require. Obviously
21 we'll be looking for more input from industry on
22 that to see whether we've cut the data properly.

23 And this is a quick view. And I can get
24 into more detail. I know it's late so I am going
25 to try and be quick. And I can go back if we want

1 to discuss some of the details a little bit more.

2 But we took all the fixture data for the
3 two-by-four fixture categories we were looking at.
4 And again, that was 250 products. We took
5 whatever data was in the spec sheets and so forth
6 and we developed LER ratings based on a
7 presumptive base case lamp and fixture, which was
8 the generic electronic ballast and a series 700 T8
9 lamp, and calculated the efficiencies of that.

10 We also looked at the same fixtures if
11 you installed a high performance electronic
12 ballast as well as a super T8 3100 lumen lamp to
13 see the distributions for those products.

14 And based on looking at those data for
15 these 11 categories a fairly rational approach,
16 from our perspective anyway, is that you take the
17 LER that is the top of the performance spectrum
18 for the fixtures with the base case lamp and
19 ballast and use that as the LER, the minimum LER,
20 for the fixture.

21 And the interesting thing about that
22 point, and it is a little hard to tell on this
23 graphic here, but the maximum LER performance of
24 the fixtures generally coincided with the median
25 performance -- excuse me. The maximum performance

1 of the fixtures with base case lamp and ballast
2 generally coincided with the median performance of
3 the fixtures with the high efficiency electronic
4 ballast and the super T8s.

5 We looked at that but that wasn't true
6 in the case of all product categories. So our
7 solution or our optimal pathway, we think, is to
8 say that either the maximum LER in a category with
9 standard lamp and ballast or the median LER of the
10 fixture category with high performance -- excuse
11 me, high efficiency ballast and super T8 lamps,
12 whichever is lower, would be our proposed
13 efficiency level for each fixture category.

14 You know, you can see the spread here.
15 On your basic lens fixture the performance is, you
16 know, fairly comparable between two-, three- and
17 four-lamp products. And it differs here with the
18 basket fixtures as well as the louvered, it's a
19 little more spread.

20 But anyway, it effectively means that
21 about half of fixtures under -- If you were to
22 pursue a standard following this approach at the
23 levels we have conceptually identified you would
24 expect that half your fixtures would have to be
25 improved in ways that went beyond putting high

1 efficiency electronic ballast and a super T8 lamp
2 in it.

3 Certainly you could qualify under the
4 standard with base case generic ballasts and a
5 series 700 lamp if you have a high FV or a high
6 fixture efficiency fixture. The idea with this
7 approach is it allows industry multiple pathways
8 to deliver a high efficiency fixture product. And
9 it, as we understand it, entirely eliminates any
10 threat or any consideration of preemption.

11 So that is the basic, the concept. I
12 want to be very clear, these are very rough
13 estimation of impacts. But if one -- I jumped
14 ahead.

15 What we found running the numbers on
16 this, that that implies about a 12 percent
17 efficiency saving per fixture. When you gross
18 these numbers up and you make an assumption. It
19 may not be a safe assumption. But if you assume
20 that you can get roughly the same percentage
21 savings in other fixture categories for which we
22 did not run the analyses and you extrapolate that
23 across the whole linear fluorescent fixture
24 market, you would be looking at these savings,
25 which are approximately 27 megawatts in 103

1 gigawatt hours in the first year of sales and
2 growing to a megawatt savings of about 670 and
3 about 2500 gigawatt hours at full stock turnover.

4 The numbers work out to be a little
5 bigger than the other approach. On the other hand
6 it provides more flexibility for industry to
7 comply with the standard. And I would also add
8 that there are other efficiency benefits that the
9 State should consider because, you know, in theory
10 when your ballasts and your lamps get replaced
11 people could downgrade the products. If you get
12 improvements in the fixture at the same time,
13 you're getting better ballasts and lamps in there,
14 you're likely to ensure longer term savings.

15 So it's more of a systems approach. We
16 are not standing behind any particular number here
17 but we do feel like we pulled a pretty good data
18 set to do this and it is probably reasonably
19 representative, at least of the two-by-four
20 recessed and box category. We'd like to, you
21 know, engage conversation in a conversation to see
22 if this is a better way of pursuing efficiency in
23 linear fixtures.

24 I think that's pretty much the deck of
25 slides there. Are there any questions I can

1 answer at this time?

2 PRESIDING MEMBER PFANNENSTIEL:

3 Questions for Ted on this?

4 MR. O'BOYLE: Mike O'Boyle from
5 Lightolier, Philips Lighting. You're aware that
6 the LER is being replaced by the TER?

7 ASSOCIATE MEMBER ROSENFELD: Into the
8 mic.

9 MR. O'BOYLE: I'm sorry. You're aware
10 that the LER is going to be replaced by the TER?
11 For a matter of fact, at the last lighting systems
12 division meetings that was, that was agreed to.
13 So I think while the idea here is good you may
14 want to look at that metric instead of the LER.

15 MR. POPE: Yes, Michael, I mentioned
16 that at the beginning. We are aware that that
17 process was underway. I am not clear that we ever
18 had a particular estimate from industry as far as
19 how long it would take to develop that TER rating
20 system and data to the market. Our sense was it
21 would take a number of years for that process to
22 happen.

23 You know, neither approach seems
24 perfect. It sounds like the TER is going to
25 address efficiency for getting light onto the work

1 plane, whereas the LER simply describes lighting
2 coming out of the fixture. So they're doing
3 slightly different things.

4 Based on what we've heard from TER, it
5 sounds like a good idea to develop that. But our
6 sense was that that might take a number of years
7 and it would be something that a standard like
8 this could migrate to over time. We didn't see a
9 clear reason why we wouldn't want to pursue LER in
10 the near term. That was our view on it.

11 MR. O'BOYLE: Mike O'Boyle. Actually we
12 have developed the test measurement or the
13 methodology for the TER right now and it is going
14 to be replacing the LER in a very short term
15 basis.

16 MR. PENNINGTON: Could I ask you a
17 question?

18 MR. O'BOYLE: Sure.

19 MR. PENNINGTON: If this approach is
20 getting the light onto the work surface, and the
21 work surface is in different places depending on
22 the application, do you get into a building-
23 specific determination of the TER? Or do you
24 define the work surface in a generic way for your
25 testing procedure?

1 MR. O'BOYLE: Well the TER is more
2 comprehensive than the LER. The LER only applied
3 to specific products. The idea of the TER is
4 going to apply to a much wider range of products.
5 And there would be, there would be application-
6 specific considerations in applying the TER.

7 But the difference between the LER and
8 the TER, the TER actually brings in the fixture
9 efficiency, the coefficients of utilization, sort
10 of using general arrangements that you would
11 anticipate for the luminaire type.

12 MR. PENNINGTON: So do you need to know
13 the application? Can you figure out a TER for a
14 luminaire and say, this is the TER for it.

15 MR. O'BOYLE: Yes, you do. That's
16 exactly --

17 MR. PENNINGTON: Or do you end up with
18 multiple TERs for a luminaire because it is going
19 into different applications?

20 MR. O'BOYLE: No, there is a single TER
21 for a luminaire type.

22 MR. PENNINGTON: Thanks.

23 MR. O'BOYLE: Okay? All right, thank
24 you.

25 PRESIDING MEMBER PFANNENSTIEL: Further

1 questions? Discussion?

2 Thanks, Ted. So this is just the
3 beginning and we will be discussing this more.

4 I have one other blue card from somebody
5 from earlier and before I close today I am going
6 to see if anybody else has any other comments.
7 This is Scott Mitchell with Southern California
8 Edison. I don't know if he is still here. Yes?
9 It's Randall instead.

10 MR. HIGA: Hi. My name is Randall Higa,
11 Southern California Edison. Scott Mitchell had to
12 leave so I am going to try to fill in for him.

13 Real briefly, this is with regards to
14 what was talked about at the very beginning about
15 the various things that we want to bring Title 20
16 up to the federal standards. Our comment relates
17 to walk-in coolers.

18 We have noticed that the draft
19 regulations include the entire federal piece on
20 walk-in coolers and I am not sure if that is the
21 intent because some of the provisions of the
22 federal walk-in coolers are less stringent than
23 the current Title 24 measures.

24 So we would recommend that we only pick
25 those measures that are, that are, that are more

1 stringent than Title 20 rather than taking the
2 whole thing as a whole. And there may be legal
3 reasons why that can't be done that way but our
4 understanding is that California can do that, that
5 we can still assert our current Title 20
6 provisions prior to the actual federal regulations
7 going, going into effect. That's sort of the gist
8 of the comment and we could provide something more
9 specific in writing.

10 PRESIDING MEMBER PFANNENSTIEL: I assume
11 you will in writing. But is there a staff comment
12 on that?

13 MR. PENNINGTON: I think what he is
14 suggesting is highly desirable, I don't know what
15 the legal constraints are. So we should
16 definitely consider it.

17 PRESIDING MEMBER PFANNENSTIEL: We'll
18 see it in writing though, the comment?

19 MR. HIGA: Yes, we'll submit our
20 comments in writing.

21 PRESIDING MEMBER PFANNENSTIEL: Thank
22 you.

23 MR. HIGA: Okay, thank you.

24 PRESIDING MEMBER PFANNENSTIEL: So let
25 me -- Go ahead.

1 MR. WOLFMAN: Thank you, Madame
2 Chairman. I am Howard Wolfman from Osram
3 Sylvania. I also chair the NEMA lighting systems
4 division. The hour is late and for some of us
5 from the Midwest or the East Coast it is even
6 later so I'll try to keep this brief.

7 First of all I'd like to thank you and
8 thank the Commission for the opportunity for those
9 of us from NEMA who have been in attendance today
10 and on the phone to express our opinions. And to
11 reiterate what Dain Hansen said, that we look
12 forward to the opportunity of working together to
13 come to a collaborative solution.

14 I have a question which is somewhat
15 philosophical. And if it is then it is probably
16 best that we not get into a discussion here. And
17 I ask this out of ignorance so forgive me. But in
18 AB 1109 or other documents has there been a
19 methodology to define the 2007 baseline for energy
20 so that we know what we are going to build upon?
21 That's part of it. And the other part is, if
22 there is, is it normalized on something like a
23 square foot basis or something so that we don't
24 get penalized by all the new buildings that are
25 going to be put in between now and 2018?

1 ADVISOR TUTT: I guess the way I would
2 answer your question is the word average is
3 included in 1109 and that implies some degree of
4 normalization. I don't know that anyone has
5 suggested that it be on a square foot basis versus
6 a household basis. Square footage for commercial
7 is something else. We certainly have some idea of
8 lighting use in 2007. But if a more definitive
9 baseline is desired I think that would have to
10 still be developed.

11 There has been some analyses I know by
12 PG&E's consultants, by CLTC, as to what they
13 believe the amount of lighting use in 2007 has
14 been. I am not aware that there has been any
15 public vetting of that or any understanding
16 whether that is sufficient for the target we are
17 setting ourselves for.

18 MR. WOLFMAN: If there is work to be
19 done, speaking for NEMA, we would offer to
20 participate in that so that, again, we end up with
21 a collaborative solution that makes sense and
22 doesn't program us all for failure.

23 PRESIDING MEMBER PFANNENSTIEL: Thank
24 you sir.

25 Let me then go back to Melinda and see

1 if you have comments, final comments, next steps,
2 follow-up, written comments due.

3 MS. MERRITT: I don't really have any
4 final comments or discussion. I would refer back
5 to the workshop notice that we happily accept any
6 further written comments after today. The
7 workshop notice indicates submitting comments by
8 five p.m. on May 26. However --

9 ASSOCIATE MEMBER ROSENFELD: Give the
10 date a little louder and clearer.

11 PRESIDING MEMBER PFANNENSTIEL: May 26.

12 MS. MERRITT: May 26 is the requested
13 date for submitting comments.

14 ASSOCIATE MEMBER ROSENFELD: Thank you.

15 MS. MERRITT: And again, everything that
16 we have received and will receive will be posted
17 promptly for the benefit of all parties. We,
18 staff, are expecting to continue to engage the
19 different stakeholder groups as we have been and
20 we'll be looking forward to discussing this,
21 today's events with the Committee and moving
22 forward.

23 PRESIDING MEMBER PFANNENSTIEL: Thank
24 you. Any other staff final comments?

25 MR. PENNINGTON: No. I just would like

1 to say that we really appreciate the input we have
2 received. There were a little rocky
3 communications immediately prior to this meeting
4 and sorry about that but it was a very good
5 meeting, thank you.

6 PRESIDING MEMBER PFANNENSTIEL: I just
7 wanted to say that we really appreciate and we
8 really need the input of the people represented
9 here. These standards when they ultimately get
10 adopted by the Committee and then the full
11 Commission need to reflect as much input, as much
12 both technical input and I would say sort of
13 common sense input as we can receive. And we
14 process and we go through many iterations of this,
15 that's why it takes a long time. But it needs to
16 because they do need to be done in an open process
17 like this. So with that, Commissioner Rosenfeld,
18 anything further?

19 ASSOCIATE MEMBER ROSENFELD: A very good
20 meeting.

21 PRESIDING MEMBER PFANNENSTIEL: We'll be
22 adjourned, thank you.

23 (Whereupon, at 4:20 p.m., the Committee
24 Workshop was adjourned.)

25 --oOo--

CERTIFICATE OF REPORTER

I, JOHN COTA, an Electronic Reporter, do hereby certify that I am a disinterested person herein; that I recorded the foregoing California Energy Committee Workshop; that it was thereafter transcribed into typewriting.

I further certify that I am not of counsel or attorney for any of the parties to said workshop, nor in any way interested in outcome of said workshop.

IN WITNESS WHEREOF, I have hereunto set my hand this 23rd day of May, 2008.

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